

# BOOK OF ABSTRACTS



IN COLLABORATION WITH



UNIVERSITÀ  
DEGLI STUDI  
DI TRIESTE



Dipartimento di  
Scienze Politiche  
e Sociali

WITH THE SUPPORT OF



CETCOPRA



SUPPORTING ORGANIZATIONS

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## BOOK OF ABSTRACTS

### THEMATIC STREAM

### TRACK TITLE

### PAGE

#### Thematic Stream 1

#### Biomedicine, bodies and technoscience

<b>TRACK 1</b> - Genetics and biomedical innovation: Between risky and promising scenarios	4
<b>TRACK 2</b> - Dis/entangling living bodies and medical technologies in the post-genomic era: health and wellbeing at the nexus between vulnerabilities, responsibility and solidarity	9
<b>TRACK 3</b> - From the imaginary to emancipation and back. The relationship between disability and technology	15
<b>TRACK 4</b> - Dis-entangling later life: ageing processes, innovative practices and critical reflections	17
<b>TRACK 5</b> - Disentangling technoscience and sensory experience	23



#### Thematic Stream 2

#### Platforms, digital technologies and media environments

<b>TRACK 7</b> - Digital technologies and power relations in work and organizations. Theoretical and empirical perspectives	27
<b>TRACK 8</b> - Weak Systems. Exploring bias, bugs and the vulnerability of digitization	33
<b>TRACK 9</b> - Digitalisation and work: perils and promise	36
<b>TRACK 10</b> - Platforms and infrastructures in media and cultural industries	39
<b>TRACK 11</b> - Mapping technoscience in the media: How to do it, and what is it in, what is it out?	44
<b>TRACK 12</b> - Surveillance infrastructures or open platforms? Aid and control of vulnerable populations through digital data	48
<b>TRACK 13</b> - Disappearance, maintenance and reinvention in the biographies of technical objects. Perspectives on the transformative vulnerabilities of technology at the intersection between STS and Media Studies	52

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## BOOK OF ABSTRACTS

### THEMATIC STREAM

#### Thematic Stream 3

Rethinking science,  
technology and  
innovation: emerging  
challenges

#### Thematic Stream 4

Including, excluding and  
connecting through /  
within technoscience

### TRACK TITLE

**TRACK 14** - The new role of R&D networks and evaluation processes in the time of "Big science"

**TRACK 15** - Alternative science and technology: theories and practice

**TRACK 16** - Doing research in technoscience as affective engagement

**TRACK 17** - Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza

**TRACK 18** - Disentangling digital feminist technoscience

**TRACK 19** - What is Expertise?

**TRACK 20** - What is a cashless society? Interrogating access, stakeholders and practices

**TRACK 21** - Effect of dataveillance on artistic and cultural production. Exploiting user data to shape user preferences and create new content

**TRACK 22** - Education and/as its making. Vulnerabilities in the sociomaterial worlds of learning

**TRACK 23** - The digital transformation in education: addressing or reinforcing vulnerability?

**TRACK 24** - Migration and ICTs: bodies, spaces and imaginary

### PAGE

56

60

69

72

79

83

88

90

92

96

101

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## BOOK OF ABSTRACTS

### THEMATIC STREAM

#### Thematic Stream 5

#### Governing and reshuffling technoscience and innovation processes

#### Track on STS in Post- socialist/CEE countries

#### Track on STS in a in a (post)-pandemic age

#### Open Track

### TRACK TITLE

**TRACK 26** - Law, data and technology: the role of STS in dis/entangling individual rights and social justice

**TRACK 27** - Responsible and inclusive citizen science. Comparing initiatives and assessing impacts

**TRACK 33** - Science and Technology Studies in Post-socialist countries/in Central and Eastern European countries

**TRACK 34** - How to Protect Communities from Sars CoV-2 through Coproduction of Health and the Design of Commons-Based Ecosystems by Adopting Distributed Ledger Technologies?

**OT** - Open track

### PAGE

102

106

110

114

116

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 1

### Genetics and biomedical innovation: between risky and promising scenarios

Convenors: Barbara Morsello (Università di Padova, Italy), Veronica Moretti (Università di Bologna, Italy)

#### **Gestational surrogacy and the vulnerability of homo deus**

Daniela Bandelli (Università LUMSA, Italy)

Gestational surrogacy is booming in the global reproductive market. It is expanding among Global North population affected by different forms of infertility and same-sex couples, as a method to obtain a child through biomedical techniques, provision of gametes and use of 'carriers'. An edulcorated discourse of progress, woman's autonomy and solidarity makes intended parents and surrogates to believe that through reproductive technology they can go beyond the natural limits of procreation to achieve their individual projects of parenthood and empowerment. They are launched towards unknown relational scenarios with no adequate knowledge on health impacts, risks, and social implications of their emancipatory actions. In this paper I will underline the contradictions embedded in the pro-surrogacy discourse (such as the failure of self-discipline in the erasure of foetal-maternal relationship, and the shrinking of woman's autonomy during pregnancy). I will ultimately argue that this discourse is an expression of what Bauman and Beck call individualization: the transformation of human identity into a task of emancipation that individuals are responsible to achieve successfully, by reinventing even those institutions (such as maternity) that used to be fixed and above the individual's will. Happiness is promised as the outcome of self-determination endeavours which imply the detachment from a backward view of humanity (in which certain components of personhood are sacred and not-disposable), end the embracement of the paradigm of "homo deus" in which desires are mystified as unquestionable rights to control life-course, including birth and death. However, the goals achieved under performative imperatives do not satisfy the human will to power, which indeed as Magatti underlines is a projective and dynamic force. In this endless race towards freedom from biological limits, the promise of happiness is likely to be betrayed and replaced by bewilderment and vulnerability.

#### **"Predictive oncology to acquire quantitative medicine": The data-centric turn of contemporary oncology**

Pascale Bourret (Aix-Marseille University, France), Alberto Cambrosio (McGill University, Canada), Jonah Campbell (McGill University, Canada), Peter Keating (University of Quebec at Montreal, Canada), Jessica Polk (McGill University, Canada)

In recent years, oncology has begun to transition from an organ-based approach to a precision oncology based on molecular alterations. The molecular approach and related high-throughput technologies modifies the equilibrium between the traditional components of oncology, and relies on a complex landscape of interrelated resources and platforms that engender prodigious quantities of heterogeneous data – e.g., genomic and bio-clinical parameters from data- and knowledge bases, 'real-world data' from Electronic Health Records (EHRs) – demanding consistent interpretation. In short, oncology has become to a significant extent a data-centric domain. As noted by a leading oncologist, the "revolution driven by advances in the understanding of cancer biology and new therapeutics derived from that understanding", has led to a "data-rich environment" within which "the previously held perception of the physician's omniscience is no longer plausible". Social sciences' contribution to the elucidation of the challenges faced by data-centric oncology takes different forms, including the investigation of manifold ethical, legal, organizational, epistemic, and governance issues related to data production, circulation, (re)use, access, sharing, and interpretation. Instead of treating these aspects in isolation, we have adopted a crosscutting 'view from oncology' that focuses on how they relate to the actionability of genomic results. We use this term broadly to encompass not only the activities deployed by new institutions specifically devoted to the task of interpreting and translating results into specific kinds of action, but also for the initiatives that establish the conditions of possibility for making actionable judgments. Based on selected fieldwork settings in both Europe and North-America, our paper will provide an integrated analysis of data-centric oncology, i.e. one that ranges from local sites to higher-order initiatives, thus allowing us to closely follow the chain of translations that accounts for the emergent properties and downward causation of this new assemblage.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 1

### **Genetics and biomedical innovation: between risky and promising scenarios**

Convenors: Barbara Morsello (Università di Padova, Italy), Veronica Moretti (Università di Bologna, Italy)

#### **Conceptualizing the work-related implications of digital healthcare technologies: A metaphor-based critical interpretive synthesis**

Chiara Carboni (Erasmus University, The Netherlands), Rik Wehrens (Erasmus University, The Netherlands), Antoinette de Bont (Erasmus University, The Netherlands), Romke van der Veen (Erasmus University, The Netherlands)

Given their increasingly vital role in care delivery, the question of the work-related implications of digital healthcare technologies has gained center stage in a number of academic debates, spanning disciplines as diverse as medicine, sociology and STS. The different analytical interests and methodological traditions of these three strains of scholarship have, however, resulted in quite diverging approaches to this issue. Points of interest have ranged from the (disattended) promise of increased efficiency of healthcare work, to dynamics of task delegation and (re-)distribution of invisible work, to the disruption of informal organization and the renegotiation of patient-provider relationships. Moreover, different strands of literature have conceptualized both healthcare work and the implications digital healthcare technologies hold for it in seemingly unreconcilable ways. To enable the cross-contamination of multidisciplinary conceptual perspectives, we have performed a critical interpretive synthesis centering the ways work-related implications of digital healthcare technologies have been investigated in recent STS, sociological and medical literature. Aiming at opening up assumptions and insights intrinsic to each body of literature for scholars and practitioners in other fields, we propose here a variation on more traditional critical interpretive synthesis approaches that makes use of metaphors. We thus probe, in turn, what slime molds can teach us about STS's focus on interconnections and materiality, which lessons river engineering offers concerning medical scholarship's discussion of efficiency and proper healthcare work, and how we can better understand sociological analyses of invisible work exploring them through dramaturgical theory and practice. Thinking through these metaphors, we endeavor not only to make tangible the insights that each body of literature provides on the work-related implications of digital healthcare technologies, but also to synthesize them in a framework that enables the systematic cross-contamination of different conceptual perspectives.

#### **Moving cells to the market: an inquiry into the circulation and valuation of stem cells**

Pierre Delvenne (ULiège, Belgium), Kim Hendrickx (KULeuven, Belgium), Céline Parotte (ULiège, Belgium)

Innovation in the life sciences in general and stem cell science in particular is driven by an interlinked set of market demands with regulatory arrangements. Predominant among these markets are research funding, scientific labor, research materials, clinical labor, venture capital, patenting and, last but not least, patients. In other words, biological materials and biomedical products have become key sites of capital accumulation and encapsulate huge hopes for new health therapies and economic growth. Yet very little scholarly attention has been paid to the movement of human tissues from the clinic to the market – the various steps from sampling to storage, packaging, transportation and commercialization – and the successive stages to 'realize value'. To address this shortage, we suggest to empirically investigate stem cells not as objects in their own right, but as co-constituted with infrastructures that translate and valorize them. We develop a framework to detect multiple, potentially conflicting, notions of 'value' and focus on the difficulties and negotiations to objectify this multiplicity in standards of economic value (e.g. in financial terms such as price and reimbursement). Relying on prolonged ethnographic research conducted in parallel in a laboratory of gene and cell therapy at a university hospital and in a clinical stage pharmaceutical company, this presentation will empirically allow to question how, why and with what consequences stem cells circulate and gain value by following their journey from donors to the market. Informed by science and technology studies, valuation studies and the material turn in social science, our results will illuminate the mutual shaping of moving stem cells markets, medical and regulatory practices.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 1

### Genetics and biomedical innovation: between risky and promising scenarios

Convenors: Barbara Morsello (Università di Padova, Italy), Veronica Moretti (Università di Bologna, Italy)

#### Artificial Ethics and Biophysical Enhancement

Edmondo Grassi (Università degli Studi Roma Tre, Italy)

The development of the technological apparatus is firmly linked to the culture, models, values and projections of a society, demonstrating that the set of new artificial instruments act as pervasive elements that implement modification mechanisms on the person, on his body and in his relationships. In 2019, the F.D.A. has issued positive opinions in recognizing medical class level 2 to some biometric digital devices; the University of Tsukuba, in the 1990s, created HAL, a motorized exoskeleton, which today is able to expand the person's physical abilities; 3D printing has made possible, since 2015, the 3D bioprinting of organs used in transplants; in 2020, xenobots are presented as programmable living cells. These artifacts are united by the immanence of the A.I., actor and social subject, which undermines anthropocentrism, decreeing the need to rethink and elaborate an ethics that is also valid for an algorithm that becomes increasingly fit to be. In what dimension will technology affect the individual's freedoms? How far will body biotechnology go? When and where will the boundaries and specifics of the case be decreed and if? The intent of this intervention is to develop a theoretical sociology that compares with the ethical philosophy "of and for" the machine, through the analysis of the latest innovations and the necessary request to hypothesize future scenarios. Technology is the binoculars of the human being who will be able to observe future scenarios, making it the bearer of a new concept of the formula cuius regio eius religio, in which the personalization of the rule and the recognition of a right will also pass through the lens of the machine.

#### From protocol-based to translational medicine: how technoscience and a research approach can change a patient's life

Giuseppina Pellegrino (Università della Calabria, Italy)

Long before the emergence of Precision (or Personalized) Medicine (PM) and the strong development of genomics, disciplines like molecular biology and techniques such as FISH (Fluorescence In-Situ Hybridization) have strongly changed and innovated the diagnosis and stadiation processes in oncology and other branches of medicine (Huber et al. 2018). This shift has transformed and deepened knowledge concerning biological and cytogenetic characteristics of pathologies which otherwise would not be entirely mapped and traced, with tough consequences in terms of clinical and therapeutic choices. Technoscience has become constitutively part of an approach where laboratory research is strongly connected to clinical practice, so that research and medical treatment (should) become more and more integrated. Outside of this integration, which is crucial also for risk prevention and risk diagnosis, is the realm of protocol-based medicine, which is still the norm and the routine in most clinical settings and health services. The issue at stake is here the dichotomy (and integration) between the standardized approach driven by consolidated classifications of diseases as well established Boundary Objects (BOs, see Bowker and Star 1999) and the four Bs of translational medicine (bench, bed, back and beyond, cf. Neresini and Viteritti 2014). The crucial role of technoscience in preventive and personalized medicine, as well as for a biomedicine oriented by a research approach integrated with care is analyzed through an autoethnographic account of a Non-Hodgkin Lymphoma (NHL) case, an illness trajectory and a story of misdiagnosis which shows how a patient's life can be changed by a strong research orientation towards clinical data, ending with a re-classification and a different therapeutic strategy. When overcoming the protocol as dogma, hidden asymmetries and deep inequalities still pervasive in the so called post genomic and proto-illness era, become evident and urgent to address.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 1

### Genetics and biomedical innovation: between risky and promising scenarios

Convenors: Barbara Morsello (Università di Padova, Italy), Veronica Moretti (Università di Bologna, Italy)

#### From public fetus to the digital fetus: an analysis of women's narratives of biomedical prenatal images on the web

Ilenia Picardi (Università di Napoli Federico II, Italy), Sole Alba Zollo (Università di Napoli Federico II, Italy),

Responsibility and inclusive processes in policies, innovation, and research about science and technology participate in a progressive transition from science and technology government to a broader form of science and technology governance. Such processes have been encouraged in the last few years by the European Commission through the promotion of Responsible Research and Innovation but are not new. Different scholars from various disciplines and countries have studied these processes during the last decades and have outlined asymmetries, conflicting frameworks, and the difficulty of matching top-down approaches with bottom-up participation, stressing the importance of drivers and barriers for actors' engagement. Our contribution to the conference will address such questions and is based on a sociological empirical research conducted with qualitative techniques (44 semi-structured interviews and systematic review of local press articles and documents) on the petrochemical site of Porto Marghera (Venice, Italy), namely on the design and building of the SIMAGE (Integrated system for environmental monitoring and emergency management). This system, which is both a technological innovation and a service innovation for the population, has been financed by the public sector (the Region of Veneto), and built jointly by the ARPAV (Regional agency for environmental protection of Veneto) and the chemical plants of the industrial site, excluding (for the most part) citizens' participation from the design and development processes. Conclusions will focus on: a) barriers to citizens' participation (including selective inclusion from above and self-exclusion from below); b) (ir)responsibility from above in technoscience governance and the democratization of industrial risks; c) the technocratic nature of technological innovations for industrial risk prevention and crisis management.

#### Imagineries of Genomic Innovation: Precision Medicine and National Development Plans in Singapore

Wairopkam Premi Devi (Central University of Rajasthan, India), Ian McGonigle (Nanyang Technological University, Singapore)

The concept of 'genomic innovation' has been developed by STS scholars to describe the visions of future prosperity and utopianism that are embedded in the field of genomics. Drawing on such insights from the social study of the biosciences, this paper examines Singapore's prevailing imagineries of genomic innovation that are co-produced with a distinctive and collectively shared idea of nationhood and national development. We discuss this imaginary of genomic innovation through the idiom of 'sociotechnical imagineries,' which combines a strong instrumental view of S&T with the psycho-social dimensions of national development to describe Singapore's characteristic strategies in the design of precision medicine. We thus show how these sociotechnical imagineries relate to Singapore's political culture, its conceptions of nationhood, and its vision of a globally networked economy. Overall, this demonstrates the utility of studying the entanglements of national development and national identity through the lens of the biosciences.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

### TRACK 1

#### Genetics and biomedical innovation: between risky and promising scenarios

Convenors: Barbara Morsello (Università di Padova, Italy), Veronica Moretti (Università di Bologna, Italy)

#### **"Is there someone weird within the family?" Prenatal and postnatal testing and the medicalisation of family relationships in presence of disability**

Alice Scavarda (Università di Torino, Italy)

The contribution is aimed at analysing how prenatal testing and postnatal genetic tests are currently modifying family relationships and social identities of parents with disabled children. The paper produces some evidence from a qualitative study based on in depth interviews to 60 parents of children with Autism and Down Syndrome and shadowing with two families. Firstly, the recommendation to do prenatal screening and diagnosis, particularly when future mothers are 35 and over, turns into a sort of moral imperative in public opinion. This is often interrelated with narratives about intensive mothering (Reich, 2018) namely of mothers able to prevent risks, pursue success and manage their (future) children's health. Prenatal screening is often intended functional to selective abortion, in case the foetus present some abnormalities. Therefore, parents who refuse prenatal testing or choose to carry the pregnancy on even in presence of a defect or a genetic disorder, are deemed responsible for the birth of their disabled child. Particularly for Down Syndrome, one of the effects of genetic testing is that the condition is considered broadly avoidable. Secondly postnatal genetic tests may amplify the sense of parents responsibility, by identifying the origin of the disorder. In the case of Down Syndrome, karyotyping can detect the nondisjoined gamete which originated the trysomy of chromosome 21. In the case of Autism, postnatal testing is often intended to rule the possibility of genetic conditions out. In both the cases, parents are actively involved in identifying the maternal or paternal ancestor with similar characteristics. The search for the "defective gene" is promoted by relatives, in order to establish the heritability of the conditions. This medicalisation of family relationships (Finkler, 2001) is linked to the trend to portray disability as an individual tragedy and a family responsibility, without taken social influences and management into consideration.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 2

### **Dis/entangling living bodies and medical technologies in the post-genomic era: health and wellbeing at the nexus between vulnerabilities, responsibility and solidarity**

Convenors: Stefano Crabu (Politecnico di Milano), Federico Neresini (Università degli Studi di Padova)

#### **The exposome as a postgenomic repertoire: Exploring scientific change in contemporary epidemiology**

Stefano Canali (Politecnico di Milano, Italy)

In the last decade, the notion of the 'exposome' has emerged in epidemiology. The exposome is a way to characterise the totality of exposures experienced by individuals, distinguished between generic external (e.g. social capital), specific external (e.g. environmental pollutants) and internal exposure (e.g. oxidative stress). The exposome is considered and presented as a new paradigm for epidemiological research. But in which way is the exposome an innovation? Is the exposome a new paradigm? What is the status of the exposome in the current landscape of biomedical research? In this paper, I discuss these questions on the basis of philosophical and empirical case-study research I have carried out on EXPOsOMICS, one of the leading projects on the exposome in Europe between 2012 and 2017. I argue that the exposome should not be seen as a paradigm, but rather as a 'repertoire' based on the alignment of conceptual, material and social components. The specification of these components allows me to show how crucial elements of the exposome have been transferred from other approaches including: sequencing repertoires, emerged in genomic and postgenomic contexts; exposure science, studying relations and contacts between humans and external agents; and the biomarkers approach, focusing on characteristics used as indicators of various processes. I thus argue that the exposome is largely a continuation- rather than a paradigmatic break - with longstanding approaches in biomedical science. Connecting my analysis with current discussions on innovation in post-genomics, I then argue that the exposome is a 'postgenomic' repertoire. I use the term with a historical meaning, for research that crucially employs genomic-based technologies yet has a supposedly critical engagement with gene-centric approaches. I thus discuss this relation of continuity and change between the exposome and the genome and extend critical analyses of post-genomic and molecular approaches to the epidemiological context.

#### **Reproducing the Normal and the Pathological in Personalized Cancer Medicine**

Nadav Even Chorev (Scholars Strategy Network, USA)

Personalized medicine is regarded as a paradigmatic change in medical practice, aiming to predict in pre-symptomatic conditions the probability that an individual will develop disease and to act on these predictions to mitigate future health problems. Once disease is manifested, the treatment will be tailored based on the patient's expected response to therapy. Tailoring the treatment takes into account the patient's particular characteristics and will ideally consider as many aspects as possible: lifestyle, environment, behavior, risk factors and populations-wide and scientific information, but first and foremost, the patient's molecular make-up. Bioinformatic and information technologies are utilized to render molecular and other sources of data meaningful and support personalized clinical decisions. Does this shift signify a change in biopolitics? Drawing on novel approaches in the life-sciences, personalized medicine represents a new "molecularized" style of thought, in which life and individuals are viewed, understood and governed through life's basic building blocks. The basic premise of personalized medicine is that each patient is unique and their cancer a 'snowflake', implying that there is no baseline with which to compare the individual's pathology against the population 'normal'. However, using examples from a personalized cancer clinical trial, it will be shown how a normal/pathological binary, a characteristic of biopolitical practices preceding molecularization, is reproduced even within such postgenomic medical practices. The aim of this talk is thus to bring to the fore aspects of continuity with existing modes of within governing, within the prevalent discourse of new, molecularized biopolitics of personalized medicine.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 2

### **Dis/entangling living bodies and medical technologies in the post-genomic era: health and wellbeing at the nexus between vulnerabilities, responsibility and solidarity**

Convenors: Stefano Crabu (Politecnico di Milano), Federico Neresini (Università degli Studi di Padova)

#### **Patient-Empowered Technology: Political Decision-Making and Lived Technology-Use for Type 1-Diabetes**

Magdalena Eitenberger (Medical University of Vienna, Austria)

Medical technologies associated with Type 1-Diabetes are prominently portrayed as all-encompassing solutions: mitigating dangerous long-term complications while making everyday life easier for those fatigued by the need to “manage” their illness. They promise positive changes in patients’ highly complex relationship with their chronic illness, combining narratives of wellbeing, convenience and that of a more “normalized” life-style. Simultaneously, they both construct and solve acute risks, which are mitigated thereafter by technologized means of care. These technologies are also assumed to foster better relationships between health professionals and patients by providing verified data and creating a shared “dialect” for the illness. Against the backdrop of such utopian visions of technology-driven “solutions”, I leverage a lived policy analysis of the Austrian healthcare system to explore decision-making processes around the (non-)use of diabetes technologies, such as continuous / flash glucose monitoring systems and insulin pumps. Within the context of a “high-functioning” welfare state, policy makers and health professionals alike insist that “absolutely everyone can access technologized care” - without accounting for subtle but potent mechanisms of discrimination and exclusion of vulnerable patient groups. Discriminatory mechanisms not only stem from the architecture of the health care system but arise also from technologies themselves: I argue that diabetes technologies have inbuilt imaginaries of the ideal user. Often, they do not encompass patient-users, who do not fit the physical “format” or specific set of skills imagined at the design stage. I will draw out the consequences and affordances of such exclusionary mechanisms by juxtaposing decision-making at the structuring level of policy and technology design with patients’ lived experiences. Asking what a better “patient-empowered technology” could look like, I compare the status quo with alternative models of need-centered, shared decision-making that aims to strategically embed lived technology-use in a more comprehensive politics of individualized care.

#### **You may have blue eyes but I have a number of good-quality oocytes: A conflict among Turkish oocyte donors**

Gülsevrim Eysel (Van Yuzuncu Yil University, Turkey)

In spite of some new developments in the field, Assisted Reproductive Technologies (ARTs) still require the wombs and oocytes of female bodies in order to help childless people, recently. However, this help may cause some new vulnerabilities and conflicts among these donors. These conflicts generally based on the different mental and physical characteristics, privacy, oocyte quality of the donors and payments, which are made to them. However, these conflicts are not limited to the interactions with other oocyte donors only, they are seen in their communication with the health professionals and their family; namely in the daily lives and practices of donors, as well. This paper will discuss how ARTs can cause all these inequalities and conflicts among Turkish people who were affected by this genomics-based reproductive technology as an oocyte donor of it in its illegal times. This discussion will be organized by the findings from 4 in-depth interviews of the researcher in December 2018 and will be analyzed through Martha Nussbaum’s capabilities approach. In this paper, ten human capabilities of Nussbaum will be reminded and the qualitative data will be specifically interpreted in relation with “the capability of affiliation.” The subtopics will be around these titles: “Unfriendly approaches to oocyte donors,” “Afraid of revealing and /or Role playing to avoid of social pressure and humiliation,” and “Exclusion among: Oocyte donors (according to the number and quality of the oocytes).” It will be suggested to decrease these new vulnerabilities and conflicts among oocyte donors under not restricted but professionally controlled environment in the end.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 2

### **Dis/entangling living bodies and medical technologies in the post-genomic era: health and wellbeing at the nexus between vulnerabilities, responsibility and solidarity**

Convenors: Stefano Crabu (Politecnico di Milano), Federico Neresini (Università degli Studi di Padova)

#### **Public or Private Genome Sequencing? Comparing Ideologies, Ethical Concerns and Patterns of Exclusion**

Ilaria Galasso (University College Dublin, Ireland)

This paper comparatively analyzes privatized and state-led genome sequencing programs, by juxtaposing the ideology they foster, the ethical concerns they raise and the patterns of exclusion they embed. Sequencing programs invite people to share genetic data, and give back to them genetic information. However, apparently contrasting approaches can be distinguished: direct to consumers (DTC) companies prevalently embrace a neoliberal “entrepreneurial” (Tutton and Prainsack 2011) rhetoric, and a “you need me” recruitment strategy, encouraging people to share genetic data (and to pay), in order to have genetic information back. On the opposite, national genomics programs tend to prevalently embrace a “solidaristic” (Prainsack and Buyx 2017) rhetoric, and a “I need you” recruitment strategy, encouraging people to share genetic data and in return for that they offer genetic information back. This paper scrutinizes the deep meaning of this structural difference, and the consequences for medical research and for social equity. We comparatively analyze secondary data on DTC genetics companies (23andme, AncestryDNA, MyHeritage, GenebyGene) and on national genomics programs (All of Us, Genomics England): the number and the socio-demographics of their costumers/participants (whenever publicly available), the services they offer, the related prices, the terms and conditions. On the other hand we elaborates on qualitative interviews conducted as part of a broader research (<https://misfires.ucd.ie/>). By interviewing concerned actors around genetic data controversies (in particular the Genuity Science–Beaumont Hospital controversy in Ireland) the dichotomy between privatized companies and state-led initiatives emerged as a major concern about participation in genomics research. By combining these data we unveil some patterns of exclusion in privatized VS state-led genomics programs, related to the public they target and the services they offer, as well as to the ethical concerns around the commercialization of genetic data, and we call for a widespread implementation of state-led and participant-centered genomics programs.

#### **Tangled health and the matters of concern that feed microbiome research**

Maya Hey (Concordia University, Canada)

Human bodies are comprised of as many microbial cells as they are human ones (Sender et al., 2016), which complicates the boundaries of where a human body ends and microbial bodies begin. Recently, particular attention is paid to the microbiome—a person’s unique profile of microorganisms that live inside and on the body—as a heretofore underexamined driver for disease and wellbeing. For instance, immune function and one’s microbiome are correlated (Wu and Wu, 2012) as are gut health and mental health (Clapp et al. 2017), demonstrating the salient but uncanny reality that we cannot live well without acknowledging these microbial entanglements. While interventions based on microbiome research seem promising (in that they are more personalized to each patient), these interventions cannot be universalized. As a result, they become difficult to communicate in the current paradigm of reductionist health (i.e. the rhetoric of “eat this, not that”). As others have cautioned (Scrinis, 2015; Hayes–Conroy and Hayes–Conroy, 2013; Lupton, 1999), the elision of ‘good’ nutrition and ‘healthy’ eating only exacerbates existing social inequities and masks privilege as the currency for and moral uprightness (Crawford, 1980; Metzl and Kirkland, 2010). Worse, by signaling individualism, microbiome-based interventions conflate health with neoliberal mobility. Based on discursive analyses, this paper examines the ramifications of microbiome research in the context of multispecies health. Building on the work of Donna Haraway (2008), I ask: How can we practice response-ability with others and how could we conceive of health as being co-created, and co-enacted with ‘in solidarity with’ the multiple species that comprise the human body? I argue that the tangled bodies of human and microbe are a matter of concern—situated, social, dispersed—instead of a matter of fact, structured as hierarchy and architectures of truths (Latour, 2005).

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 2

### Dis/entangling living bodies and medical technologies in the post-genomic era: health and wellbeing at the nexus between vulnerabilities, responsibility and solidarity

Convenors: Stefano Crabu (Politecnico di Milano), Federico Neresini (Università degli Studi di Padova)

#### Configuring ethical AI

Xaroula Kerasidou (Lancaster University, UK)

AI's promise for healthcare is ambiguous. Motivated by the all-too-eager Big Tech, calls for speedy integration of innovative technologies to rescue Europe's over-burdened national health systems clash with longstanding principles of medical ethics raising questions about how they might transform practices. Public commitments to develop ethical AI - by establishing, for example, a Centre for Data Ethics and Innovation in the UK (CDEI), introducing France's strategy AI for Humanity, or forming the global tech industry consortium named Partnership on Artificial Intelligence to Benefit People and Society which includes companies like Google and Facebook - are meant to ease such concerns. Yet, considering that ethical principles (such as privacy, responsibility, transparency, trust) are being challenged in this technological landscape, it is far from obvious what ethical AI actually is. This paper will present my project titled Configuring ethical AI which addresses the above question by leveraging insights from feminist Science and Technology Studies. This is a field which advocates a strategic shift from philosophical definitions - what is ethical AI - to relational sociological analysis of situated processes - how is an ethical AI configured in contemporary healthcare discourses and practices? Such a shift from the representational to the performative builds upon the recognition that figurations of an ethical AI are not only descriptive but also performative, having normative implications in policy, technology development and use. It also recognises that ethics is a contextual socio-material practice, not a feature that can be designed 'into' technology. This basis, as I will argue, enables us to understand AI as a materialsemiotic actor whose power lies not only in its computational powers but also in the compelling imaginaries and visions it can muster, while it opens up the possibility to explore how ethical AI can be imagined differently.

#### Brazilian scientific production on Alzheimer's disease: what types of prevention it helps to produce and for whom?

Marko Synésio Alves Monteiro (University of Campinas, Brazil), Érica Renata de Souza (University of Campinas, Brazil)

The topic of how markers of difference interface with science and technology is still very understudied in Brazilian STS. The role played by such markers in disputes around the construction of research is the focus of this paper, especially in the realm of health and disease/aging. We want to reflect here on how intersectionality (markers of gender, race/ethnicity, class etc.) make a difference in how research and policy on Alzheimer's disease is developed in Brazil. Our research looks at the scientific production on Alzheimer's disease from an interdisciplinary point of view: based on anthropology of science and technology, STS and an intersectional feminist theory, we aim first to map the research, identify where it is performed and identify the approaches used. Secondly, we want to identify if the so-called social markers of difference (gender, race, class, generation) are being used, and how so. And thirdly, we want to reflect on how this presence or absence of intersectionality is correlated with health, prevention policies and the ways in which the disease is managed in the country. According to the available literature, women are potentially the most affected group. But which women are we talking about? To what extent are differences of race-ethnicity, region, social class, sexuality and generation being considered in women's clinical history and in medical research? Our main goal is thus to understand how this knowledge is produced, what types of prevention it helps to construct and for whom. We hope that our research can answer, at least in part, to what extent Brazilian scientific production is based on reductionist approaches to dementia as a pathology located in the "molecularized mind", ignoring the role of social factors, as Margareth Lock previously pointed out. By analyzing scientific production in the prevention of Alzheimer's disease from an intersectional perspective, we hope to contribute with data that could support future public policies biased on social diversity to prevent the disease.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 2

### **Dis/entangling living bodies and medical technologies in the post-genomic era: health and wellbeing at the nexus between vulnerabilities, responsibility and solidarity**

Convenors: Stefano Crabu (Politecnico di Milano), Federico Neresini (Università degli Studi di Padova)

#### **We Have Never Been Healthy: Lifelogging, Will to Applications and Personalization of Big Data**

Dušan Ristić (University of Novi Sad, Serbia)

We are witnessing the rapid development of the data driven world, the emergence of new technological devices, and changes in the social practices influenced by these technologies. Lifelogging practices become a global social phenomenon, a part of contemporary experience of everyday life and are, as such, already recognized and discussed by social scientists. Generally, lifelogging refers to the use of smart phones, mobile technologies, applications and self-tracking tools that range from health monitoring to the measurement of productivity at work. It is about turning our lives into a permanent projects of technologically aided optimization. In this presentation, I discuss the potentials of Big Data sources and belief that use and sharing of personal data, particularly about one's health is a positive act or beneficial to the public. Furthermore, presentation is about discussion of social implications of lifelogging in terms of STS. Finally, risks and paradoxes of the practices of lifelogging and the process of personalization of Big Data are discussed, with the examples of health apps usage and the Quantified Self movement.

#### **Associazioni di pazienti e ricerca post-genomica: La Malattia di Huntington in Italia**

Ludovica Rubini (Sapienza Università di Roma, Italy)

Lo sviluppo della medicina post-genomica può essere osservato da due prospettive diverse ma convergenti. Da un lato le potenzialità delle nuove tecnologie mediche post-genomiche veicolano una visione ottimistica per le loro capacità migliorative (Juengst et. al, 2012), dall'altro le stesse tecnologie sembrano avere iscritto una idea di salute che si riduce al trattamento della patologia a livello micro-biologico (Abi-Rached & Rose, 2010). Entrambe le visioni sembrano però adottare un approccio deterministico che non permette di cogliere i processi in atto nella ricerca scientifica. In questo scenario è necessario ampliare lo sguardo sugli attori che operano nel campo della medicina post-genomica. In particolare, le associazioni di pazienti rappresentato un importante stakeholder che può mediare e favorire l'incontro tra ricerca scientifica ed esperienza quotidiana dei pazienti (Callon & Rabeharisoa, 2008).

L'obiettivo di questo lavoro è dunque quello di indagare le potenzialità e i limiti dell'azione associativa su due livelli: 1) comprendere se e in che modo le associazioni contribuiscono alla diffusione e lo sviluppo delle terapie geniche sperimentali; 2) capire se e come esse attivano processi di empowerment dei pazienti. Si proverà dunque a rispondere a due domande di ricerca: le associazioni possono favorire il coinvolgimento dei pazienti nei processi di ricerca scientifica? L'empowerment del paziente si esaurisce nell'applicazione di tecnologie mediche, come la diagnosi anticipata o le terapie geniche, oppure esso necessita dall'azione di realtà associative? Nel lavoro sarà preso in esame il caso di studio dell'associazione, "Huntington Onlus - La rete italiana della malattia di Huntington" (MA) che si occupa di mettere in rete i pazienti portatori della malattia genetica ereditaria di Huntington. Saranno condotte interviste semi-strutturate a testimoni privilegiati e ai pazienti portatori della MA.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 2

### **Dis/entangling living bodies and medical technologies in the post-genomic era: health and wellbeing at the nexus between vulnerabilities, responsibility and solidarity**

Convenors: Stefano Crabu (Politecnico di Milano), Federico Neresini (Università degli Studi di Padova)

#### **My genome on the Net. Digitalizing the molecular self, and sharing personal genetic information**

Mauro Turrini (Consejo Superior de Investigaciones Cientificas, Spain)

The rise of direct-to-consumers (DTC) genetic testing concerning health information, notably the predisposition to common diseases, has been widely understood as a new wave of medicalization beyond the clinics. This presentation intends to show how personal genomics is in fact based on the digitalization of the molecular self. In this regards, DTC genetic tests usages should be analyzed as a process which use web technologies and sociality to mix up practices and cultures coming from the different domains, most notably medicine, kinship and ethnicity. In order to have a critical take on it, this paper will focus on the users' practices of one of the leading company of this sector, 23andMe, which provides both ancestry and medical information, present them as a form of empowerment and citizen science and, at the same time, has widely integrated social web devices into its platform. By presenting the analysis of interviews to ordinary users, we will focus in particular on the different and intertwined practices and values that surround sharing personal genomic data.

#### **Generational Medicine in Singapore: A National Biobank for a Greying Nation**

Manoj Vimal (Nanyang Technological University, Singapore), Premi W. Devi (Nanyang Technological University, Singapore), Ian McGonigle (Nanyang Technological University, Singapore)

Projections by the United Nations for the period between 2019 and 2050 suggest that Eastern and South-Eastern Asia will witness the fastest population ageing in the world. With rapidly rising population ageing often comes a disease burden in the form of chronic diseases. In the context of Singapore, we examine the role of a national biobank called Health for Life in Singapore (HELIOS), which positions itself as aiming to improve the health and lives of future generations of Singapore. This explicit motivation leads us to ask how concerns about 'ageing' configure the organization and aspirations of the HELIOS study. More specifically, how may a biobank help tackle the societal challenge of ageing? And what is unique about the configuration of a biobank for this purpose? We undertook content analysis of official documents, state policies, online lectures, media coverage, and public websites of HELIOS and related government ministries and institutions. In addition to the content analysis, we interviewed ten experts including biobank actors, clinical geneticist, population epidemiologists, and scientific advisors. The aims and actions of HELIOS inform on the concerns, desires and ambitions of the Singapore state and its healthcare system in the context of its changing population demography. In the process, we aim to better elucidate the precise role of medical biobanks in the context ageing societies. We argue that HELIOS propagates a 'sociotechnical imaginary' of what we call 'generational medicine,' that posits a crucial role for biobanks in tackling the societal challenge of an ageing population.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 3

### From the imaginary to emancipation and back. The relationship between disability and technology

Convenor: Arianna Radin (Università di Bergamo)

#### **Wounded Storytellers of Digital Media: A Nethnographic Research on Two Instagram Cases from Turkey**

Nihan Bozok (Beykent University, Turkey), Mehmet Bozok (Maltepe University, Turkey)

The meaning of the disease according to the suffering individual is the loss of the accustomed map of her/his daily life. The ill individual learns to listen her/his body in different ways in order to understand the changes that the disease creates. Disease is a process in which the body needs a voice. One of the most effective ways of learning the life and the body that has been reshaped with the disease is to narrate the disease and its effects. Arthur Frank (1997) conceptualizes the individual who talks about her/his disease as wounded storyteller. Today, similar to the general trend almost all over the world, in Turkey one of the popular landscapes where people narrate their sufferings is social media. In this presentation we are going to discuss the results of a nethnographic research we have conducted in Instagram for two years. In this research we examined approximately 48.000 posts attached with the Turkish versions of the tags of #dancewithcancer and #notthecancerbutwearestrong. We see that people who cannot speak self-confidently in the face of medical authority, such as women or people with disabilities, use this platform more effectively. They create lay and local vocabulary of cancer against exceedingly technical language of modern medicine which made a gap between illness and its narration by the patient. Secondly, even if cancer has passed, patients experience it as a disease that has spread throughout their lives because of the fear of relapse. Thus, in their worlds of meaning, most patients interpret cancer as a chronic disease than a fatal one. As a last point, Instagram users who tell about their cancer experiences prevent the disease from getting stuck in their individual spheres, especially in their bodies. By sharing their sufferings, they open the disease towards the public sphere and construct more collective disease experiences.

#### **Approccio socio-antropologico all'integrazione dei portatori di impianti cocleari: rappresentazione sociale della sordità e dell'impianto nelle famiglie e socializzazione delle persone sorde impiantate**

Cesca Malou (Université de Lorraine, France)

La questione dell'impianto cocleare ha sollevato importanti problemi sociali e politici negli ultimi anni. Tuttavia, la letteratura scientifica sembra concentrarsi su approcci biomedici e meccanici della sordità. Le teorie del potenziamento mettono in discussione la relazione con il corpo di fronte alle nuove tecnologie osservando la fusione delle capacità biologiche e meccaniche e le conseguenti capacità corporee (Meynard 2010, Kleinpeter 2013, Berland 2014). Inoltre, gli studi biomedici riguardanti il dispositivo mediante impianto cocleare sono orientati allo studio della riabilitazione funzionale dell'udito e del linguaggio. Tuttavia, questi studi non prevedono l'intera estensione e varietà dei fenomeni legati all'impianto (Meynard 2010, Berland 2014). L'obiettivo è mettere in discussione le ripercussioni corporee del dispositivo, ma anche mettere in discussione l'integrazione sociale dell'individuo con un impianto cocleare. Questo è il motivo per cui, considerando la comprensione dell'identità e delle conseguenze socio-culturali dell'impianto cocleare nei non udenti, è importante per fornire ulteriori informazioni alla letteratura scientifica.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

### TRACK 3

**From the imaginary to emancipation and back. The relationship between disability and technology**

Convenor: Arianna Radin (Università di Bergamo)

**Prosthetic users navigating conflictual expectations: reaching emancipation and avoiding stigmatisation with upper and lower-limb prostheses**

Lucie Dalibert (University Claude Bernard Lyon, France), Valentine Gourinat (University Claude Bernard Lyon, France)

Prosthetic limbs, especially those that are worn by sportsmen and women, have received growing media and academic attention, being perceived as a form of human enhancement. Yet, the more mundane and everyday experiences of prosthesis users have not drawn similar consideration. In this presentation, while relying upon the fieldwork we undertook in the field of prosthetics, we will attend to the ways in which both upper and lower-limb prostheses question and (re-)define dis/ability and its meanings, by focusing in particular on how these technological objects can be a tool of both empowerment (self-reinvention, self-assertion) and stigmatization (social judgement or discredit). On the one hand, prostheses can be an amazing tool of empowerment and emancipation as well as self-expression, not only by enabling their users to perform activities but also by offering many creative opportunities in redefining the body (through the devices' aesthetic dimensions and the new technological possibilities they afford). On the other hand, social expectations based on the collective representations of prostheses clash with the harsh reality and the numerous limitations of prosthetic devices in daily life: pain, wounds, unsuitability, etc, causing therefore some disappointment and suffering in amputees' lifecourse and rehabilitation process. In fact, prosthesis users are facing contradictory injunctions: their prosthetic limb must remain invisible in order to escape daily stigmatisation, but it must remain visible in order to receive others' consideration and care (e.g. a prosthesis as well as a cane signals someone's disability and might help them avoid being bumped into in a busy street). How do prosthetic users find a balance within these conflicting expectations? The aim of this presentation will be to analyse these paradoxical injunctions and situations, through transcribed interviews realised with amputated people who experience both emancipation and limits with their prosthetic limb.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 4

### Dis-entangling later life: Ageing processes, innovative practices and critical reflections

Convenors: Silvia Fornasini (Università di Trento / Fondazione Bruno Kessler), Francesco Miele (Università di Padova), Francisco Nunes (Fraunhofer Portugal AICOS)

#### **"Don't you give up on me". Ridefinizioni di senso come pratiche innovative**

Nicoletta Bosco (Università degli Studi di Torino, Italy)

La stanza degli abbracci, una struttura che consente di stringersi ai propri cari senza contatto diretto, rappresenta visivamente l'emblema delle ambivalenze a cui la condizione degli anziani è oggi sottoposta.

Nel discorso pubblico (e nelle pratiche) emerge spesso la retorica della sicurezza, in nome della quale gli anziani vengono accolti in strutture di cui abbiamo perso le chiavi. Ammesso che questo consenta di proteggerli - ipotesi che infezioni e decessi nella seconda ondata pandemica sembrano contraddire- la loro sopravvivenza contrasta con qualunque ragionevole declinazione di una vita che possa definirsi tale: privati di relazioni, consuetudini, spesso sedati, a volte maltrattati, ma vivi (AmnestyInternational Italia 2020). Una seconda narrativa descrive la loro condizione come emblematica della fragilità e, spesso, la loro morte come un tributo inevitabile. A fronte dei grandi progressi clinici che il paradigma biomedico ha consentito di realizzare, sembrano rimaste sottotraccia molte delle trasformazioni che questi progressi hanno determinato, ad esempio la crescente uniformità e normatività delle concezioni relative al tempo residuo e dello stesso processo di invecchiamento (Kaufman 2010). Le politiche e il discorso pubblico appiattiscono e semplificano la condizione anziana e le differenze che la attraversano, ad esempio non considerando la possibilità che si possano accettare l'avanzare dell'età e la conclusione della vita (van Wijngaarden et al. 2015), o che sia possibile, anche per patologie estreme, trovare forme creative di accettazione e un possibile equilibrio di vita (Wolverson et al. 2017). In un'epoca di radicale incertezza, il recupero riflessivo di categorie e di saperi tradizionali - come l'ascolto dei vissuti di chi sperimenta una determinata condizione - appare come una leva potenzialmente innovativa per immaginare mondi possibili (Sclavi 2003) e provare a rinegoziare il senso.

#### **Research on aging processes: the challenge of biological age**

Giovanna Vicarelli (Università Politecnica delle Marche, Italy), Micol Bronzini (Università Politecnica delle Marche, Italy)

The paper presents the preliminary findings of an ongoing research on aging processes, entitled Innovative Research Action on AGE (mir-age). This research project is carried out by a multidisciplinary team (composed of information engineers, biologists, sociologists, statisticians and economists) with the aim of arriving at identifying a shared methodology for the estimation of the biological age. Biological age is expected to integrate (if not replace) the chronological age in the definition of aging as it recognises the heterogeneity of the aging processes. It raises multiple expectations in terms of both public health (redefining targets and methods of health promotion and prevention) and health protection prospects (public welfare, corporate welfare, etc.). On the other hand, the concept of biological age shows some ambivalence: it raises the risk of pervasive forms of surveillance (biomedicalization of aging), and it may be translated into new forms of discrimination. Let's think about the interests of insurance companies, for example, towards indicators capable of discriminating between subjects with the same chronological age but with different life expectations related to their biological age. The research project can be analysed in the perspective of STS as it shows how the very process of creation of new scientific knowledge (as the construct of biological age) is the emergent outcome from a complex ecology of relationships between social actors (coming from different disciplinary backgrounds) and heterogeneous technical devices (from biological samples to information technologies) (Casper and Berg 1995; Crabu 2016). The context of the research is therefore configured as a 'space' in which the different components relate to each other without one prevailing over the other, at least at the moment. This contribution intends to critically reflect on these aspects from the privileged observatory given by the participation of the authors in the multidisciplinary team of MIR-AGE research project.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 4

### Dis-entangling later life: Ageing processes, innovative practices and critical reflections

Convenors: Silvia Fornasini (Università di Trento / Fondazione Bruno Kessler), Francesco Miele (Università di Padova), Francisco Nunes (Fraunhofer Portugal AICOS)

#### Digital media and later life in rural Italy: an ethnographic research

Simone Carlo (Università Cattolica del Sacro Cuore, Italy), Francesco Bonifacio (Università Cattolica del Sacro Cuore, Italy)

Following recent research insights (Airola-Rasi, 2019), this study explores how ICTs use is incorporated into older adults' everyday life, contributing to shape ageing processes in isolated areas (Currie, Philip, Roberts, 2015). The research was settled in a small mountain village located in the center of Italy, called Castel del Monte, which counts less than 500 resident citizens, largely elderly. Based on one month-participant observation in January 2020 and 20 in-depth interviews with over-65 people, the research broadly explores: RQ1: what does ageing in a remote mountain context mean? RQ2: how are digital technologies interwoven with aging processes and daily healthcare practices? In the context of our research, healthy ageing is portrayed as a way of coping with aging-related changes, continuing to live in the place where they are emotionally connected, despite its criticalities in terms of access to services, climate and depopulation. In this scenario, digital technologies are incorporated by older adults as an amplifier of their "space of possibilities for social action" (Tulle, 2008, p.163). As instance, ICTs are embedded into healthcare-related practices, allowing older adults self-monitoring and reducing the necessity to reach the valley cities. Also, ICTs are depicted as a "look at the world", helping to break the isolation of hard winter seasons and to maintain connections with the social network out of the village. Yet, ICTs are not considered useful for sociality in their context of proximity, traditionally characterized by face to face meeting routines. Older adults have been observed delegating ICTs-related activities to friends and relatives. This usually happens for what is considered too difficult and for activities that have traditionally been handled by their younger relatives. Consistently with Rasi-Kilpeläinen (2015), ICTs-based practices appear as the result of distributed competences within the older adults' social network, reflecting the density of social relationships within the community.

#### Ageing, prevention of Alzheimer's Disease and scientific production: a reflection from the field of STS and the debate on the social markers of difference

Érica Renata de Souza (State University of Campinas, Brazil)

Annette Leibing, in "Situated prevention: the need of framing the 'new dementia'" (2018), argues that dementias are usually detected late, and that an early diagnosis could open the window of possibilities for prevention, from the use of medications to lifestyle change. The author proposes that this prevention should be situated, which would favor research in this area, as well as the problematization of what is in fact important to people in their ageing process. This research aims to explore in what forms and to what extent the intersectionality of so-called social markers of difference (based on Kimberly Crenshaw's work) are present in the research on Alzheimer's disease in Brazil, especially with regard to the prevention of the disease in women. This concern aligns with authors of the international field of Science, Technology and Society (CTS), whose production has been exploring for decades the ways in which research agendas in Medicine and identity-difference issues are interrelated. However, when thinking about disease prevention, are these differences being considered, especially regarding Alzheimer's disease? Through literature and interviews, our goal is to understand how this knowledge is produced, what types of prevention it helps to produce and for whom. If new forms of prevention go, for example, through drug administration and lifestyle change, they are directly affected by the differences, as well as the agency and the empowerment of ageing population. In my previous research on public policies for transgender men in Brazil, I argued that body materiality is co-produced in the intersection between social markers of difference, medications, body techniques, surgical techniques, etc. In this current research, I have realized that ageing processes also occurs in these terms, considering "a body history, a persistent physicality that is part of their identity" (Annemarie Mol, "Ontological policy: some ideas and various questions", 2008).

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 4

### Dis-entangling later life: Ageing processes, innovative practices and critical reflections

Convenors: Silvia Fornasini (Università di Trento / Fondazione Bruno Kessler), Francesco Miele (Università di Padova), Francisco Nunes (Fraunhofer Portugal AICOS)

#### The use of the internet and digital divide: the case of migrant elderlies in times of pandemic

Orkide Izci (Università di Milano-Bicocca, Italy), Valeria Quaglia (Università di Milano-Bicocca, Italy), Marco Terraneo (Università di Milano-Bicocca, Italy), Mara Tognetti (Università di Milano-Bicocca, Italy)

The pandemic rendered life more dependent on the internet and digital technologies, thus studying the digital divide results even more crucial. Technological innovations are being developed to improve older adults' life quality (Cotton, Ford, Ford & Hale, 2012; Zaccaria, Casanova & Guaita, 2019); however, these innovations cannot improve the elderly life quality if the grey digital divide persists. Studies show the phenomenon that elderlies use the internet and digital technologies less than younger people, which is known as the "grey digital divide" (Compaine, 2001; Loges & Jung, 2001; Van Deursen & Van Dijk 2013; Facchini & Sala, 2019). This paper will explore the use of the internet, digital technologies, and the grey digital divide among migrant adults (65-years-old and older) in Italy by examining the causes and effects of internet use and a digital exclusion related to the intersectionality (Crenshaw, 1989) of categories such as class, gender, ethnicity, age, education, geography, and legal status (Ragnedda, 2017). Through qualitative research, we will try to answer the following questions: how do elderly migrants use the internet in their everyday lives? Specifically, if and how do they use it to communicate with the people from their country of origin, transnational migrants' networks, and the settled country's people and institutions? How has the pandemic rendered it more visible? What are the negative and positive impacts of the pandemic on it? This paper will analyze narratives obtained through in-depth interviews with migrant older adults living in Italy who are aged 65 years and above.

#### Information, Knowledge & Successful Aging

William Jones (University of Washington, USA)

In the normal course of aging, we experience a gradual decline in raw cognitive ability as measured, for example, by tests of short-term working memory capacity and processing speed. But a growing body of research provides intriguing, suggestive indicators that we might compensate for and counter declines in raw cognitive ability through methods that better leverage both information "out there" and our accumulated knowledge "in the head." Ideally, methods combine so that the declines of age are minimal, and we remain active, engaged and self-reliant up until the very end of our biological lives. What can be done, in the management of our information and, indirectly, in the management of our knowledge to come closer to this ideal of aging? The talk first considers the following:

- Successful Aging. What Is It About? What should it be about? How can a nation - our world - successfully age?
- Relationships between fluid and crystallized intelligence and inferences we might draw both for how we might best work together in collaborative efforts and for how, individually, we might best combine external information with accumulated knowledge "in the head".
- The second half of the talk briefly reviews and critiques initiatives in three areas:
- Training and practice. Research on the efficacy of brain training is, at best, mixed. But are there ways of training and practicing that do work?
- Information tools designed as "cognitive spectacles" to reduce (or eliminate) the importance of some cognitive capacities, such as working memory, that are known to decline with age.
- Cross-generational team projects to realize a complementarity in the abilities of individual contributors. The raw, fluid intelligence of youth combined with the crystalized knowledge - even wisdom - of age.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 4

### Dis-entangling later life: Ageing processes, innovative practices and critical reflections

Convenors: Silvia Fornasini (Università di Trento / Fondazione Bruno Kessler), Francesco Miele (Università di Padova), Francisco Nunes (Fraunhofer Portugal AICOS)

#### The use of the internet and digital divide: the case of migrant elderlies in times of pandemic

Orkide Izci (Università di Milano-Bicocca, Italy), Valeria Quaglia (Università di Milano-Bicocca, Italy), Marco Terraneo (Università di Milano-Bicocca, Italy), Mara Tognetti (Università di Milano-Bicocca, Italy)

The pandemic rendered life more dependent on the internet and digital technologies, thus studying the digital divide results even more crucial. Technological innovations are being developed to improve older adults' life quality (Cotton, Ford, Ford & Hale, 2012; Zaccaria, Casanova & Guaita, 2019); however, these innovations cannot improve the elderly life quality if the grey digital divide persists. Studies show the phenomenon that elderlies use the internet and digital technologies less than younger people, which is known as the "grey digital divide" (Compaine, 2001; Loges & Jung, 2001; Van Deursen & Van Dijk 2013; Facchini & Sala, 2019). This paper will explore the use of the internet, digital technologies, and the grey digital divide among migrant adults (65-years-old and older) in Italy by examining the causes and effects of internet use and a digital exclusion related to the intersectionality (Crenshaw, 1989) of categories such as class, gender, ethnicity, age, education, geography, and legal status (Ragnedda, 2017). Through qualitative research, we will try to answer the following questions: how do elderly migrants use the internet in their everyday lives? Specifically, if and how do they use it to communicate with the people from their country of origin, transnational migrants' networks, and the settled country's people and institutions? How has the pandemic rendered it more visible? What are the negative and positive impacts of the pandemic on it? This paper will analyze narratives obtained through in-depth interviews with migrant older adults living in Italy who are aged 65 years and above.

#### Information, Knowledge & Successful Aging

William Jones (University of Washington, USA)

In the normal course of aging, we experience a gradual decline in raw cognitive ability as measured, for example, by tests of short-term working memory capacity and processing speed. But a growing body of research provides intriguing, suggestive indicators that we might compensate for and counter declines in raw cognitive ability through methods that better leverage both information "out there" and our accumulated knowledge "in the head." Ideally, methods combine so that the declines of age are minimal, and we remain active, engaged and self-reliant up until the very end of our biological lives. What can be done, in the management of our information and, indirectly, in the management of our knowledge to come closer to this ideal of aging? The talk first considers the following:

- Successful Aging. What Is It About? What should it be about? How can a nation - our world - successfully age?
- Relationships between fluid and crystallized intelligence and inferences we might draw both for how we might best work together in collaborative efforts and for how, individually, we might best combine external information with accumulated knowledge "in the head".
- The second half of the talk briefly reviews and critiques initiatives in three areas:
- Training and practice. Research on the efficacy of brain training is, at best, mixed. But are there ways of training and practicing that do work?
- Information tools designed as "cognitive spectacles" to reduce (or eliminate) the importance of some cognitive capacities, such as working memory, that are known to decline with age.
- Cross-generational team projects to realize a complementarity in the abilities of individual contributors. The raw, fluid intelligence of youth combined with the crystalized knowledge - even wisdom - of age.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 4

### Dis-entangling later life: Ageing processes, innovative practices and critical reflections

Convenors: Silvia Fornasini (Università di Trento / Fondazione Bruno Kessler), Francesco Miele (Università di Padova), Francisco Nunes (Fraunhofer Portugal AICOS)

#### **Ageing, social media, and everyday life during Covid-19. A qualitative case study on older people living in the first European "Red Zone"**

Giulia Melis (Università di Milano-Bicocca, Italy), Emanuela Sala (Università di Milano-Bicocca, Italy), Daniele Zaccaria (Scuola Universitaria Professionale della Svizzera Italiana-SUPSI, Switzerland)

With the Covid-19 outbreak, in February 2020, the Italian government introduced a series of measures based on the "social distancing" principle. Despite their crucial role in contrasting the spread of the disease, these measures may have a negative impact on older people's well-being, especially on loneliness and social isolation. We currently know very little on the social impact of these measures. However, an increasing body of literature discusses the positive role of Social Media (SM) in contrasting the risk of social exclusion for older people. To this respect, SM, such as WhatsApp, might have had a role in contrasting the negative effects of the social distancing measures, contributing to maintaining older people's social connections. The here presented research investigates to what extent SM contributed to overcome the challenges that social isolation posed on older people's well-being. In pursuing this, a qualitative case study was conducted on the first Italian "Red Zone", the first cluster of municipalities placed under "de facto quarantine". We collected data through video-interviews on a purposive sample of 40 men and women over 65, living within the ten municipalities. The data analysis focuses on the changes and redefinition of older people's everyday life, together with the interplay of online and offline social connections during the lockdown. On the one hand, SM helped older people adapt to the emergency phase and alleviate the condition of forced social isolation, playing a key role during the "suspended time" of the lockdown. On the other hand, the complexity of SM use in older people's everyday life were also documented; in a Country, such is Italy, where the grey digital divide is very high, cultural and generational attitudes, as well as the social resources enacted, may enhance or, rather, limit its use.

#### **The Raise of the "Invisibles": innovating Elderly Digital Care During and After COVID-19**

Monica Murero (Università degli Studi di Napoli Federico II, Italy)

Innovative e-prescribing protocols (ricetta elettronica) relying on the user's technological capabilities might fail to guarantee access to medication to the most digitally illiterate, fragile, and forced to remain-at-home part of the Italian population: the elderly. However, our empirical work shows that interdigital agents' "invisible" work securing medication availability to old people may turn innovation aging failure into success during and after COVID-19 pandemic crisis. Previous literature showed the importance of considering situational practice and informal work that may support aging care (Miele et al, 2020; Fornasini et al., 2016; Bruni & Gherardi, 2007; Gherardi, 2004) besides "formal" processes. Moreover, building on the theoretical work of Annemarie Mol (praxiography, 2002, 2010) and Monica Murero (interdigital communication theory 2005, 2012), we aim at empirically highlighting the introduction of e-prescription in the North, Center and South of Italy. We will present the results of a qualitative research we have been conducting during the "phase two" of the pandemics (ongoing, December 2020), with an ethnographic approach that highlights the intermediating role of mobile technology affecting formal and "invisible" practices; these act "for and around the elderly care". For example, new tech-based practices may modify four existing domains by: a) changing places of access to care (avoid doctors' offices during the pandemic), b) creating new networked connections between professionals (family doctors, pharmacists, caregivers), c) redefining objects and meanings (prescription dematerialization), and d) creating innovative "invisible workers" (neighbors, voluntaries, pharmacy-deliver-men. This happens thanks to the technology-mediated role of three actors: family doctors, pharmacists, and most importantly interdigital agents (competent user of ICTs); the former "invisible" workers do not appear in the "ordinanza" of the "ricetta elettronica". However, our initial findings confirm the crucial importance of the mediating role of "invisible workers" in making e-medication a real success, indirectly affecting "innovating aging" access to digital health.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 4

### **Dis-entangling later life: Ageing processes, innovative practices and critical reflections**

Convenors: Silvia Fornasini (Università di Trento / Fondazione Bruno Kessler), Francesco Miele (Università di Padova), Francisco Nunes (Fraunhofer Portugal AICOS)

#### **Ageing and frail elderly, between isolation and connection: a research perspective**

Giuseppe Monteduro (Università del Molise, Italy), Sara Nanetti (Università Cattolica del Sacro Cuore di Milano, Italy)

The processes of globalization, taking place on different levels, meet an unprecedented and constantly changing demographic panorama also in terms of categorization. Entry into the elderly condition is increasingly slow and gradual, profiling different interpretative types of elderly referable: age cohorts (such as the young elderly, the elderly), the degree of self-sufficiency (the self-sufficient and dependent elderly, divided in turn on the basis of the different degrees of dependence), social networks (the elderly who live in family or in solitude), to socio-economic conditions and new forms of bio-psycho-social frailty. In the face of this evolution, traditional welfare instruments seem inadequate to the high degree of differentiation present in the target population, which can no longer be reduced to the sphere of non-self-sufficiency. The demographic panorama highlights, in fact, the presence of a significant segment of the population which, in the elderly, shows signs of frailty, other than non-self-sufficiency, which if detected can activate policy paths aimed at supporting the elderly and his primary networks. In this sense, the use of digital devices can constitute a valid connection medium between the elderly, services and caregivers. The distance of the family members of reference (children and grandchildren), linked both to the individualization of life choices and, especially for the South, to the phenomenon of desertification increases the isolation situations of the elderly and feeds the processes which lead more quickly to non-self-sufficiency. In this sense, the use of technological tools represents a significant relational medium: on the one hand it supports the elderly in relations with their primary and secondary networks, on the other it allows family caregivers to monitor the conditions of the elderly by orienting the care measures and, not least, it favours a faster and more effective intervention of social services networks. This contribution intends to define which stressors contribute to delineate the condition of frailty in elderly life, by re-proposing the most recent literature on the subject, by making some proposals for policy analysis able to guarantee innovative tools and assistance methods that contrast isolation and delay, as much as possible, of the loss of autonomy (albeit reduced) of this segment of population and keep primary social networks alive. In this sense, models capable of supporting the life of the elderly and their care networks, in particular the family, will be identified.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 5

### Disentangling technoscience and sensory experience

Convenors: Valentina Marcheselli (Università degli Studi di Milano), Giampietro Gobo (Università degli Studi di Milano)

#### **Reinventing ability. Constructions of “sense(s) of agency” with exoskeletal devices in spinal cord injury and stroke**

Denisa Butnaru (Universität Konstanz, Germany)

Conceptual developments based on Maurice Merleau-Ponty's philosophical insights in phenomenology (Merleau-Ponty 2012 [1945]) have stressed the centrality of the body for our experiences. Recent technological developments in the medical field such as exoskeletal devices question central notions in phenomenology of the body, among which those of "own body" or "body schema". The formerly evoked examples of technologies redefine embodiment for persons with motility impairments, representing a revolutionary technology for some neurological affections, such as spinal cord injury (SCI) and stroke (CVA). For example, one of the concrete aspects that they influence is that they offer a temporary possibility to walk again, although most often in a confined space, which is that of a laboratory or clinic, and for a very short interval of time, which is defined by the involved actors as a "training session". The aim of this presentation is to show how the use of exoskeletal devices redesigns walking capability in spinal cord injury (SCI) and cerebrovascular accidents (CVA) and hence forms of what phenomenologists name the "sense of agency" (Gallagher 2012). Exoskeletons are markers of a specific corporeal transition: one where the "I cannot" of impairment turns into an "I can" (Leder 1990), although temporarily. To show this phenomenon empirical material from narrative interviews with persons having experienced SCI and CVA, and expert interviews with engineers carried between 2014 and 2019 shall be considered. The aim is to show how the contextual use of exoskeletons in clinical environment changes the perception of one's deficient sensitivity, in that people with impairments become "temporarily abled". This involves a process of recapturing former capabilities of the user, and thus of engaging her/him in the production of forms of embodiment based on what I name a "sensitivity capital", that one used to know, but also that one used to be.

#### **The hearing experience between the body-mind and digital technologies**

Vincenzo M.B. Giorgino (Università di Torino, Italy)

The hearing experience between the body-mind and digital technologies. An enactive grounded theory of individual experience of hearing loss and the possibility of transforming personal health data in a commons. I am a permanent user of a hearing aid and intend to present the partial results of a grounded analysis in progress of my personal experience. It includes both my feelings, emotions and reflections on the connected events, with the specification that they are not easily separable from the interaction with the medical treatment and the technological systems constituted around these hearing devices. My assisted auditory experience produces digital data managed by the software of the manufacturer, and available to the technicians of the selling company. The interpretation of these data affect the same assisted auditory experience that can no longer be separated from my body-mind relational work. This calls for an enactive approach, beyond a representational model of knowledge production. Moreover, the insertion of the existential dimension of this practical knowledge implies to bring life skills into the picture. In the last part, I describe the potential effects for the social good that the establishment of a digital P2P ecosystem based on a technology of distributed ledger, could have at scientific and innovation technology levels ("Citizen Science"). Personal health data is gold for the current digital bio-economy. This collective intelligence could be partially digitalized and tokenized in an ecosystem organized as a commons and managed by communities of users.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 5

### Disentangling technoscience and sensory experience

Convenors: Valentina Marcheselli (Università degli Studi di Milano), Giampietro Gobo (Università degli Studi di Milano)

#### **Reinventing ability. Constructions of “sense(s) of agency” with exoskeletal devices in spinal cord injury and stroke**

Denisa Butnaru (Universität Konstanz, Germany)

Conceptual developments based on Maurice Merleau-Ponty's philosophical insights in phenomenology (Merleau-Ponty 2012 [1945]) have stressed the centrality of the body for our experiences. Recent technological developments in the medical field such as exoskeletal devices question central notions in phenomenology of the body, among which those of "own body" or "body schema". The formerly evoked examples of technologies redefine embodiment for persons with motility impairments, representing a revolutionary technology for some neurological affections, such as spinal cord injury (SCI) and stroke (CVA). For example, one of the concrete aspects that they influence is that they offer a temporary possibility to walk again, although most often in a confined space, which is that of a laboratory or clinic, and for a very short interval of time, which is defined by the involved actors as a "training session". The aim of this presentation is to show how the use of exoskeletal devices redesigns walking capability in spinal cord injury (SCI) and cerebrovascular accidents (CVA) and hence forms of what phenomenologists name the "sense of agency" (Gallagher 2012). Exoskeletons are markers of a specific corporeal transition: one where the "I cannot" of impairment turns into an "I can" (Leder 1990), although temporarily. To show this phenomenon empirical material from narrative interviews with persons having experienced SCI and CVA, and expert interviews with engineers carried between 2014 and 2019 shall be considered. The aim is to show how the contextual use of exoskeletons in clinical environment changes the perception of one's deficient sensitivity, in that people with impairments become "temporarily abled". This involves a process of recapturing former capabilities of the user, and thus of engaging her/him in the production of forms of embodiment based on what I name a "sensitivity capital", that one used to know, but also that one used to be.

#### **The hearing experience between the body-mind and digital technologies**

Vincenzo M.B. Giorgino (Università di Torino, Italy)

The hearing experience between the body-mind and digital technologies. An enactive grounded theory of individual experience of hearing loss and the possibility of transforming personal health data in a commons. I am a permanent user of a hearing aid and intend to present the partial results of a grounded analysis in progress of my personal experience. It includes both my feelings, emotions and reflections on the connected events, with the specification that they are not easily separable from the interaction with the medical treatment and the technological systems constituted around these hearing devices. My assisted auditory experience produces digital data managed by the software of the manufacturer, and available to the technicians of the selling company. The interpretation of these data affect the same assisted auditory experience that can no longer be separated from my body-mind relational work. This calls for an enactive approach, beyond a representational model of knowledge production. Moreover, the insertion of the existential dimension of this practical knowledge implies to bring life skills into the picture. In the last part, I describe the potential effects for the social good that the establishment of a digital P2P ecosystem based on a technology of distributed ledger, could have at scientific and innovation technology levels ("Citizen Science"). Personal health data is gold for the current digital bio-economy. This collective intelligence could be partially digitalized and tokenized in an ecosystem organized as a commons and managed by communities of users.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1  
biomedicine, bodies and technoscience

## TRACK 5

### Disentangling technoscience and sensory experience

Convenors: Valentina Marcheselli (Università degli Studi di Milano), Giampietro Gobo (Università degli Studi di Milano)

#### Where are the missing body masses? Describing the body of the actant

Alvise Mattozzi (Free University of Bozen-Bolzano, Italy)

In a famous example about hotel keys, Latour (1990; Akrich and Latour 1992) describe how “a tiny innovation commonly found in European hotels”, i.e. “attaching large cumbersome weights to room keys in order to remind customers that they should leave their key at the front desk”, translates the “imperative statement”, which could have been written on a sign, “Please leave your room key at the front desk before you go out”. As Latour notices, the added weight “makes the client’s pockets bulge and weighs down” and this annoyance leads clients to “go to the front desk on their own accord to get rid of” the weight and, consequently, the key. Through this example, Latour describes the mediation of an artifact and shows how such mediation can be visualized and analyzed through a diagram. Whereas when describing it verbally, Latour makes reference to the way, in which the body of the costumer is affected by the “tiny innovation” and so how the translation works by “excorporation”, we lose such feature in the diagram, where we just see a juxtapositions of elements that change through time. Whereas Latour shows how the sign bearing the written request and the weight, though different actors are basically the same actant, since they occupy the same position within the network manager-desk-key-customer, by providing the latter with

a certain competence, namely a knowledge, he is not able to show in what they actually differ. Such difference is actually related to the way as bodies they affect other bodies. By rereading this example, I will show how Actor-Network Theory can integrate, in between actants and actors, bodies and thus account for sensitive experiences and affect. I will do that by reconsidering the semiotic of the body proposed by Jacques Fontanille, the analysis of materials proposed by Tim Ingold and the approach to material culture proposed by Jean-Pierre Warnier.

Cases of actual tactile interactions with materials within design practices will be used to show the relevance of the proposal.

#### Touch, engineered: the social construction of haptic interfaces

Valentina Turrini (Università Cattolica del Sacro Cuore di Milano, Italy)

We seem to find ourselves in the midst of a technological ‘haptic moment’ (Parisi, Paterson, & Archer, 2017). Devices that provide tactile feedback, called haptic interfaces, are spreading in various contexts such as tele-robotics, prosthetics, videogames, mobile communication, arts, advertising, and data visualization. These technologies are allowing engineers to accomplish something never done before: the digitization of touch (which can now be stored, transmitted, and mediatized). This study aims to deconstruct the digitized touch as a socially constructed technological product, emerging from a system of interrelated practices enacted by actors performing in disparate fields which revolve around a small community of haptics engineers. Using a constructivist grounded-theory approach, the investigation started collecting qualitative data through interviews and ethnography at international conferences and in laboratories, where knowledge about touch is collectively created and shared. Two complementary theoretical-methodological traditions have been taken into consideration: the STS approach called SCOT (Pinch and Bijker, 1984) has been chosen as the main methodological guide; moreover, the interlacements between social practices and technology have been deepened through the adoption of a practice-based perspective proposed by different approaches in social sciences gathered under the umbrella term ‘practice theory’. In order to grasp the ongoing process of social construction and flexibility that characterize digitized touch, the study focused on the absence of standardization involving both hardware and software aspects of this emerging technology.

Furthermore, special attention has been paid to the controversial and slippery distinction between ‘symbolic’ and ‘realistic’ tactile feedback which is used in engineers’ jargon. Finally, the different meanings, or potentialities of use, which respondents attributed to this technology have been analyzed; these meanings are linked to different visions about the practices that could benefit from the implementation of these novelties, and to wider social discourses regarding technological innovation.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 1

biomedicine, bodies and technoscience

## TRACK 5

### Disentangling technoscience and sensory experience

Convenors: Valentina Marcheselli (Università degli Studi di Milano), Giampietro Gobo (Università degli Studi di Milano)

#### Disentangling sensorial experiences across intra-actions between embodied knowledge and wearable technologies

Letizia Zampino (Sapienza Università di Roma, Italy)

Self-tracking apps and wearable technologies are designed to take trace of practices. Particularly, digital technologies are even more used in order to self-track everyday practices and biometrics information, such as weight, calories intake, mood, body temperature, heart rate, blood glucose (Lupton, 2018; Pantzar, Ruckenstein, 2015). Self-tracking technologies are reconfiguring our experience of embodiment, our relationships and our meanings of body through the quantification of the self. Following the conception of new materialism, the embodiment is ongoing and dynamic ways of being (Barad 2007). A focus on embodiment aims to point to the entanglement of relational, knowing and affective dimensions of our body. Embodiment is a process by which the lived body becomes a material-discursive phenomenon that comes to matter in the mutual constitution of entangled agencies between humans and nonhumans. Analysing digital self-tracking practices help us to see not only the entanglements amongst things, people and data, but also and how these come back through new sociomaterial forms embedded in the ongoing self-knowledge process and sensorial experiences through the digital wearable devices (Pink and Fors 2017; Sumartojo et al. 2016). Digital is material itself that becomes part of ongoing entanglements across a range of everyday activities and practices that combine diverse ways of embodied knowing. Humans intra-act (Barad 2007) with self-tracking technologies in everyday practices. These technologies may be considered as objects of knowledge (Knorr-Cetina 1997) that are invested with expert and tacit knowledge related to embodied knowing that is multi-situated in materialities and discourses, in bodies and in their experience. From a methodological point of view, the contribution proposes an ongoing research based on ten semistructured interviews to women that uses wearable devices. The choice to interview only women is aimed to explore women's embodiment. In doing this, I consider women's bodies - transformed in digital data, statistics and graphic representations - as complex assemblages that cut across natural and cultural domains with the aim to go beyond the "neutral" and medical gaze of a masculine body as well as historically limited culture-nature, nature-technology oppositions. Then, research findings draw attention to how women interviewed intra-act with technologies, along an imaginary continuum at whose opposite points we can find - on the one hand - minimal engagement with the knowledge inscribed in the app and - on the other - an affective engagement with the knowledge suggested by the app.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 7

#### Digital technologies and power relations in work and organizations. Theoretical and empirical perspectives

Convenors: Attila Bruni (Università di Trento), Lia Tirabeni (Università di Milano-Bicocca)

##### **Riding for Glovo: an enactive ethnography of food-delivery work**

Francesco Bonifacio (Università Cattolica di Milano, Italy)

Empirical studies on food-delivery work have widely focused on the disembodied workers control enabled by algorithmic management. Stressing their asymmetric relation, the interaction between platforms and workers has been framed in terms of exploitation or resistance of the latter, both when it rests on the individual level (Veen, Barratt and Goods, 2020), and when it achieves a collective dimension (Tassinari and Maccarone, 2020). Yet, less attention has been given to the very substance of the job, which is defined by absence of routinization and direct imposition of formal rules (Vallas and Schor, 2020). Drawing on a practice-oriented approach (Shove, 2016), I consider power as a property of the practice, emerging from the distributed agency between human and non-human elements (Watson, 2016). Zooming on the relation between these entities enables us to address the variety of work-practice performances (that is, a certain way to carry out the job), which places riders in uneven positions in the social space. Based on a four-months enactive ethnography (Wacquant, 2015) and intensive biographical interviews, I advance a praxeological account of this variety (Hui, 2017) focusing on the relation between riders and on-screen interfaces, epitomized by moments when algorithms come to matter, as the notification of deliveries acceptance/refusal. The research is settled in Milan, which is a remarkable context in terms of quantity and heterogeneity of riders' workforce (Fasano and Natale, 2019). Having been socialized by different groups to the same work, I account for the 'fabrication' (Wacquant, 2005) of different types of food-delivery workers, which also lie on the construction of a different 'algorithmic imaginary' (Bucher, 2018). The fieldwork gives substance to the assumption according to which the way of "thinking about what algorithms are [...] and how they function" (ibid., p.113) affects riders' own work, embedding different meanings (precariousness, risk, professionalism, competence, etc.).

##### **Mi fido, ma non troppo. Le relazioni di potere dentro e fuori losmart space**

Silvia Doria (Università di Roma Tre, Italy)

L'innovazione digitale ha ormai cambiato il modo in cui le persone svolgono il proprio lavoro riconfigurando, al tempo stesso, anche gli spazi in cui è svolto. In particolare, le nuove tecnologie, oltre ad abbattere le distanze tra i diversi ambienti di lavoro, stanno rendendo sempre più trasparenti (e non solo in senso figurato) e invisibili i confini fisici dei tradizionali uffici. La diffusione dei new ways of working (Demerouti et al. 2014) ne è un esempio: nuovi "modelli" di organizzazione del lavoro, come lo smart working (o lavoro agile) per esempio, sono entrati in contesti piuttosto diversi dalle aziende informatiche in cui sono nati. È il caso del settore bancario in cui la "filosofia" dello smart working (Clapperton, Vanhoutte, 2014) ha conquistato il top management per la capacità di coniugare al meglio efficienza e taglio dei costi. Le tecnologie digitali hanno così permesso di "remotizzare" grand parte delle attività d'ufficio rendendole svolgibili in un altro luogo sempre più spesso da casa dei dipendenti, lasciando sorgere nuove questioni. Partendo dal materiale raccolto attraverso interviste discorsive (Cardano, 2003), realizzate in un grande gruppo bancario che opera in Italia con l'obiettivo di cogliere i principali cambiamenti in corso nelle esperienze di diversi attori (a vari livelli gerarchici), s'intende riflettere sul se e come le innovazioni introdotte dal nuovo progetto "Smart Space" in cui le tecnologie abilitano a lavorare "da remoto" stiano cambiando le relazioni di potere esistenti (Brocklehurst, 2001; Orlikowski, 1992): da un lato le HR, anche in sostegno ai manager, sono per es. alla ricerca di soluzioni che permettano di esercitare forme di controllo "a distanza" in attesa di abilitare il nuovo "mindset basato sulla fiducia" che vuole tutti i dipendenti responsabili e produttivi. Una contraddizione in termini che corre lungo la tensione delle HR di promuovere una sempre maggiore fruizione dello smart working e cercare nelle stesse tecnologie (per es. la "smart card" in distribuzione ai dipendenti) un alleato per "nuove" forme di controllo. Dall'altro, i dipendenti e le loro strategie di resistenza o di riposizionamento.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 7

#### Digital technologies and power relations in work and organizations. Theoretical and empirical perspectives

Convenors: Attila Bruni (Università di Trento), Lia Tirabeni (Università di Milano-Bicocca)

##### **Riding for Glovo: an enactive ethnography of food-delivery work**

Francesco Bonifacio (Università Cattolica di Milano, Italy)

Empirical studies on food-delivery work have widely focused on the disembodied workers control enabled by algorithmic management. Stressing their asymmetric relation, the interaction between platforms and workers has been framed in terms of exploitation or resistance of the latter, both when it rests on the individual level (Veen, Barratt and Goods, 2020), and when it achieves a collective dimension (Tassinari and Maccarone, 2020). Yet, less attention has been given to the very substance of the job, which is defined by absence of routinization and direct imposition of formal rules (Vallas and Schor, 2020). Drawing on a practice-oriented approach (Shove, 2016), I consider power as a property of the practice, emerging from the distributed agency between human and non-human elements (Watson, 2016). Zooming on the relation between these entities enables us to address the variety of work-practice performances (that is, a certain way to carry out the job), which places riders in uneven positions in the social space. Based on a four-months enactive ethnography (Wacquant, 2015) and intensive biographical interviews, I advance a praxeological account of this variety (Hui, 2017) focusing on the relation between riders and on-screen interfaces, epitomized by moments when algorithms come to matter, as the notification of deliveries acceptance/refusal. The research is settled in Milan, which is a remarkable context in terms of quantity and heterogeneity of riders' workforce (Fasano and Natale, 2019). Having been socialized by different groups to the same work, I account for the 'fabrication' (Wacquant, 2005) of different types of food-delivery workers, which also lie on the construction of a different 'algorithmic imaginary' (Bucher, 2018). The fieldwork gives substance to the assumption according to which the way of "thinking about what algorithms are [...] and how they function" (ibid., p.113) affects riders' own work, embedding different meanings (precariousness, risk, professionalism, competence, etc.).

##### **Mi fido, ma non troppo. Le relazioni di potere dentro e fuori losmart space**

Silvia Doria (Università di Roma Tre, Italy)

L'innovazione digitale ha ormai cambiato il modo in cui le persone svolgono il proprio lavoro riconfigurando, al tempo stesso, anche gli spazi in cui è svolto. In particolare, le nuove tecnologie, oltre ad abbattere le distanze tra i diversi ambienti di lavoro, stanno rendendo sempre più trasparenti (e non solo in senso figurato) e invisibili i confini fisici dei tradizionali uffici. La diffusione dei new ways of working (Demerouti et al. 2014) ne è un esempio: nuovi "modelli" di organizzazione del lavoro, come lo smart working (o lavoro agile) per esempio, sono entrati in contesti piuttosto diversi dalle aziende informatiche in cui sono nati. È il caso del settore bancario in cui la "filosofia" dello smart working (Clapperton, Vanhoutte, 2014) ha conquistato il top management per la capacità di coniugare al meglio efficienza e taglio dei costi. Le tecnologie digitali hanno così permesso di "remotizzare" grand parte delle attività d'ufficio rendendole svolgibili in un altro luogo sempre più spesso da casa dei dipendenti, lasciando sorgere nuove questioni. Partendo dal materiale raccolto attraverso interviste discorsive (Cardano, 2003), realizzate in un grande gruppo bancario che opera in Italia con l'obiettivo di cogliere i principali cambiamenti in corso nelle esperienze di diversi attori (a vari livelli gerarchici), s'intende riflettere sul se e come le innovazioni introdotte dal nuovo progetto "Smart Space" in cui le tecnologie abilitano a lavorare "da remoto" stiano cambiando le relazioni di potere esistenti (Brocklehurst, 2001; Orlikowski, 1992): da un lato le HR, anche in sostegno ai manager, sono per es. alla ricerca di soluzioni che permettano di esercitare forme di controllo "a distanza" in attesa di abilitare il nuovo "mindset basato sulla fiducia" che vuole tutti i dipendenti responsabili e produttivi. Una contraddizione in termini che corre lungo la tensione delle HR di promuovere una sempre maggiore fruizione dello smart working e cercare nelle stesse tecnologie (per es. la "smart card" in distribuzione ai dipendenti) un alleato per "nuove" forme di controllo. Dall'altro, i dipendenti e le loro strategie di resistenza o di riposizionamento.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 7

### Digital technologies and power relations in work and organizations. Theoretical and empirical perspectives

Convenors: Attila Bruni (Università di Trento), Lia Tirabeni (Università di Milano-Bicocca)

#### **Between Control and Discretionality, Digital Platforms as 'Adhocratic Infrastructures': the case of Airbnb**

Fabio M. Esposito (Università di Napoli Federico II, Italy)

In the past decade we witnessed the proliferation of for-profit organizations based on digital platforms - first praised as utopian instances of horizontality through 'sharing', later criticised as hyper-extremizing and workers-rights-eroding capitalist actors 'on steroids'. Indeed, much has been said about the (positive or negative) consequences of platform economies, while less attention has been given (at least by sociologists) to the technological base and organizational processes which make organizing-through-platforms possible in the first place. Inspired by an ANT approach, this contribution presents the findings of a 2018 empirical research about the Airbnb platform which - relying on the concept of 'new production of users' - focuses on the relationship the platform establishes with its users, as well as on the visible and invisible work delegated to the latter to perform the platform. Basing on twenty in-depth interviews held with Airbnb Hosts and an inquiry about the platform's interface, norms and procedures, I suggest that by relying on diffused technologies, imposing obligatory passage points (sign-in and listing procedures), standards and interoperability protocols (rating system, centralised payments and information flows) the platform assumes some characteristics typical of infrastructures, such as transparency, wide accessibility, ubiquity and trustworthiness. Concurrently, the platform uses generic but editable templates to gather content/data, to relate to and to instruct its users, also consenting discretionality and leaving issues undefined. In fact, Hosts' narratives showed how their individual interpretation and practical translation of the platforms' requests led to a variety of local ad hoc organizational frameworks and coping strategies. Thus, more than by reinforcing or transforming existing power relations, digital platforms seem to succeed through enhancing standardized but algorithmically-individualized communication between administrative core and single operating units, enabling novel ways to control human (and non-human) resources through reciprocal adjustments, which I propose to frame as 'adhocratic infrastructures'.

#### **Le asimmetrie informative nel lavoro on-demand: usi e contro-usi della macchina nel capitalismo delle infrastrutture**

Gianmarco Peterlongo (Università di Bologna, Italy)

Il contributo riguarda il rapporto tra dispositivi digitali e lavoratori/trici delle piattaforme nella on-demand economy, a partire da un'indagine etnografica multi-situata, svolta tra Buenos Aires e Bologna. La ricerca considera tali piattaforme come infrastrutture tecniche e organizzative, esito del crescente uso di tecniche manageriali di controllo a distanza basate su informazioni quantificate e standardizzate (Borghi, 2019; Fourcade & Healy, 2013), come di un lungo processo di informalizzazione del lavoro (Beck, 2000; Breman & van der Linden, 2014) e di degradazione dei rapporti lavorativi (Huws, 2016; van Doorn, 2017). La configurazione impilata - lo stack - dell'ecosistema sociomateriale delle piattaforme consente alle aziende di esercitare il proprio potere sulla forza-lavoro tramite il controllo delle informazioni (Bratton, 2015; Shapiro, 2017): i dati raccolti sull'attività di lavoratori e user vengono processati - nel control layer - per poi essere presentati sull'interfaccia in maniera asimmetrica e arbitraria (Rosenblat & Stark, 2016; Shapiro, 2018). La proprietà, il controllo centralizzato e l'opacità della gestione delle informazioni aprono a meccanismi di black-box (Pasquale, 2015) e risultano cruciali per organizzare e disciplinare il lavoro (dal surge pricing, alle disattivazioni di Uber, alle corse e consegne dei corrieri) (Griesbach et al, 2019). Tuttavia, sul versante degli usi, il comportamento dei platform workers può riappropriarsi del funzionamento della macchina. A Buenos Aires, la peculiare condizione di illegalità del servizio di ride-hailing di Uber in città ha permesso indite forme di agency da parte dei drivers e di contro-usi della piattaforma digitale: sovvertendo le finalità di alcuni strumenti presenti nella app, i conducenti di Uber adottano e condividono tattiche a proprio vantaggio (de Certeau, 1980), per eludere la disciplina della piattaforma e rinegoziare le condizioni dell'ambiente e del loro indebitamento con l'azienda. L'invito raccolto dalla ricerca è quello di incentivare osservazioni sulla riappropriazione delle infrastrutture e sul ruolo dei contro-immaginari nella geografia politica del lavoro digitale (Rossiter, 2016).

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 7

### Digital technologies and power relations in work and organizations. Theoretical and empirical perspectives

Convenors: Attila Bruni (Università di Trento), Lia Tirabeni (Università di Milano-Bicocca)

#### **Between Control and Discretionality, Digital Platforms as 'Adhocratic Infrastructures': the case of Airbnb**

Fabio M. Esposito (Università di Napoli Federico II, Italy)

In the past decade we witnessed the proliferation of for-profit organizations based on digital platforms - first praised as utopian instances of horizontality through 'sharing', later criticised as hyper-extremizing and workers-rights-eroding capitalist actors 'on steroids'. Indeed, much has been said about the (positive or negative) consequences of platform economies, while less attention has been given (at least by sociologists) to the technological base and organizational processes which make organizing-through-platforms possible in the first place. Inspired by an ANT approach, this contribution presents the findings of a 2018 empirical research about the Airbnb platform which - relying on the concept of 'new production of users' - focuses on the relationship the platform establishes with its users, as well as on the visible and invisible work delegated to the latter to perform the platform. Basing on twenty in-depth interviews held with Airbnb Hosts and an inquiry about the platform's interface, norms and procedures, I suggest that by relying on diffused technologies, imposing obligatory passage points (sign-in and listing procedures), standards and interoperability protocols (rating system, centralised payments and information flows) the platform assumes some characteristics typical of infrastructures, such as transparency, wide accessibility, ubiquity and trustworthiness. Concurrently, the platform uses generic but editable templates to gather content/data, to relate to and to instruct its users, also consenting discretionality and leaving issues undefined. In fact, Hosts' narratives showed how their individual interpretation and practical translation of the platforms' requests led to a variety of local ad hoc organizational frameworks and coping strategies. Thus, more than by reinforcing or transforming existing power relations, digital platforms seem to succeed through enhancing standardized but algorithmically-individualized communication between administrative core and single operating units, enabling novel ways to control human (and non-human) resources through reciprocal adjustments, which I propose to frame as 'adhocratic infrastructures'.

#### **Le asimmetrie informative nel lavoro on-demand: usi e contro-usi della macchina nel capitalismo delle infrastrutture**

Gianmarco Peterlongo (Università di Bologna, Italy)

Il contributo riguarda il rapporto tra dispositivi digitali e lavoratori/trici delle piattaforme nella on-demand economy, a partire da un'indagine etnografica multi-situata, svolta tra Buenos Aires e Bologna. La ricerca considera tali piattaforme come infrastrutture tecniche e organizzative, esito del crescente uso di tecniche manageriali di controllo a distanza basate su informazioni quantificate e standardizzate (Borghi, 2019; Fourcade & Healy, 2013), come di un lungo processo di informalizzazione del lavoro (Beck, 2000; Breman & van der Linden, 2014) e di degradazione dei rapporti lavorativi (Huws, 2016; van Doorn, 2017). La configurazione impilata - lo stack - dell'ecosistema sociomateriale delle piattaforme consente alle aziende di esercitare il proprio potere sulla forza-lavoro tramite il controllo delle informazioni (Bratton, 2015; Shapiro, 2017): i dati raccolti sull'attività di lavoratori e user vengono processati - nel control layer - per poi essere presentati sull'interfaccia in maniera asimmetrica e arbitraria (Rosenblat & Stark, 2016; Shapiro, 2018). La proprietà, il controllo centralizzato e l'opacità della gestione delle informazioni aprono a meccanismi di black-box (Pasquale, 2015) e risultano cruciali per organizzare e disciplinare il lavoro (dal surge pricing, alle disattivazioni di Uber, alle corse e consegne dei corrieri) (Griesbach et al, 2019). Tuttavia, sul versante degli usi, il comportamento dei platform workers può riappropriarsi del funzionamento della macchina. A Buenos Aires, la peculiare condizione di illegalità del servizio di ride-hailing di Uber in città ha permesso indite forme di agency da parte dei drivers e di contro-usi della piattaforma digitale: sovvertendo le finalità di alcuni strumenti presenti nella app, i conducenti di Uber adottano e condividono tattiche a proprio vantaggio (de Certeau, 1980), per eludere la disciplina della piattaforma e rinegoziare le condizioni dell'ambiente e del loro indebitamento con l'azienda. L'invito raccolto dalla ricerca è quello di incentivare osservazioni sulla riappropriazione delle infrastrutture e sul ruolo dei contro-immaginari nella geografia politica del lavoro digitale (Rossiter, 2016).

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 7

#### Digital technologies and power relations in work and organizations. Theoretical and empirical perspectives

Convenors: Attila Bruni (Università di Trento), Lia Tirabeni (Università di Milano-Bicocca)

#### **Nuove tecnologie e servizi per l'impiego: il caso degli elenchi di prenotazione telematica per il lavoro agricolo nel Lazio per il contrasto al caporalato**

Francesco Saverio Ranieri (Sapienza Università di Roma, Italy)

Il presente lavoro si focalizza sullo studio empirico dei nuovi elenchi di prenotazione telematica per il lavoro agricolo, recentemente istituiti dalla Regione Lazio presso i Centri per l'Impiego al fine di contrastare il fenomeno dell'intermediazione illecita e lo sfruttamento del lavoro agricolo. Molto è stato scritto negli ultimi anni circa le conseguenze del caporalato e di come esso sia associato a condizioni di lavoro indecenti e talvolta di assoggettamento in stato di schiavitù (Carchedi, 2017; CGIL-FLAI, 2018; Omizzolo 2019). Tale studio invece intende indagare come nuove tecnologie possano assistere la strumentazione di policy ed in particolare il design, il ruolo ed il network attivato dall'introduzione degli elenchi di prenotazione telematica e dell'app ad essi collegata denominata FairLabour. Il nuovo servizio di intermediazione digitale predisposto dalla regione Lazio rappresenta un'innovazione nel panorama dei servizi pubblici per l'impiego ed intende aumentare il grado di trasparenza e legalità del mercato del lavoro agricolo regionale, con particolare attenzione alla provincia di Latina dove il fenomeno del caporalato è particolarmente accentuato: si punta a ridurre la dipendenza dei lavoratori dai cosiddetti "caporali", i quali sebbene al servizio di organizzazioni criminali, sono spesso dei pari e, soprattutto per gli immigrati, vengono considerati come punti di riferimento per trovare lavoro o sbrigare pratiche amministrative. Tale fenomeno coinvolge le fasce più deboli e ricattabili del mercato del lavoro, in particolar modo gli immigrati che hanno poca conoscenza della lingua e della normativa italiana e che necessitano di un qualsiasi contratto di lavoro per rinnovare il permesso di soggiorno. Le questioni che emergono sono relative alla trasparenza, agli usi e non usi di questa tecnologia, alle pratiche mancanti, ai rapporti di potere tra diversi attori chiave del mercato del lavoro agricolo laziale, ai processi di assemblaggio del network ed al perchè non si chiude l'attore rete.

#### **"ALERT - Behaviour Error": understanding the human as the socio-technical cybersecurity weak-spot**

Robin Renwick (Trilateral Research, UK)

Cybersecurity is rooted in socio-technical constructs; resilience a symbiotic compound of technology and behaviour. The human factor is recognised as integral to operational security (ENISA, 2019; Evans et al 2016, Nurse et al 2014) with constructs such as awareness, perception, proficiency, and personality viewed as determinants (Gratian et al 2018, Greitzer and Hohimer 2011; Gutzwiller et al 2015; Oltramari et al 2015). The threat of internal malicious action is no longer atypical given financial incentives and increasingly lucrative data black- markets (Hutchings and Holt 2017; Pletinckx et al 2018). Cybersecurity risk assessments include threats such as social-engineering, malpractice and internal maliciousness, while resilience strategies mitigate through technologically leveraged training and education; empowerment through procedures, practices, protocols and the provision of increasingly robust security technologies. To enhance organisational security, efforts increasingly incorporate measurement; employee monitoring and surveillance to provide 'alerts' based on behaviour, 'posture', or task-related analysis. These mechanism are now leveraged by increasingly accurate data analytics and dataveillance techniques, raising complex questions regarding workplace ethics, employee privacy, data protection, disequilibrium of power, and algorithmic bias. This presentation details the Horizon 2020 funded research project, SOTER, outlining the project's case-study based ethnographic methodology, which seeks to assess discrepancies between proposed (theoretical) and actual (evidence-led) human factor- based threats and vulnerabilities. The presentation outlines how motivations to provide secure and robust information and organisational security often undermine aspects of privacy, trust and autonomy in the workplace. The problem is viewed as a delicate tension between information security, data protection and the assurance and protection of employees' fundamental rights and freedoms. The pertinent discussion is nestled under the overarching concern regarding workplace surveillance and technologically leveraged power imbalances between employers and employees.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 7

### Digital technologies and power relations in work and organizations. Theoretical and empirical perspectives

Convenors: Attila Bruni (Università di Trento), Lia Tirabeni (Università di Milano-Bicocca)

#### Responsible Research and Innovation at Work. Gamification, Public Engagement and Privacy by Design

Vincent Blok (Wageningen University, The Netherlands), Christopher Coenen (ITAS Karlsruhe, Germany), Christos Kallionatis (University of the Aegean, Greece), Angeliki Kitsiou (University of the Aegean, Greece), Aikaterini-Georgia Mavroeidi (University of the Aegean, Greece), Simone Milani (Università di Padova, Italy), Daniele Ruggiu (Università di Padova, Italy), Andrea Sitzia (Università di Padova, Italy)

Public engagement is a key tool for strengthening responsibility frameworks within highly innovative contexts. This has found several applications, notably also in the labour field. At the workplace, indeed, gamification is a method for fostering the change in practices consolidated among workers in order to optimising the organisation, the efficiency and the productivity of the enterprise. Gamification introduces mechanisms of gratification and engagement comparable to videogames in non-gaming contexts in order to modify the perception of a constraint within the workforce and foster thus the voluntary assumption of good practices with the benefit of both the employees and the enterprise. However, the massive collection, storage and processing of data, often personal or even sensible, raises concerns with regard to the data protection profile, privacy, as well as freedoms of the employees. The implementation of the principle of "privacy by design", however, can foster the rise of a responsibility framework between the stakeholders and avoid the collision with some basic principles of the human rights system realising viable instances of RRI.

#### In/visible work at the agile workplace

Klara-Aylin Wenten (Technical University of Munich, Germany)

This paper focuses on in/visible work in the enactment of agile work practices by using the exemplary case of the SCRUM model. The SCRUM model has gained much attention due to its potential of re-organizing work processes in software development and industrial production. Among others, the model is expected to establish a greater flexibility and adaptability to alterations such as the delayed delivery of material resources. This paper demonstrates that, despite the beliefs in a more flexible workforce, workers who follow agile principles need to exercise a lot of invisible work of prescribed - and ironically rather inflexible - ordering. These invisible work practices involve essential activities like the upholding of a continuous workflow or a predictable coordination and appropriation of the involved resources. The paper investigates the relationship between these work activities and the entangled technologies such as computers, Post Its or whiteboards. It will be argued that the invisible work of ordering and its constituted technologies serve as a legitimization of the hierarchical order at the workplace, (re) configuring the prevailing power asymmetries in industrial organizations.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 8

#### **Weak Systems. Exploring bias, bugs and the vulnerability of digitization**

Convenors: Paolo Bory (USI Università della Svizzera italiana), Philip Di Salvo (USI Università della Svizzera italiana)

#### **The Human Error in AI and the Conflicts over Algorithms**

Veronica Barassi (University of St Gallen, Switzerland)

Today, AI systems and predictive analytics are often used to make the process of data-driven decision making more efficient and to 'avoid the human error'. Yet paradoxically, as recent research has shown these technologies are defined by intrinsic 'errors', 'biases' and 'inaccuracies', which can lead to profound breaches in human rights. As this paper will show, when it comes to human profiling, algorithms are always inevitably fallacious for three main reason faced with a fundamental human error, because in profiling human beings they will always encounter three levels of algorithmic fallacy: they rely on inaccurate and decontextualized data (algorithmic inaccuracy), they are unexplainable and hence unaccountable (algorithmic un-explainability) and they are always biased (algorithmic bias). This paper will bring the findings of a three-year research on the tracking of citizens from birth (Child | Data | Citizen Project, 2016 -2019) together with new reflections that are emerging from the launching of a new research project, which aims to investigate how the human error in algorithmic profiling is perceived and experienced by different sections of society (The Human Error Project, 2020 - ongoing). It will show that the human error in algorithmic profiling may be reduced but it can never be eradicated. Companies cannot fix the problem with a 'technical solution' or a new 'AI ethics' board, and individuals can't really protect themselves. The paper will conclude that rather than looking for technical solutions or developing new AI ethics boards we need to consider how the 'human error in algorithms' lies at the very heart of new emerging conflicts in our societies as different actors are advancing different and 'contradictory' solutions for so-called AI ethics, which need to be mapped and analyzed. Understanding these emerging struggles, practices and discourses, can be essential in building the right response to the challenges that we are facing, as we head towards AI- driven futures.

#### **Capturing Hacker Culture. Open Source Reverse Engineering Tools and Hacker Morality**

Alex Dean Cybulski (University of Toronto, Canada)

Using a structuralist political economy approach, this paper will analyze the open source production of Ghidra, the American National Security's Agency's reverse-engineering tool to critique the positive notion that "commons-based peer production" of open source tools is a democratized, radical alternative to software production (Benkler, 2006). By analyzing the open source production of state-sponsored hacking software, the paper will argue how perceptions of peer production, software licensing and open source software the paper are deployed discursively, and technically by signals intelligence agencies and the information security industry to capture skilled technical labour under the remit of "hacker culture." While hackers have been recognized for their work in opposing state surveillance efforts (Kubitscho, 2015) and advocate for greater political transparency (Schrock, 2016) this paper reconciles this radical identity with the 'everydayness' of those hackers who work in the information security industry and whose expert labour is just as likely to contribute to state and corporate interests in the production of vulnerability research and the development of exploits used to compromise information systems and networks. By analyzing Ghidra's GitHub repository, the NSA's marketing of the project and the hacker/information security's reception of the tool, as well as perceptions of the signals intelligence agency in these communities this paper will dispute the tendency to align hackers with any particular ethical valence (Tanczer, 2020) and use political economy to contend that the morality of a hacker is instead contingent on those who their production serves.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 8

#### **Weak Systems. Exploring bias, bugs and the vulnerability of digitization**

Convenors: Paolo Bory (USI Università della Svizzera italiana), Philip Di Salvo (USI Università della Svizzera italiana)

#### **The Origins of Heartbleed: From Code Experiment to Industry Standard**

Louis Melançon (McGill University, Canada)

Heartbleed is a flaw in the OpenSSL cryptographic library, a piece of software responsible for securing information as it transits over the internet. The vulnerability was publicly disclosed on April 7, 2014, initiating a long and arduous process of remediation for more than two thirds of all web servers on the internet. Anybody could potentially eavesdrop on communications, steal data or impersonate users for any vulnerable service or device, without leaving a trace. Described as “one of the most consequential [vulnerability] since the advent of the commercial internet” (Durumeric et al. 2014), Heartbleed abruptly unveiled the insecure and unsustainable foundations on which the internet infrastructure was built. How could so many major organizations (Google, Amazon, Facebook, financial and government institutions) depend on OpenSSL, a struggling free software project with one overworked full-time developer and \$2,000 in yearly donations? How could they integrate its code without any proper security audit or reciprocal financial support? This presentation traces the historical roots of the OpenSSL project and its growing adoption, from the mid 1990s up to 2014. Based on original interviews with OpenSSL developers and security experts as well as extensive archival research, it portrays a nascent cryptographic library written “as a learning exercise” during the turmoil of the Crypto Wars of the 1990s. This research builds on and complements academic depictions of free software communities (Kelty 2008; Coleman 2012) which, like industry recognition and support, have mostly focused in recent years on large, highly collaborative, healthy free software projects.

#### **Bias, failures and bugs in anti-COVID19 technology**

Stefania Milan (University of Amsterdam, The Netherlands)

The COVID-19 crisis has invested digital technology with high expectations concerning its ability to know and contain the virus. Thermo scanners empowered with facial recognition capabilities increasingly police access to and circulation in public space. On the consumer side, contact tracing apps and ‘immunity certificates’ contribute to shape what constitutes community and identity during a pandemic. The growing popularity of techno-solutionism hides the growing dependence of the state apparatus on a digital “problem-solving infrastructure” designed to “overtake governance” and deflect attention from systemic failures (Dow Schüll, n.d., p. 1). Techno-solutionism is particularly seductive in times of fast-tracked decision-making typical of an emergency situation like a pandemic (Calhoun, 2010). It is believed to fix, by means of higher-order remedies, problems that are difficult to grasp. It is often conveyed by flamboyant narratives and emboldening imaginaries conjectured to foster adoption and increase trust in policymaking. However, often the proposed tech fixes are inherently ‘weak’, developed as they are by means of accelerated design and deployment processes that do not allow for adequate piloting, testing and fine-tuning. This paper analyses the discourse on anti-COVID19 technologies focusing on emerging counter-imaginaries (Kazansky & Milan, 2021) of anti-COVID19 technology. Counter-imaginaries, among others, speak to how people make sense of bias, bugs and failures of the tech fixes mobilized to curb the outbreak. Straddling critical data studies, STS and sociology of quantification and employing digital methods to analyze discourse on Twitter, the essay explores the negotiation and the contestation surrounding the mainstream algorithmic imaginaries of pandemic techno-solutionism.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 8

#### **Weak Systems. Exploring bias, bugs and the vulnerability of digitization**

Convenors: Paolo Bory (USI Università della Svizzera italiana), Philip Di Salvo (USI Università della Svizzera italiana)

#### **The global success at the cost of safety: the case of the Wi-Fi standard**

Maria Rikitiaskaia (London School of Economics and Political Science, UK)

The problem of the vulnerability of digital systems is one of the most crucial for the development of communication networks. This paper demonstrates that, surprisingly, some vulnerabilities were anticipated at the very stage of creation of technology, but due to the existing circumstances still made it into being. This paper scrutinizes the case of the IEEE 802.11 standard, better known as Wi-Fi. The proliferation of this standard, issued in 1997 by the IEEE, is often defined as a "global success" (Lemstra, Hayes, & Groenewegen, 2011). The paper focuses on the safety and security of wireless networks, which frequently become subject to criticism due to the weakness to misuse and hackers' attacks. Remarkably, in the early 1990s the engineers foresaw the vulnerability in the security of Wi-Fi networks but still encapsulated it into the standard in the form of open user authentication. We address two main reasons behind this constitutive choice in the development of wireless networks. First, we address the issue of past beliefs and digital myths regarding the openness of the networks, that Andrew Russell (2014) described as "ideological commitment to entrepreneurship, technological innovation, and participatory democracy". This rhetoric has helped Wi-Fi to spread as a tool for community in the 2000s and 2010s (Crabu & Magaudda, 2017; Dunbar-Hester, 2009; Hampton & Gupta, 2008). Second, we trace how the intention to produce a competitive technology dictated the network design, and how and why the compromise had to be taken to make Wi-Fi easily accessible and thus viable on a global market. The findings of the research are based on the original archival research into the documents of governmental bodies, companies, technical societies of the wireless industry, such as IEEE, ITU, and AT&T.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 9

#### Digitalisation and work: perils and promise

Convenors: Robert Gianni (University of Maastricht), Darian Meacham (University of Maastricht)

#### **Women's re-placement to the digitalized silk carpet weaving sector: the case of Turkey**

Pinar Karababa Demircan (Beykent University, Turkey)

Silk carpet as a humble Turkish signature in the world carpet market started during the Ottoman Era in 1843 in the Imperial Factory in Hereke. The factory is followed by individual enterprises' sending women back their homes as domestic laborers weaving at home. The conditions were, as in today, highly consuming. Starting as child laborers, the working years of a weaver reaches up to a point with the loss of manual skills and eyes. Even though weaving was seen secondary and could not make workers visible due to the anonymity of work, since it needs the same hand to start and finish it gave women a subtle space to form, be in control of their production and reflect themselves. After Gulf War 1st. Turkey and especially Istanbul lost a remarkable influence in the carpet market due to the changes in global economy, border politics and syntheticfication which led to the closing of workshops and women's place started to be narrowed in the market. This backlash is followed by firstly technological innovations which increase the digital control on the production process and secondly technological dexterity that shows a machine-weaved carpet as hand-weaved. In the digitalized form, the motive and color selection and application decreases the control of worker on the product. In the second case, machine weaved bamboo carpets appear as handmade silk carpets after local and refugee women sew silk fringes on them. Carpet as an unrepeatable product started to be standardized with the loss of weavers touch in it. By this way women are driven literally and figuratively to the fringes of the production. This paper aims to present the challenges women receive in their labor history in relation to the technological developments and alienation received with the loss of their actual place as producers in the weaving industry.

#### **Risky collaborations: distributed control in cyber-physical systems**

Cordula Kropp (Universität Stuttgart, Germany)

With the rapidly growing use of digital technologies in the construction industry, both the relationships between man and machine and the ability of trained professionals to act responsibly are changing. Alongside promises to relieve heavy workloads and improve the representation of complex construction worlds, there is the challenge of meeting the high safety and quality requirements for long-lasting construction projects with little or no human intervention. Moreover, a careful interplay between human and artificial intelligence must be enabled so that sufficient capacity to act is maintained on the human-machine control side and the risks of distributed control in cyber-physical systems can be minimized. From a risk-sociological perspective (Beck & Kropp 2010), I will analyse the background of the dramatic Boeing 737 Max plane crashes due to the uncontrollable interventions of the automated (MCAS) control system as an instructive example. On this basis, I discuss three ideal types of human-machine relationships and their implications for accountability and resilience in future construction and manufacturing. This shows the importance of trustworthy configurations of human-machine cooperation that favour continuous learning - even if industrial actors imagine a reduced demand for skilled labour. The proposal is based on joint research in the Cluster of Excellence "Integrative Computational Design and Construction for Architecture" at the University of Stuttgart (<https://www.intcdc.uni-stuttgart.de/>): Together with Ann-Kathrin Wortmeier, we (critically) examine the efforts of implementing AR tools and exoskeletons in timber prefabrication in case studies and together with Deniz Hos, we use the method of socio-technical integration research (STIR, Fisher et al. 2016) to support responsible research and innovation in the sense of constructive technology assessment (Kropp & Wortmeier 2021; Kropp 2020).

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 9

#### Digitalisation and work: perils and promise

Convenors: Robert Gianni (University of Maastricht), Darian Meacham (University of Maastricht)

#### Open education labs and digital divide

Daniel Krüger (TU Dortmund University, Germany)

There is already broad awareness that the diffusion and establishment of digital (data-driven) technologies is not only creating opportunities but also risks for societies. Beyond job losses in the course of automation in e.g. industry, already disadvantaged, vulnerable social groups face new risks of social exclusion on a broader basis in course of digital divide and new skills demands in labor. At the same time, there are already several non-profit education services addressing the lack of skills considered necessary to benefit from digital technologies and to participate in digital society. While such services focus on basic skills needed to access and use especially the internet in a self-determined manner, complex skills seem to be out of scope more often. Different to that, laboratories with a learning focus (esp. FabLabs) already feature an approach that is open to basically everyone while focusing on complex technologies and related complex skills and knowledge. For disadvantaged, vulnerable social groups to benefit from such services, these need to be open to all groups regardless their social backgrounds and dimensions of social inequality, featuring a universal design. Hence, they need to be sensible to different demands of such groups in order to realize inclusiveness to the largest extend possible. If these criteria are met, such spaces provide potential for reducing new risks for new social inequalities or their reproduction in the course of digital transformation of societies. The presentation will be based on the theoretical conceptualization of an early PhD research project aiming at a sociological investigation of the potential of open education services for addressing the reproduction or widening of social inequalities in the context digital transformation. It will focus on implications from digital divide research and highlight the relevance of a universal design and a co-creative approach.

#### Into algorithmic arcana. A data-driven, critical research approach to the digitalization of work.

Nicola Lettieri (National Institute for Public Policy Analysis, Italy)

The data-driven evolution of the labor market (Latzer 2019) has effects going far beyond the enticing promise of economic growth and efficiency. In the digital economy, where the algorithmic management of the workforce pushes the flourishing of labor platforms, such outcomes are coupled with momentous risks for workers. Choices made by inscrutable computer code (O'Neil 2016) enable indeed new forms of abuse and discrimination that are difficult to identify before than hard to counter (Allhutter 2020). In such a scenario, the critical inquiry on fairness and transparency of algorithmic systems becomes crucial both to enable social control over the digitalization of work and to support the concrete protection of workers' rights. Things are not that simple: as recently highlighted (Bratton 2016, Iliadis 2016), new research programs and tools are needed to investigate the entanglements between algorithms and socio-economic reality. Scientists, legislators, unions, and supervisory authorities need new methodologies to peek into the algorithmic black boxes (Pasquale, 2015) that rule our lives. A solution is looming in this respect. To illuminate obscure data-driven automated decisions and pave the way to better control over their action, we must gather data and design heuristics allowing to reverse engineer algorithms, unearthing choices, values, and biases embedded into them (Jasanoff 2004). The presentation will introduce an ongoing research bringing together critical data studies and computational legal science (Lettieri 2016) to devise innovative data-driven approaches to the analysis and regulation of the gig-economy. The cornerstone is GigAdvisor (Lettieri 2019), an experimental web-application (<https://bit.ly/32xZgqi>) allowing crowd-workers to share and discuss evaluations of the platforms they've been working for. The primary goal is to harvest fine-grained data to be processed using computational intelligence techniques to investigate working conditions, assess the effect of regulatory policies, and identify patterns (e.g., unfair practices) in the behavior of digital market operators.

JUNE 17th, 18th, 19th



*Online*

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 9

#### Digitalisation and work: perils and promise

Convenors: Robert Gianni (University of Maastricht), Darian Meacham (University of Maastricht)

#### **Whose unemployment? The automation of science and “job loss” narratives amongst automation scientists**

Vlad Schuler Costa (University of Manchester, UK)

The advancements of automation technology in our times has led to social anxieties about the replacement of human workers by robots and AI. Such narratives of job losses and massive unemployment, however, rarely examine those directly engaged with the development of the technologies responsible for this replacement. Based on ethnographic fieldwork in a “science automation lab”, in this paper I detail how the scientists I studied reacted to the (common) query of whether they were “automating themselves out of a job”. Furthermore, I describe the possible consequences (both positive and negative) they expect this technology to have concerning the replacement of human labour in scientific contexts.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 10

#### Platforms and infrastructures in media and cultural industries

Convenors: Tiziano Bonini (Università di Siena), Paolo Magaudda (Università di Padova)

##### **Machines on my back. Platformized cultural circulation and the socialization of algorithms**

Massimo Airoidi (EM Lyon, France)

Algorithms ubiquitously order the digital circulation of cultural content on streaming services such as YouTube, Netflix, Spotify, and others. Recommendation systems learn from the users' individual and/or aggregated taste practices to propose content with different degrees of personalization. These machines are literally "on our back", as The Clash would say. They adapt their behaviour following our past datafied actions and end up influencing our taste in turn, in a sort of cybernetic feedback loop. While on our back, platform algorithms are somehow socialized. Sociological research has demonstrated that one's lifestyle choices bear the imprint of social origin, practically embodied in the form of a "habitus" (Bourdieu 1977). Given "objective" differences in cultural socialization, a working class habitus will generate a very different music or movie consumption behaviour compared to an upper class habitus. With habitus-driven consumer behaviours now being largely platformized, it is worth examining how the socio-structural patterns underlying users' cultural tastes are inscribed in and reproduced by the adaptive algorithmic models of recommendation systems. Do low-cultural-capital Netflix users receive similar movie recommendations? Are they different from high-cultural-capital users' ones? How are social inequalities techno-socially reinforced by the specific algorithmic models used by platforms to filter media content? These are relevant but still largely unexplored questions. To address these points, here I propose to theorize recommender algorithms as endowed with a "machine habitus" (Airoidi forthcoming). Similarly to Bourdieu's habitus, it results from data-driven processes of cultural socialization and produces path-dependent decisions. It will be argued that a theory of machine habitus can fruitfully contribute to bridge distinct research traditions in the social sciences, such as STS and the cultural study of social inequalities.

##### **Digital platforms reshaping national audiovisual spaces: a comparative approach between France and India**

Philippe Bouquillion (Paris 13 University, France), Christine Ithurbide (Paris 13 University, France)

This contribution aims to present the questions and the first results of an ongoing research on the deployment of SVoD digital platforms in France and India, including several fieldwork surveys conducted in the two countries between 2018 and 2020. More precisely, this comparison makes it possible to verify whether digital platforms present the same structuring challenges across geographies - as certain aspects of theories of "platformization" tend to emphasize - or whether national particularities prevail (Bouquillion et Moreau, 2018; Lobato, 2019; Mohan and Punathambekar, 2019). Our analysis in terms of the political economy of communication will be deployed at three levels (comprising both macro and micro aspects): the industrial strategies of platform operators, the public policies and regulation, and the challenges for "local" content producers. While in both countries foreign platforms, especially American ones, are acquiring strong or even dominant positions, we will argue that national dynamics remain very different at each of these three levels. Indeed, we will analyze how in France, the arrival of transnational players, especially Netflix, has weakened historical players and challenged French public policies—the so-called cultural exception establishing particular links between audiovisual producers and television channels. In India, transnational players have benefited from a long tradition of openness to foreign capital and have rather been seen as an opportunity to finance domestic production. While a complex game of alliances with national operators is also at stake, the position of public authorities tends to evolve toward the defense of national capitalism and a certain control of the political public space. Moreover, local production is in great demand both to supply the domestic market and for export, but this comes at the cost of great vulnerability of the most dominated players, especially the creators.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 10

### Platforms and infrastructures in media and cultural industries

Convenors: Tiziano Bonini (Università di Siena), Paolo Magaudda (Università di Padova)

#### **Between emancipation and degradation of cognitive processes: digital technologies, neuronal plasticity, and extended unconsciousness**

Enrico Campo (Università degli Studi di Milano, Italy)

The effects that the spread of digital technologies has on the configuration of our mental processes are far from clear. In recent years, many researchers have framed this problem in terms of a progressive degradation of our cognitive faculties, and in particular of attention – a key resource on which digital platforms feed. Others, on the contrary, have argued that we will adapt to the new media environment and we will better develop those components of attention that allow us to do more things at the same time. Both perspectives draw on neuronal plasticity to explain the effect of new technologies in our brains. The present contribution has a twofold objective. First, it aims to show how these seemingly opposing positions rely on an individualistic view of the mind, which assumes a linear causal direction from the artifact to the individual mind. Second, the contribution takes up those approaches that, in different ways, propose an extension of the boundaries of mental processes beyond the scope of the brain. This extension is both horizontal – in the direction of the external, technological, and social environment – and vertical – in the direction of the internal, bodily, and drive environment. These perspectives can better account for some processes that concern digital technologies and, in particular, the possibility of digital platforms and infrastructures to implement predictive algorithms. In order to account for these specificities, we will finally propose the concept of extended unconscious, which takes up and develops the idea of optical unconscious proposed by Walter Benjamin, and of technological unconscious, originally developed by Nigel Thrift and later taken up by other authors.

#### **Free and open source software as platform infrastructure: how Google uses open technology to close the internet**

Davide Carpano (UC San Diego)

In this paper I examine how Google has leveraged free and open source software (FOSS) as a key infrastructure through which they exert control on digital standards. Recent scholarship has investigated how the rise of digital platforms have transformed industries ranging from media and entertainment (Nieborg and Poell 2018), to manufacturing, advertising, and hospitality (Srnicek 2017). This trend has generated a new economic model that can best be thought of as platform capitalism (Srnicek 2017), which has seen companies like Google, Amazon, and Facebook develop free to use platforms which are leveraged to generate profits by harnessing mass data collection for advertising and surveillance. While companies such as Google, Facebook, and Amazon have received widespread attention for their privacy failures, and their role in the transformation of the culture industries, little attention has been paid to the software infrastructures that allow for this dominance. Using Google's open source Chromium browser as a case study, I analyze the process by which Google generated market dominance based on adoption of open standards, but then used its dominant position to exert control over Internet standards in ways that benefit its advertising business. Through the qualitative method of process tracing, I analyze data obtained from listservs, online comment boards, reports by Internet governance bodies, and interviews to construct a historical narrative of Google's dominance of the web. This paper is in dialogue both with STS scholars of social computing, whose work ignores analysis of the role of companies in FOSS production and governance, and legal scholars whose focus on the formal institutions of Internet governance has seen them neglect analysis of the powerful forces that shape the internet through political rather than technical means (Mathew 2016). By locating Google's power over the Internet in the infrastructural affordances of FOSS, I suggest that the optimism over peer production's ability to open competition to individuals is misplaced. I argue that by looking at FOSS as part of a larger paradigm of capital accumulation, we can understand why the project has failed to breakup the monopolistic tendencies of technology markets.

JUNE 17th, 18th, 19th



Online

ststaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 10

#### Platforms and infrastructures in media and cultural industries

Convenors: Tiziano Bonini (Università di Siena), Paolo Magaudda (Università di Padova)

#### **“Keeping it for myself”: forme di self-branding e lavoro relazionale implicite nell’epoca della sorveglianza**

Gaia Casagrande (Sapienza Università di Roma, Italy)

Il lavoro proposto intende affrontare ed estendere il concetto di relational labor, così come teorizzato da Nancy Baym, indagando l’attività di self-branding nelle piattaforme di social media tra i giornalisti appartenenti alla generazione Millennial. La progressiva ma inesorabile precarizzazione dei lavoratori dell’industria culturale, infatti, ha spinto molti professionisti a brandizzare sé stessi e anche nel settore del giornalismo, la crisi delle redazioni ha fatto sì che le singole personalità prendessero il posto delle testate, facendo diventare i giornalisti stessi dei veri e propri hub di notizie. Il fenomeno del self-branding si è consolidato anche attraverso le piattaforme di social media, che hanno favorito tali pratiche in termini di velocità e pervasività ma al tempo stesso, attraverso le specifiche affordances, incentivando la tendenza ad accumulare utenti e prodotti. Le soggettività, dunque, diventano merce attraverso la produzione di contenuti comunicativi. Tali contenuti sono indirizzati a un’audience di riferimento al fine di creare e/o mantenere relazioni sociali per scopi economico-lavorativi, ovvero relazioni sociali frutto di lavoro relazionale o relational labor. A partire da tali premesse, il presente abstract intende estendere il concetto di relational labor alla luce dei risultati emersi da 20 interviste in profondità condotte a giornalisti di età compresa tra i 23 e i 34 anni, all’inizio della loro carriera lavorativa. In questo senso, appaiono dati interessanti sulle pratiche di self-branding e lavoro relazionale implicite. Infatti, attività come il “dosaggio dei like”, o la limitazione dei post o comunque delle proprie interazioni visibili, sono emerse come attività strumentali e decisive nella costruzione del proprio profilo, nella brandizzazione di sé. Questo risultato può venire collegato all’idea di sorveglianza immaginata, così come proposto da Duffy e Chan, nonché più ampiamente rimandare a una tendenza all’interiorizzazione del concetto di sorveglianza che tanto caratterizza la contemporaneità.

#### **Come ha potuto funzionare il Web? Retrospectiva sulla comunicazione degli attori all’interno del CERN**

Martin Fomasi (Università della Svizzera Italiana, Switzerland)

Se oggi il Web connette miliardi di utilizzatori ignari del suo funzionamento, la sua estensione e l’uso quotidiano possono far dimenticare che il suo sviluppo sia stato tortuoso e complesso. A questo, si aggiunge il fatto che la storia della sua creazione ci è stata raccontata attraverso le memorie dei suoi artefici. Questo ha dato nascita ad una narrazione priva di qualsiasi dimensione analitica. Questa ricerca è iniziata ad ottobre 2020 con una missione semplice: aprire e capovolgere il black-box del web per spiegare com’è stato sviluppato. Per raggiungere questo scopo, abbiamo la fortuna di potere ritracciare la storia della sua elaborazione basandoci sui documenti operativi prodotti al CERN e desegretati solo recentemente dai suoi archivi. Presenterò alcune fonti seguendo la postura e il vocabolario della Actor-Network Theory perché permette di osservare come i diversi enunciati rappresentati gli obiettivi iniziali sono stati tradotti in funzione delle relazioni di potere tra la rete d’attori necessaria per il superamento delle controversie tecniche e in seguito iscritti nel sistema sociotecnico che permette il funzionamento del Web. In altre parole, il progetto vuole mappare l’evoluzione della network agency tra umani e macchine mostrando come ad un oggetto tecnico può essere associata una pluralità di significazioni permettendo così un’azione collettiva. Ritengo legittima la scelta di ricorrere a questa teoria poiché è già stata applicata a fonti storiche e/o a documenti operazionali per spiegare le ragioni del successo o del fallimento di altri oggetti tecnici. Siamo persuasi dall’idea che un’analisi storica dello sviluppo sociotecnico del Web possa fornire delle informazioni utili per meglio interpretare i servizi e le piattaforme che oggi si basano su di esso.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 10

### Platforms and infrastructures in media and cultural industries

Convenors: Tiziano Bonini (Università di Siena), Paolo Magaudda (Università di Padova)

#### **(Social) media memory, cultural production, and platformization: articulating archive, assemblage, and ephemerality in the case of the Sanremo Music Festival**

Elisabetta Locatelli (Università Cattolica del Sacro Cuore, Italy)

Although the platformization process has been intensively studied, a better understanding is needed of how it has affected media and cultural production. The theoretical framework of this paper will, then, bridge the ones of media and memory, social media logic, and platformization, usually considered independently, by means of the platformization of cultural production of Nieborg and Poell (2018), showing their interrelatedness and with the aim of gaining a deeper knowledge of the mechanisms that affect media memory. The presentation will be enriched by the analysis of the case of the Sanremo Music Festival, chosen for its relevance to the Italian mediascape, Italian cultural memory, and social media presence. The argument will demonstrate that the ongoing process of platformization of media memory is operating in three dimensions: archive, assemblage, and ephemerality. Social media and digital platforms represent new outlets where individual, collective, and broadcast memories can be stored and retrieved offering new opportunities for seeing lost or old contents. Social media and digital contents can also be assembled, highlighting the problems of governance, the responsibility of curating media memories through the ownership and selection of contents. The potentiality of archiving on demand and the fragmentation of social media contents also render media memory ephemeral and dependent on (social) media policies. The risk is that memory may become a commodity, subservient to market logics, reactivated only when necessary.

The analysis of the case proposed will also help to highlight the fact that the platformization process is not an unavoidable end, but that there are margins of resistance to it adopting digital platforms connected to mainstream social media ones though independent of them (like RaiPlay). Issues left open are the governance and the responsibility for custody of media memories, the decontextualization of media memories, their (mis)appropriation, manipulation, or hegemonic.

#### **Contemporary Video Art: recycling and readapting tools from the past**

Alberto Novello (Conservatorio di Padova, Italy)

Artistic practice plays a key role in exposing and familiarizing the general public to new technologies in the form of live performances, interactive installations or gaming scenarios. In the recent years a new interest for the pre-computer era has brought fascination of the young generations towards technologies of the 60s, 70s and 80s bringing back machines from our analog past into museums, art galleries or festivals. In particular analog audio and video synthesizers have again become increasingly popular in the community of electronic musicians and multimedia artists, and their commercial value has risen considerably since the beginning of the millennium. The new performative tools and designs are inspired by old paradigms, and often integrate the advantages of digital processing with the charm of analog aesthetics into new hybrids. Several forums and artist platforms are dedicated to repurposing and modifying abandoned circuitry: oscilloscopes, early game consoles, analog video mixers, plotters and lasers. The appeal of analog graphics may derive from the seemingly infinite resolution, the line-based aesthetic, and the intrinsic impermanence of the display. Other motivations lie in repurposing obsolescent hardware, reimplementing historical devices, or simply diverging from mainstream approaches. This is a useful excuse to stimulate the visiting public with a retrospective on technologization: what "old" means, and what value the "new" really adds. Exposing the public to the aesthetic differences between digital and analog allows them to reflect on the sociopolitical impact of technology: what can we do with old tools, in a era in which recycling become essential? In the paper I'll introduce the contemporary practice of analog video art, the instruments used in my daily activity describing their biographies and repurposing.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 10

### Platforms and infrastructures in media and cultural industries

Convenors: Tiziano Bonini (Università di Siena), Paolo Magaudda (Università di Padova)

#### **Online entertainment eco-systems as gateways to digital literacy**

Elisa Oreglia (King's College London, UK)

In recent years, there has been a surge of new internet users in the Global South, facilitated by the diffusion of low-cost smartphones and an expansion of digital infrastructures. Many of these users have low literacy levels and do not have much disposable income; their smartphone use is intermittent and heavily dependent on family, friends, and other intermediaries who can help them figure out the technology. Social media and entertainment - watching movies and tv, listening to music and playing games - are typically the first digital activities that are experienced by such users, so much so that apps like Facebook and Youtube can often be considered synonyms of the internet. I draw from my ongoing ethnography study of users "at the margins" of mainstream digital worlds - farmers in China, traders in Myanmar, factory workers in Cambodia - to discuss three aspects of smartphone-centered entertainment in the "Global South." Firstly, the challenges that come from using apps and devices that were not designed with marginal, non-English speaking users in mind: a return to the simplest form of digital divide (NTIA 1999) that not only persist, but is more widespread than official statistics of internet use show. Secondly, the role that entertainment and social media platforms play as training grounds for experimenting with a wider and more utilitarian internet use (Arora 2019). Finally, the consequences that conflating the internet with corporate "walled gardens" such as Facebook and Youtube (van Dijck, Poell, and de Waal 2018) has for digital literacy and the kind of internets that are possible among such users.

#### **Make Reddit not Porn. La convergenza fra il Web 1.0 e il Web 2.0 nella nuova modalità di diffusione di materiale pornografico**

Sofia Torre (Università degli Studi dell'Aquila, Italy)

Il fenomeno di Reddit, piattaforma media apparsa e diffusasi a partire dal 2005, è correlato a un processo di dilatazione cyberterritoriale dell'universo pornografico che ne vede un'esplosione qualitativa e quantitativa. La community di Reddit interagisce incorporandone e riproducendone meccanismi e contraddizioni, contribuendo a creare un sistema interessante per il suo apporto alla cultura della partecipazione e per lo spazio dedicato a vere e proprie comunità di riferimento, con un loro lessico, modalità personalizzate e proprie rivendicazioni identitarie. In un settore tradizionalmente "oscuro" come quello pornografico, una differenziazione mediale finisce per comportare una ridefinizione del rapporto originario, tradizionalmente verticale, con il pubblico, che cessa di essere soltanto audience e diventa un co-attore della scena pornografica virtuale: i fan interagiscono con modelle e membri di quello che in precedenza si configurava come uno star-system chiuso o di difficile accesso. Come è avvenuto nel passaggio dal cinema alla televisione come modalità distributiva principale, la vaghezza (quando non l'assenza) di precise regole di comportamento permette che si diffonda fra gli utenti di Reddit un nuovo modello etico e di relazione che guarda alle community dei blog dei primi anni Duemila e che ricalca la modalità di moderazione degli utenti volontari di Chaturbate, costituita da iscritti che intervengono nei diversi subreddit per vigilare sui toni degli scambi verbali e sulle testimonianze fotografiche. Il particolare connubio fra l'estetica Web 1.0 e le possibilità tecnologiche offerte dal Web 2.0 permette la ridefinizione del rapporto fra affezione ed estetica, decretando il superamento di un modello di tipo tradizionale, canonico e conforme alla norma mainstream. Lo spazio conquistato da subculture, come quella punk, tradizionalmente familiari con le grammatiche della comunicazione web permette inoltre la ridefinizione del concetto di pubblico di riferimento, rendendo visibile identità e istanze che in altri media risultano soggette a ostracismi, pregiudizi e invisibilità sociale.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 11

#### **Mapping technoscience in the media: How to do it, and what is it in, what is it out?**

Convenors: Federico Neresini (Università di Padova), Martin Bauer (London School of Economics), Ahmet Suerdem (Bilgi University)

#### **Who assembles the 'future of work'? Mapping actors and discourses in U.S. American web debates on job automation**

Paul Dunshirn (University of Vienna, Austria)

Scholars from the field of science and technology studies (STS) tend to criticize public debate about the 'future of work' for being overly sensationalist, deterministic or unrealistically utopian/dystopian. While this critique may be accurate in certain cases, the aim of this thesis is to investigate how decisive these sensationalist discourses actually are within the overall public debate on automation in the United States. For that purpose, I conduct an inductive 'mapping' of these debates, concentrating on concrete actors (such as news outlets, public institutions, or private companies) that formulate sensationalist and other types of discourses in relation to the issue of job automation. This issue mapping exercise is based on a self-collected data set of more than 1800 webpages, connected through more than 2400 hyperlinks. Methodologically, it relies on a combination of social network analysis (SNA) and qualitative close-reading of linking practices and webpage contents. As this analysis reveals, public web debates about automation are not centrally driven by sensationalist discourses. Instead, debates are shaped by a variety of discourses on automation (some more and some less polarized), and organized in terms of social relations amongst institutions or clusters around concrete sub-issues.

#### **Tracking science over time in the news press through topic modeling and network analysis**

Carlos G. Figuerola (University of Salamanca, Spain)

The media transmit content that shapes the public perception of Science. The ideological tendencies of the different media influence the vision of Science that they convey. On the other hand, both the most relevant aspects of science and its ideological interpretation change over time. The appearance of the digital press and the conversion to digital of the classical newspapers allows us to perform the massive and long term analysis by using software tools. Topic Modeling are a set of techniques that allow us to know which topics are inside a collection of documents (news in our case); In addition, they allow us to know the intensity of each of the topics and, as we know the date of every news, we can follow the evolution of these topics and their intensities. Network Analysis Techniques allow us to model the relationships between some topics and others and, when these networks are dynamic, analyze their temporal evolution. In this work, these techniques are introduced; the difficulties encountered in their use are discussed and preliminary results of their application to the Science news of two ideologically very different spanish newspapers are shown: El País and ABC. The covered temporary period is very broad: between 1977 and 2018, they cover the entire period of recent Spain, from the end of Franco dictatorship to the present day. Applying the mentioned techniques we have been able to identify the thematic structure of the contents on Science in both newspapers, as well as to depict the relationships between the different thematic groups and the changes experienced over time. Differences due to the specific ideological approaches of each newspapers have also been identified.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 11

#### Mapping technoscience in the media: How to do it, and what is it in, what is it out?

Convenors: Federico Neresini (Università di Padova), Martin Bauer (London School of Economics), Ahmet Suerdem (Bilgi University)

#### Exploring socio-technical future scenarios in the media: the energy transition case in Italian daily newspapers

Paolo Giardullo (Università di Padova, Italy)

The importance of expectations for the future is well recognised within the social sciences. Indeed, discursive representations of specific aspects that can foster expectations about possible futures. The investigation of expectations has been translated into a useful perspective for the sociological gaze seeking insights about innovation processes and, more broadly, about trajectory of science and technology. More specifically, future scenarios as well as expectations are relevant components of emerging technoscientific innovations to be investigated. In general, a relevant data source about discourses contributing to the construction of innovation networks is the discourse brought up by mass media. Therefore, media represent a fruitful area of research for investigating socio-technical future scenarios. However considering media as area of research challenges several research issues linked to both content analysis and trend analysis. This proposal contributes to the track dealing with three of them, namely: the detection of future scenarios in the media (content selection); wherever different representations of future scenarios do exist, whether they are complementary or competing content analysis); and whether and how representations of futures outlined in the past can mobilise actors in the present (actors relationships). Through the case of energy transition public debate on Italian daily press, the analysis addresses these challenges by proposing a combination of research techniques that ranges from text mining to social network analysis about relationship among entities recorded on newspapers' articles.

#### Social media as new mediators in environmental disasters. The Moms-noPfas movement in Veneto region

Giorgio Osti (Università di Trieste, Italy), Sara Fabbro (Università di Bologna, Italy)

In a world where new media, and especially social media, are part of the daily life as "technical tools" for mediation (Bolter and Grusin 2000), we wonder what is their role in a situation of water pollution. Social media has become important means of communication in those populations affected by environmental disasters, for which official information are often lacking. The PFAS pollution in Veneto is an emblematic case. The approach is based on Smelser's theory of tension, declined in spatial terms: when a rural or scattered population feels in danger, special intermediators raise and help to join in groups and to show criticism. In the Veneto PFAS-case, social media have been a tool for gathering and disseminating information, compensating for the silence of the institutional supervisors. Victim groups have become the intermediaries between the institutions and the rest of the population, reinforcing the idea that social media are quite useful in rural areas, usually object of hidden sources of pollution. Therefore, the presentation's aim is to show how social media were able to 'transport' contents and feelings on PFAS water pollution. Reports on Facebook use of Moms-NoPfas movement will be the empirical base for the research. We suppose social media help to overcome the isolation of rural communities raising sentiments of unity and solidarity with a wider regional population to be alerted and educated for environmental and technological risks. Thus, traditional role of social movements (advocacy) matches, through social media, with new frames calling for wider identities and solidarity.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 11

#### Mapping technoscience in the media: How to do it, and what is it in, what is it out?

Convenors: Federico Neresini (Università di Padova), Martin Bauer (London School of Economics), Ahmet Suerdem (Bilgi University)

#### **Bibliometrics in Press. Representations and Uses of Bibliometric Indicators in the Italian Daily Newspapers**

Eugenio Petrovich (Università di Siena, Italy)

Scholars in science and technology studies and bibliometricians are increasingly revealing the performative nature of bibliometric indicators. Far from being neutral technical measures, indicators such as the Impact Factor and the h-index are deeply transforming the social and epistemic structures of contemporary science. At the same time, scholars have highlighted how bibliometric indicators are endowed with social meanings that go beyond their purely technical definitions. These social representations of bibliometric indicators are constructed and negotiated between different groups of actors within several arenas. This study aims to investigate how bibliometric indicators are used in a context, which, so far, has not yet been covered by researchers, that of daily newspapers. By a content analysis of a corpus of 583 articles that appeared in four major Italian newspapers between 1990 and 2020, we chronicle the main functions that bibliometrics and bibliometric indicators played in the Italian press. Our material shows, among other things, that the public discourse developed in newspapers creates a favorable environment for bibliometrics-centered science policies, that bibliometric indicators contribute to the social construction of scientific facts in the press, especially in science news related to medicine, and that professional bibliometric expertise struggles to be represented in newspapers and hence reach the general public.

#### **Hype cycles in AI technologies**

Ahmet Suerdem (İstanbul Bilgi Üniversitesi, Turkey), Ege Yazgan (İstanbul Bilgi Üniversitesi, Turkey)

The Gartner hype cycle model sketches the life-cycle of emerging technologies. According to the model, after a period of kick-off when media interest triggers publicity, the attention to an emerging technology reaches to a peak with inflated expectations then fades away to reach a trough of disillusionment. Despite its popularity, academic attention to this model was limited because of the challenges in its operationalization. In this study, we operationalize the model by the help of different quantitative text analysis methods and test it by econometric methods. After collecting a corpus constituted of the news containing the keyword artificial intelligence between 1970 to 2019, we identified two periods, first from 1970 to 1995 and the second 1996 to present. We then applied word2vec separately to extract the feature sub-spaces for both periods. Then we constructed indicators from these words sharing the same semantic space with AI and formed time series. Harding and Pagan's algorithm is used to identify the peaks and troughs of BI cycles. Prior to implementation, the algorithm requires to specify duration and amplitude boundary conditions to distinguish short-term fluctuations from long-term cycles. Hence under different conditions different characterizations of cycles can be obtained. We repeat the algorithm for different specifications and check the robustness of our results. To test the robustness of the model also applied alternative methods such as Hodrick Prescott filter. Having identified BI cycles we then turn our attention to the analysis of synchronizations of cycles across countries and spillover effects. The results suggest that BI cycles seem to be synchronized.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 11

### Mapping technoscience in the media: How to do it, and what is it in, what is it out?

Convenors: Federico Neresini (Università di Padova), Martin Bauer (London School of Economics), Ahmet Suerdem (Bilgi University)

### Disentangling a liminal condition: comparing emerging debates and representations of the vegetative state

Edoardo Zulato (Università di Milano-Bicocca, Italy), Lorenzo Montali (Università di Milano-Bicocca, Italy), Martin W. Bauer (London School of Economics and Political Science, UK)

The vegetative state (VS), whose prevalence is due to advances in medical technologies over the past 40 years, is a clinical condition in which a patient is wakeful without being aware (RCP, 2013). By creating a liminal state between life and death (Kaufman & Morgan, 2005), the VS brings about ontological, medical, and ethical dilemmas that challenge both experts' and laypeople's understanding. To address such dilemmas, it is crucial to investigate the different socio-cultural milieus in which representations of boundaries between life/death or health/illness are constructed, maintained and challenged through communication processes (Bauer & Gaskell, 1999; Jovchelovitch & Gervais, 1999). Our research aims to explore the social representations of the VS in the news across different cultural (India, Italy and the United Kingdom) and social milieus (left-leaning, right-leaning and religious/tabloid newspapers). Both qualitative and quantitative content analyses were conducted on articles' headlines and full-texts taken from Indian (n=300), Italian (n=300) and British (n=300) newspapers published between January 1990 and June 2019. Our results show that the VS is represented through eight frames that vary across both cultural contexts and social milieus. The research allowed us to (a) identify the representational dimensions used to deconstruct and reconstruct the borders between life and death, and (b) shed light on the discourses that may be engaged in the public sphere to disentangle a liminal situation.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 12

#### Surveillance infrastructures or open platforms? Aid and control of vulnerable populations through digital data

Convenors: Annalisa Pelizza (Università di Bologna), Lorenzo Olivieri (Università di Bologna)

##### **Digital contact tracing as entry point to a digital public infrastructure: a critical perspective on public-private partnerships**

Roxana Varvara Boboc (University of Amsterdam, The Netherlands)

The COVID-19 pandemic appears to have accelerated the data extraction and growth strategies of big tech companies (Zuboff); moreover, it presents major obstacles for the ways in which national and supra-national bodies have to confront with creating safe, lawful conditions of action. In this turbulent context, the digital contact tracing industry appears to be a specific case of a digital public infrastructure and a monumental public-private partnership. In April 2020, Google and Apple – as the providers of the dominant mobile OS, joined forces to put in place a system to enable the development of digital contact tracing apps. What they call the Exposure Notification System works through APIs that enable interoperability between Android and iOS devices using apps from public health authorities. Therefore, this paper will pose the following question: how do two large companies become central actors in digital contact tracing – a major public health issue. How do these companies relate to public governments in this effort? In answering these questions, it becomes apparent that platforms become resilience actors within the pandemic and we are confronted with mutually shaping power relations – platform power and public governance. As the contact tracing infrastructure can only become viable and efficient through a widespread adoption, which is voluntary as opposed to imposed or unacknowledged, all of the potential risks or issues have to be addressed – through sets of rules and guidelines, through wide promotion, but most importantly, through creating and maintaining a high level of trust amongst the users. To infer how these companies exploit vulnerabilities in institutions and society by repackaging their services to adapt to the needs and values of public and global institutions, a discourse analysis will be employed on Google and Apple's public statements, technical documents and protocols, as well as documents issued by the European Union.

##### **Digital health records for refugees: from data ownership to biopower?**

Laetitia Della Torre (University of Technology of Compiègne)

The communication project will start from the case of medical platforms and more specifically connected medical records for refugees, such as those developed by the NGO Iryo, the International Organization of migration which is implementing the project Rehealth2, a tool for integration of refugees in EU health systems, and the french start-up Reconnect which provide digital safes for « AP HP » hospitals. These platforms don't share a common understanding of the type and the usage of data stored in medical records. Some projects aim to be digital health passports accessible from refugees' smartphone, for instance Iryo promotes the possibility to control their health data, while other projects focus on health monitoring by health actors thanks to better data exchange between care infrastructures, through the development of interoperability mechanisms, at national, or even cross-border and European levels. This involve deepening the debate between data sharing/interoperability and data protection. Will be analyzed the way medical records are designed and implemented, the type of standard they use, their level of security, satisfactory or not, and their compliance with the legislative framework, in particular the GDPR. These ethical, legal and technical guarantees are essential, indeed to what extent are the data used for humanitarian purposes? Are there risks of instrumentalisation of these data in order the control of migration flows, in particular in the framework of asylum procedures during which health data could play a discriminatory role? All this implies analysing the type of data stored in health records dedicated to refugees, the chain of actors having access to them or not, in order to draw the moving border between humanitarian action, health surveillance, exercise of forms of biopower, and what can be describe as form of control of vulnerable people.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 12

#### **Surveillance infrastructures or open platforms? Aid and control of vulnerable populations through digital data**

Convenors: Annalisa Pelizza (Università di Bologna), Lorenzo Olivieri (Università di Bologna)

#### **Developing practices of digital refoulement? Between pushbacks, pullbacks and backscattering**

Alice Fill (Scuola Superiore Sant'Anna, Italy)

The principle of non-refoulement is a cornerstone of the EU's fundamental rights regime and a primary obligation that States have to fulfil at their borders and beyond. However, it has been widely proven how – in situations of growing fragmentation or externalisation of border control and outsourcing of migration policies – the principle is persistently undermined, with substantial consequences in terms of human rights violations and arbitrariness at the external frontiers. The ever-growing suspicion towards non-pre-vetted travellers is indeed shaped into policies and practices that affect the possibility of an individual assessment of the asylum claim. This occurs both at the borders of the European States in the form of pushbacks and on the territories of third countries implementing strategies of non-arrival, remote control and deterrence, largely described as pullbacks. Since these forms of rejections occur differently depending on the “typology” of border where they are performed, they should be analysed also within the framework of the so-called digital border. The paper aims to bridge the research gap on the dynamics of “digital refoulement”, described with the notion of backscattering because of the diffused rejections enforced by a system of interconnected databases, filters and dams that make the violation of non-refoulement less palpable in its single operative phases. Building on the concept of “data-banned populations” and basing on forms of data-constructed “legitimate suspicion”, it will be suggested that digital borders can facilitate practises of exclusion and compounded vulnerability on particular groups of migrants. The surveillance of the pre-frontier area, performed by EUROSUR, is proposed as a case-study for deepening the dynamics outlined, notably because of its preventive agenda triggered by big data analysis, real-time traceability and risk assessment. It will be argued that basing on maps that consider migrants as potential flows – and not as groups or individuals – it might lead to backscattering practices, working on suspicion instead of legal evidence.

#### **Mapping solidarity. Maps as surveillance or resistance devices?**

Federico Montanari (Università di Modena-Reggio Emilia, Italy)

As pointed out by this track proposal, the current form of platforms seems to be two-faced: on the one hand providing the basic building blocks, as infrastructures, of “Surveillance capitalism”; on the other hand, enabling the forms of solidarity, humanitarian aid and cooperation. The aim of this abstract proposal is to focus on the question of maps: to work comparatively on a sample of different projects of mapping. We know very well that, for several years, maps (and, more generally, the many forms of data visualization) have produced, in their cognitive, perceptive and social transformations, important social and cultural practices (think, on this theme, among many others, also of the work of Latour together with other collaborators and researchers). The interesting point about maps is that they are a very important case of “hybrid objects”: at the same time, interfaces, representations and tools. It is obvious that maps have always represented not only the forms of the world but also the processes of social transformation (cf. Farinelli). But it is also obvious that, in recent years, thanks to their digitisation and interactive transformation, and thanks to the various waves of change on the Web, and then with social media, they have taken on a radically new character. They are now not only, as said, “hybrid objects” or “quasi-objects”, endowed with very strong social, value and narrative characteristics: think of the use and enormous diffusion, now obvious, in recent years of so many apps for tracing and tracking phones, for tourism, sport, marketing. However, to get to the central theme of this track, maps have also been used in the last years for projects not only of testimonies of conflicts and migrants' stories but also by NGOs and groups and movements of aid, solidarity and resistance. In this sense we will provide some comparative analysis of examples and case studies, using the tools of socio-semiotic and visual analysis, in particular focusing the forms of representation and maps of the so-called “Balkan route” of migrants and the forms of solidarity and struggle that have gradually stratified on this issue in recent years.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 12

#### Surveillance infrastructures or open platforms? Aid and control of vulnerable populations through digital data

Convenors: Annalisa Pelizza (Università di Bologna), Lorenzo Olivieri (Università di Bologna)

##### **Smartphones and social media security checks at the European borders: novel temporal landscapes of surveillance**

Lorenzo Olivieri (Università di Bologna, Italy)

The goal of the presentation is to enquire how smartphones data and social networks accounts speak for migrants' identities. Interviews collected at Greek hotspots show that law enforcement authorities increasingly extract smartphones' data and metadata and search social media accounts for identification purposes and for finding information about the migration journey. Migrants' stories and identities are thus assessed also through content that is generated in non-security, non-institutional contexts and which is therefore temporally and spatially differed than that one produced during debriefing interviews. Furthermore, digital forensics enables immigration officials to retrieve and download data from people's phone, including already deleted content. What results is a new "temporal landscape of surveillance", in which the visible and less visible digital traces one leaves behind herself are co-opted for security reasons. In this respect, I will compare these digital security checks with the use of biometrics. Whereas biometric identification relies on intra-somatic elements of the self, namely the permanence and uniqueness of specific bodily features across time, accessing smartphones and social media is directed to the extra-somatic elements of who someone is. Like biometrics, the implications of digital security checks can be discussed along three different dimensions: the threat to privacy and human rights, the notion of identity presupposed by those searches and the criminalization of migrants. On the other hand, the access to smartphones and social media accounts seems to contrast with the "epistemic suspicion towards the story" that, according to Ajana (2010), characterizes biometric technology.

##### **The Script of Alterity**

Annalisa Pelizza (Università di Bologna, Italy)

How are people on the move enacted by the interplay of multifarious data systems used at the European border? How do "migrants", "refugees", "irregulars" come into being through the mediation of data infrastructures that are often interoperable? Beyond easy assumptions, how are stereotypes de facto built through classifications that silence most aspects of people's identities? Drawing on research data collected since 2017 at diverse locations throughout Europe, this presentation analyzes the data infrastructures used to classify people caught at the borders. I will discursively compare the data schemas underpinning national and supra-national information systems used to identify and sort third country nationals trying to enter Europe. First, I will propose a typology of people being recorded in each of the systems. Not actual people, but intended ones, these "scripts of alterity" result from an analysis of data schemas that stresses invisibility, gaps and silences. Second, in light of this typology, I will propose an ordering of the systems based on the degree of familiarity of intended people. All in all, this presentation will uncover the sociotechnical and classificatory mechanisms that bring to the enactment of people on the move as alterity, and will show possible direction in which "things could be otherwise".

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 12

#### Surveillance infrastructures or open platforms? Aid and control of vulnerable populations through digital data

Convenors: Annalisa Pelizza (Università di Bologna), Lorenzo Olivieri (Università di Bologna)

#### Data quality in data infrastructures of migration and border control

Wouter Van Rossem (University of Twente, The Netherlands)

Migrants' identity data does not always fit into the standard categories inscribed in information systems. These constraints (and possibilities) in standards and interfaces may be one reason why data entered in databases can eventually be found to be of low quality. No wonder that this issue of data quality is frequently identified by policy-makers as an important obstacle in the effective operation of information systems in migration and border control. For example, the EU information systems of Justice and Home Affairs are currently undergoing significant changes to address data quality, a supposed prerequisite to make the systems interoperable. However, despite the wide range of research on data infrastructures of migration and border control in Europe, little research has currently dealt with data quality, and many questions remain. What types of frictions occur during the processes of establishing identities of migrants? How are practices for processing vulnerable populations shaped by databases containing information that is not always complete, accurate, reliable? And how do data quality mechanisms and technologies shape relations between different actors? As part of the ERC-funded "Processing Citizenship" project, I present results from my fieldwork conducted at a company that develops technologies for dealing with data frictions in the processes of migration and border control. My research on the use of these technologies at a migration and asylum agency of a Northern European Member State shows a sample of the kinds of data frictions that can occur during the processing of vulnerable populations, and how these frictions are mediated by such technologies. These findings will contribute to STS research on data infrastructures, the role of data quality mechanisms on socio-technical architectures, and data frictions in migration and border security.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 13

### **Disappearance, maintenance and reinvention in the biographies of technical objects. Perspectives on the transformative vulnerabilities of technology at the intersection between STS and Media Studies**

Convenors: Sergio Minniti (Università di Padova), Simone Dotto (Università di Udine), Diego Cavallotti (Università di Cagliari)

#### **Communication is maintenance: turning the agenda of media and communication studies upside down**

Gabriele Balbi (Università della Svizzera italiana, Switzerland), Roberto Leggero (Università della Svizzera italiana, Switzerland)

This paper proposes that communication and media studies should refocus on maintenance. Indeed, maintenance theory can help underestimated aspects of communication infrastructures emerge. First, maintenance shows the similarity of communication and transportation infrastructures, which overlap to the extent that the two fields of study can no longer be separated. Second, maintenance shows the persistence of communication infrastructures over time. Infrastructures are seldom replaced, and even more rarely closed down, new communication networks do not replace old ones, but they overlap with them. Consequently, this focus makes clear the need to study communication in *longue durée* or at least in long-term perspectives. Thirdly, the decision to maintain a communication network or infrastructure is a political one. Communication studies have often focused on political decisions on innovation, while maintenance offers a new way to look at centralization, delegation, sabotage to infrastructures, and the political responsibilities of making communications function. Finally, thanks to maintenance, the material dimension of communication can be more visible. This allows the integration of the new agendas of STS and of media archaeology, with the emergence of topics such as malfunctions or technical jobs, which are often considered out of the scope of communication studies.

#### **Reusing, Recycling, Reinventing: East German Discourses on Raw Film Manufacturing between Economic Efficiency and Environmental Conscience**

Josephine Diecke (University of Zurich, Switzerland)

Since the German reunification in 1990, the ecological failures of the German Democratic Republic (GDR) predominate post-reunification discourses. Being the homeland of Agfacolor and Orwocolor, the GDR was part of the global film stock community for more than forty years. In this period, the country faced an ongoing increase of waste products from chemical industries. Around the same time, however, more and more initiatives for long-term solutions in film archiving and preservation created awareness of material decay and technological obsolescence. Within this ambivalent context, scientific discourses on scarcity of resources, durability of color films and recycling of silver components made their way into technical journals such as *Bild und Ton*. With its unique role as one of GDR's official organs for discussing topical technological developments, the journal acted as a mirror of hegemonic idea(l)s of the country's socialist planned economy and bears witness to the postponed discussion of environmental issues. Facing the crises of our present time, it is the right moment for readdressing the manifold interrelationships between industrial production of raw film manufacturing and its impact on the environment during the past decades of the so-called Cold War. By means of discourse analysis paired with a social-constructivist approach (Daugaard/Diecke 2020), this paper focuses on social groups, artefacts, problems and solutions associated with East Germany's environmental discourses during the growing spread of color film processes between 1945 and 1990. By asking what kind of problems were addressed by a specific social group and how these problems were declared as solved with the help of a certain artefact, I move away from linear, teleological narratives and towards the understanding of history as a multidirectional and transnational network of discursive practices and power struggles.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 13

#### **Disappearance, maintenance and reinvention in the biographies of technical objects. Perspectives on the transformative vulnerabilities of technology at the intersection between STS and Media Studies**

Convenors: Sergio Minniti (Università di Padova), Simone Dotto (Università di Udine), Diego Cavallotti (Università di Cagliari)

#### **On the Watch—Rewinding the Long History of Self-tracking in Regimes of Self-governance**

James Hay (University of Illinois—Urbana-Champaign, USA)

A recently growing body of theory and research has responded to the expanding array of “self-tracking” devices in the twenty-first century, frequently underscoring how the current technological regime of self-tracking is implicated in a data economy, algorithmic culture, and everyday life that value self-accounting, a quantifiable self, and a fit self. This body of research and theory also has represented the importance of investigating technologies of “self-information,” i.e., keeping oneself informed about one’s Self, and serving as a primary administrator of science and technology to one’s Self. Although some of these recent accounts of self-tracking acknowledge briefly the pre-twenty-first century history from which the current technologies and practices have emerged, these accounts are primarily not genealogies of a discourse about “self-tracking,” or of the technological reinventions of self-tracking, or of those technological reinventions’ reinvention of the Liberal self and its governance. This presentation offers a genealogy of self-tracking through the history of the watch as a Modern technology of the self, instrumentalized within changing regimes of Western Liberal governmentality since the 18th century. The presentation turns to the Modern watch partly to recuperate its longstanding utility as personal “oversight,” vigilance, monitoring, and (in the French-Italian and decidedly Foucaultian sense) “surveillance” as watching over. In part, the presentation engages Foucault’s histories of how Western Liberalism’s valorization of personal freedoms/liberties was accompanied by a multiplicity of instruments and techniques for guiding, shaping, observing, recording, and disciplining the conduct and behavior of Liberal subjects. In this way, my presentation considers the birth and the changing utility and instrumentalization of the watch as a portable technology of personal freedom, individual sovereignty, discipline and Liberal self-government, putting one’s everyday life in order, regulated mobility, knowledge/illumination, ethics/etiquette, and biopower. The presentation examines the relation between the 18th-century birth(-s) of Western Liberalism and pocket watches. The presentation also addresses the subsequent, changing relation between individualized/personal/private technology of time-observation (as “watch”) and public forms of observance. The presentation locates the watch within a Modern history of automation and a mechanized human self, following early Modern automata such those designed by Swiss clockmaker Jaquet-Droz in the late 18th century. The presentation also examines the military application and standardization of the watch during World War One, the subsequent relation between military and civilian uses of the watch, and more recent applications of the watch for the safety and security of a self-defensive citizen in the 21st century. The presentation also discusses how the watch as self-defensive technology has become entangled in uses of the watch as a technology of health and fitness, particularly as these objectives pertain to recent formations of Liberal subjects and citizens. The presentation proposes that new genealogies of the watch are helpful in rethinking how certain technologies in the current regime of self-tracking (such as the Apple watch, cardiovascular monitoring-devices, kinesiological applications, and the folding of time-keeping into other applications of personal phones) develop out of a history of “Liberal objects.” Recognizing and studying this history is tantamount to turning the recent body of theory and research about self-tracking and quantified selves more energetically toward a study of the rationalities, technologizations, geographic variances, and contradictions of Liberal governance and citizenship in the current context.

In addressing the specific topic of Track 13, this genealogy of the watch as Liberal object also suggests a pathway for rethinking the assumptions of Communication Studies about the current forms of self-tracking, and their relation to so-called “smart objects” and an “Internet of things.” The project proposed by this presentation involves an alternative genealogy of McLuhanist accounts of media in Communication and Cultural Studies, and an engagement with veins of the “new materialist”-turn in Communication Studies and with “actor-network” theories, as a means to reconceptualizing the twenty-first-century regime and networks of human and non-human “neo-liberal” objects.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

### TRACK 13

#### **Disappearance, maintenance and reinvention in the biographies of technical objects. Perspectives on the transformative vulnerabilities of technology at the intersection between STS and Media Studies**

Convenors: Sergio Minniti (Università di Padova), Simone Dotto (Università di Udine), Diego Cavallotti (Università di Cagliari)

#### **Biography of Indian 'Fairy Queen' Steam Locomotive and Object display in Rail Museums**

Rajni Gupta (Central University of Gujarat, India)

The most established running steam locomotive 'Fairy Queen' was manufactured by 'Kitson Thompson and Hewitson' in 1855 in UK (Leeds) and propelled as a heritage train in 1982. This Fairy Queen steam locomotive was certified by the Guinness Book of records. This study gives innovative progression in Indian Railways and it will give better recommendations for the technosciences. Occasionally, Fairy Queen steams in the fascinating yard of rail museum for the visitors. Earlier this steam locomotive known as the flet Number: EIR 22, 92, 101 and Fairy Queen name given in the year of 1895. In this biography of Fairy Queen, the study also explores the two case studies of Rail Museums: first is National Rail Museum, New Delhi and second is Rewari Railway Heritage Museum, Rewari (Haryana). These case studies mainly focuses on the object of display theory with in the context of STS. It is a very interesting and innovative techno-historical research which also cover the heritage and tourism culture of India.

#### **The memory boxes: hard drives as sociomaterial construction and cultural metaphor**

Mario Tirino (Università degli Studi di Salerno, Italy)

Following the theoretical and methodological approach of media archaeology (Parikka 2012, Huhtamo, Parikka 2011), we intend to highlight the connection between the physical configuration of the hard drives, the practices of use and the political and cultural strategies of control and oblivion. Moving within the theoretical framework of digital materialism (Casemajor 2015, Tirino 2017), this paper intends to investigate hard disks as media objects resulting from a complex socio-material and techno-cultural construction. After defining the concept of materiality, distinguishing between forensic materiality and formal materiality (Kirschenbaum 2008), we will conduct a genealogical reconstruction of the hard disk to illuminate its mechanisms and its metaphorical potential. Then we will explore the relationship with another category of special objects, such as digital documents, and we will analyze its impact on the forms of cultural memory of the present (Hoskins 2017).

#### **The two-step (outdoor) domestication of social robots as media-machines: the case of pepper at Bologna airport**

Simone Tosoni (Università Cattolica di Milano, Italy), Giovanna Mascheroni (Università Cattolica di Milano, Italy)

Social Robots are media with which humans interact. In this respect, they can be conceived of as "communicative robots", that is, (partially) automated and algorithmic-based machines designed "with the purpose of quasi-communication with human beings". Under this point of view, communicative robots are emblematic of the hybridization between media and machines. The dual nature of media-machines challenges media studies' understandings of medium, communicative partner and of the boundaries of communication (Peter & Kuhne, 2018), calling for novel theoretical and methodological frameworks. In this paper, we will adopt a revised version of the outdoor domestication approach - tuned up by media scholar like Angela McCharty, Zlatan Krajina and others to address out of home engaged with media - to study the deployment of a humanoid social robot (Pepper, by Softec) in the public space of the airport of Bologna, whose role is to entertain and deliver information to travellers. Drawing on STS, critical software studies and the ethnographic tradition within audience studies, we propose an approach that takes into account people's engagement with the robot focusing on five, interrelated aspects: the scripted content of the interaction; its performative aspects; the attribution of symbolic meanings to the robot as both a technological device and a communicative partner; the materiality of its presence in space; and its algorithmic nature - and the materiality of the algorithm. From this perspective, we advocate for a two-step model of domestication where the aforementioned five sensitizing concepts are addressed both at the level of the scripting of the robot through a dedicated middleware platform, and at the level of human-(media)machine interaction.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 2

platforms, digital technologies and media environments

## TRACK 13

**Disappearance, maintenance and reinvention in the biographies of technical objects. Perspectives on the transformative vulnerabilities of technology at the intersection between STS and Media Studies**

Convenors: Sergio Minniti (Università di Padova), Simone Dotto (Università di Udine), Diego Cavallotti (Università di Cagliari)

### **Cathode Ray Tubes repair and the conservation of art: the case of Nam June Paik**

Dirk van de Leemput (Maastricht University, The Netherlands)

This paper uses the lens of the developing discourse of care, maintenance and repair within STS to consider the practices of conserving contemporary art that uses media technologies. The obsolescence of these technologies has challenged conservation of these works and the basic tenant of a 'permanent' collection within art museums. The developing practices of care and conservation for these artworks and their associated media technologies has disrupted conservation ethics, which traditionally value the material authenticity of objects. Above all, it has expanded the network of those involved in the conservation of artworks to include those who retain increasingly rare skills in the care, maintenance and repair of these technologies. Contemporary art conservation therefore offers an opportunity for studying the vulnerability, maintenance and repair of older media technologies within a complex array of, at times, conflicting values. The paper traces the fate of Cathode Ray Tubes (CRT) in the recent Nam June Paik (1932-2006) retrospective exhibition at Tate Modern and Stedelijk Museum Amsterdam. Nam June Paik is considered the father of video art and used many CRT television sets in his artworks. CRT was a ubiquitous technology from the 1960s until 2010, when most consumers switched to newer flat screen technology. With declined consumer interest, the facilities for CRT repairing and rebuilding (repairing the tube itself) also disappeared. The exhibition at Tate and Stedelijk provided a trigger for a range of conservation activities related to the care of works of art by Nam June Paik and their associated CRT television sets. Using interviews, document analysis and some (pandemic limited) ethnographic fieldwork, I show how the skills of CRT rebuilding and repair re-emerge and gain new meaning in the context of contemporary art conservation.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 14

### The new role of R&D networks and evaluation processes in the time of "Big science"

Convenors: Franc Mali (University of Ljubljana), Anuška Ferligoj (University of Ljubljana)

#### Scientific Autonomy and Social Research in the European Framework Programmes

Matteo Gerli (Università di Bologna, Italy)

The central idea of this paper is that the EU has become a key policy player as far as the production, circulation and exploitation of scientific knowledge are concerned, even in those sectors traditionally less involved with technological and commercial applications. Indeed, thanks to the concomitant decrease in national public funds for research activities (e.g., Vincent-Lancrin 2006 and 2009), the European research agenda has dramatically increased its appeal among scholars and consequently its ability to have an impact on the directions and processes of scientific knowledge production. Social Sciences are particularly concerned with this phenomenon for two main reasons: firstly, because they are little attractive to private funds and, most importantly, because they represent a cognitive authority and a source of legitimacy for the EU decision-making machinery and for the construction of the EU itself (e.g., Mudge and Vauchez 2012; Adler-Nissen and Kropp 2016). Literature on this topic has mainly focused on the effects of the EU scientific initiatives, paying particular attention to (1) the broad intention and the technical procedures underlying the European scientific multiannual programmes, (2) the cross-borders exchanges (Gerli 2017) and the ongoing process of transnational regionalization, (3) the advancement of early-stage careers and the consolidation of high-status disciplines and researchers (Hoening 2017), (4) the difference in the way different countries participate take part into the EU scientific programmes (Kastrinos 2010; Gerli 2017), (5) finally the definition of scientific production foci (Gerli 2020). Against this background, this paper aims at exploring the way the EU Framework Programmes for research and innovation has an impact on scientific autonomy, with particular attention to those initiatives devoted to the broad field of Social Sciences. The paper will start by outlining a theoretical model of scientific autonomy based on Bourdieu's field theory, and it will follow by analysing the evaluation mechanisms - as they result from the official documentation produced from 2007 to nowadays (seventh and eighth FPs) - that the EU institutions have adopted to promote scientific excellence and foster the creation of cross-national and mission-oriented collaborations. More specifically, the autonomy will be addressed according to the following three dimensions: 1) operational framework; 2) scientific beliefs (or ethos); 3) symbolic capital (based on "external" evaluative principles). In the end, the paper will show how the role that Social Sciences are expected to play fluctuate between what, following Burawoy (2005) and Steinmetz (2018), can be defined as Expert Social Sciences and Intellectual Social Sciences.

#### iMetrics: the development of the discipline with many names

Daria Maltseva (NRU HSE International laboratory for Applied Network Research, Russia), Vladimir Batagelj (IMFM Ljubljana, Slovene)

Different research traditions have developed over time to study the quantitative aspects of information and knowledge production, such as scientometrics, bibliometrics, librametrics, informetrics, cybermetrics, webometrics, or altmetrics. These information metrics, or iMetrics, as they were labeled by Milojević and Leydesdorff (2013), are unified by the usage of quantitative data analysis, applying various statistical methods and techniques and are often used to supplement and complement each other. Representing different research traditions, they jointly form a common research field, a "discipline with many names". In this article, we look at the development of iMetrics field and its evolution over time using bibliometric network analysis and identify its common basis, formed by the most important publications, journals, scholars and topics. The dataset consists of articles from the Web of Science database (26,414 records with complete descriptions). Analyzing the citation network, we evaluate the field's growth and identify the most cited works. Using the Search path count (SPC) approach, we extract the main path, key-route paths, and link islands in the citation network. The results show that in the last forty years the number of published papers is increasing, and it doubles every 8 years; the number of single author papers dropped from 50% to 10%, and the number of papers authored by 3 or more authors is increasing. We make the conclusions about the field's development and its current state. We also present the main authors, journals and keywords from the field, which form its common basis.

JUNE 17th, 18th, 19th

Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

### TRACK 14

#### The new role of R&D networks and evaluation processes in the time of "Big science"

Convenors: Franc Mali (University of Ljubljana), Anuška Ferligoj (University of Ljubljana)

#### **The role of scientific networks in r&d evaluation procedures: the case of Slovenia as country with a small scientific community**

Franc Mali (University of Ljubljana, Slovene), Marjan Cugmas (University of Ljubljana, Slovene)

In small scientific communities is a risk that incorrectly used mechanisms in R&D evaluation process would lead to the prevalence of parochial and autharchic tendencies in science. Therefore, in spite of the strong self-organizing character of the modern science, the importance of organized (national) R&D evaluation system is very high. Such system defines »the rules of the game« in science. The main aim of our contribution is to provide theoretical and empirical insights into the functioning of the Slovenian R&D evaluation system. Slovenian small scientific community is confronted with big challenges on following the adaptive structural changes, that are related with recent processes of internationalization and commercialization of the R&D activities. The Slovenian Research Agency took over the funding function for the public research sector and therefore (because of its exclusive role in the funding of public research in Slovenia) it is also directly responsible for the national R&D evaluation system. The quantitative indicators are still often used, for the purposes of assessing various dimensions of scientific activity, by ARRS bureaucrats and politicians, who are not intimately acquainted with the complexity of R&D evaluations. But, do they consider all changes, arising with the tendencies of modern science, to become collective activity? In our contribution, we will focus on the role of co-authored publications in Slovenian R&D evaluation system. Nowadays, only extensive set of quantitative indicators that are based on measuring different types of co-authorship networks (international co-authorship networks in science or co-authorship networks between science and business-enterprise sector) ensure an objective evaluation of the progress of different scientific fields.

#### **Changes in scientific collaboration of Russian universities after the excellence initiative**

Nataliya Matveeva (National Research University Higher School of Economics, Russia), Anuška Ferligoj (University of Ljubljana, Slovene)

In 2013 the Russian government launched the university excellence initiative (Project 5-100) to increase competitive positions of the group of universities in the global academic market. After joining the project participating universities demonstrate considerable growth of publication output [1, 2]. At the same time, participating universities have changed their collaboration strategies in favor to increase publication output [3]. In presented work we investigate the trends and structure of scientific collaborations in Russian universities. For the analysis data about the number of publications from 2010 to 2016 attributed to university profiles in Web of Science were used. The analysis of affiliation and co-authorship network analysis were performed to answer the questions: with whom universities prefer to collaborate in different research areas and quality segments and what is the position of universities in the academic co-authorship network. Our results reveal that since 2014 there is a significant difference of collaboration patterns of participating in the Project 5-100 universities and not participating universities. In participating universities the number of scientific organizations with which the universities have joint publications (degree centrality) significantly increased. Using the blockmodeling procedure [4] we also found that after the project implementation the structure of university collaboration has changed greatly. Since 2014 the most part of participating universities have become the core of collaboration. Thus, participation in the Project stimulated the universities to intensify collaboration with other organizations and also with each other.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 14

### The new role of R&D networks and evaluation processes in the time of "Big science"

Convenors: Franc Mali (University of Ljubljana), Anuška Ferligoj (University of Ljubljana)

### The implementation of innovation policies in Italy: strengths and weaknesses of 'Industria 4.0' Plan

Francesco Orazi (Università Politenica delle Marche, Italy), Federico Sofritti (Università Politenica delle Marche, Italy)

In the last decade, many European countries have adopted industrial policies aimed at enhancing new digital technologies among big companies and SMEs. The proposed presentation deals with an ongoing research project focused on the effects of Industry 4.0 policies in Italy. In particular, the 'Industria 4.0' plan, launched in 2016, has created an ecosystem of innovation consisting of three organizations: Competence Centers (CCs), Digital Innovation Hubs (DIHs) and 'Punti Impresa Digitale' (PID - information points addressed to enterprises). This infrastructure is built upon a cooperative collaboration involving universities, public bodies and private companies. The goal is to promote the culture of innovation and the transition to 4.0 technologies among companies at a national level (with the CCs), as well as at a local level (with DIHs and PID). This explorative research aims at identifying strengths and weaknesses of recent industrial policies in Italy. It consists of two main parts: an analysis of recent innovation policies in Italy and in several European countries; an in-depth study of the effects of these policies in the Italian case, carried out through interviews to representatives of CCs and a survey involving the DIHs. Drawing on policy analysis, secondary sources and interviews to key informants, the presentation discusses the preliminary findings in a twofold perspective: firstly, Italian innovation policies are taken into consideration in a comparative European perspective. Secondly, the paper presents the main features of the Italian Competence Centers, taking into consideration several dimensions of interest: area of specialization, amount of funding, main activities carried out so far, relations with other bodies of the innovation ecosystem, future perspectives.

### Making scientists be brokers

George A. Nikolaenko (Saint-Petersburg Branch of the Institute for the History of Science and Technology RAS, Russia), Anna V. Samokis (Saint-Petersburg Branch of the Institute for the History of Science and Technology RAS, Russia)

By the beginning of the Cold War, the "big science" generated by the First World War entered a stage of uncontrolled growth - the so-called "Information explosion", which put both the USA and the USSR in front of the necessity to develop fundamentally new systems for managing scientific research. Due to the collapse of the socialist bloc and planned economy the neoliberal model of a highly competitive scientific market has become a nearly non-alternative system. In the mid-1970s the French sociologist Pierre Bourdieu proposed the neo-Marxist concept of scientific production as a struggle for the means of production of scientific reputation. After half a century this theoretical concept can be used in the best way in the context of the struggle between two models of the scientific communication market, "journal" (mediate) and "network" (immediate) ones. We attempt to analyze comprehensively the structure of network individualism within the framework of the academic social network ResearchGate. Academic social networks (ASNS), primarily market leaders Academia.edu and ResearchGate, are defined as the source of the alter-capitalist model of the scientific market, competing with the current beneficiaries - the largest publishing houses - in accordance with the principles of uberization and "guerrilla management". Existing studies on ASNS currently can be called atheoretical. Due to the specifics of scientific interaction overcoming this limitation by transferring "Internet Studies" from the field of general social networks (GSNS) is almost impossible. In such a context we can talk about the significant heuristic potential hidden in prospective studies of network scientific "habitus" - a system of acquired patterns of network behavior that act in practice as a category of perception and evaluation or as a distribution principle within a network, at the same time as an organizational principle actions. These practices of scientific interaction form the new, hybrid forms of building scientific reputation in a world where, in addition to the system of mediate, "journal" scientific communication, an alternative field has emerged and has been functioning for more than 10 years, working according to completely different rules. At the first stage of our empirical research, we want to present the first of its kind global map ResearchGate - characterizing the real distribution of users of this site around the world.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 14

### The new role of R&D networks and evaluation processes in the time of "Big science"

Convenors: Franc Mali (University of Ljubljana), Anuška Ferligoj (University of Ljubljana)

#### Social Impact of Scientific Networks: Leaders and Integrators in Political Science and Management Science and Management

Dmitry Zaytsev (HSE University, Russia), Valentina Kuskova (HSE University, Russia), Gregory Khvatsky (HSE University, Russia), and Alina Arslanova (HSE University, Russia)

Much has changed since Cunningham (1997) defined the role of scientometrics as the premier tool to assess "of the efficiency and effectiveness of the research process". A multitude of tools and methods exists today for comparing research efficiency; with development of computer technologies and statistical techniques, they continue to grow in sophistication. However, the first most important call of Cunningham (1971) to measure "the contribution of science and technology to wealth creation and to the maintenance and improvement of the quality of life", has received much less attention. In part, because it appears to be more difficult to measure the "the role of science and technology in national economies worldwide." in part, because interdisciplinary work on the connection between research and practice has only recently come to the forefront of scientometrics, largely due to the proliferation of network-analytic methods. Having firmly established itself in the broad range of social sciences, network science is now the premier tool for popularization of science. However, we have not studied the overlap between the science and the reflection of it in the society. Therefore, the purpose of this paper is to determine what social impact political science had on the "improvement of the quality of life". In this paper we analyze scientific networks in political science. Scientific network analysis provides us an opportunity to define scientific schools and communities, and ideas and discourses that they are introducing into the society. We propose methodology to evaluate scientific communities' social impact based on the analysis of proliferation of their ideas, discourses, and other outcomes of scientific work in public sphere. We discuss how to measure global outcomes of scientific networks. Scholarly attention continues to be directed at debate on concrete methods for impact evaluation within the Academy, with greater emphasis being shifted to improve citation-based indicators, while the more fundamental questions on the epistemological nature of scholarly impact remain diffuse. And, nonetheless, matters of some dispute on how to measure research impact eventually provide interesting insights on knowledge dissemination and application, the structure and dynamics of scientific knowledge, and thereby shed light on the elusive concept of scientific impact. A citation link among two documents is thus assumed to reflect knowledge flow from the citing source to the cited one. However, taking only direct path of knowledge dissemination into account may unavoidably lead to biases of in the scientific impact assessment (Hu et al., 2011). Indeed, a scientific article produce new knowledge based on information provided by documents cited in its lists of references, and at the same time also passes its knowledge to the subsequent research through citations. Therefore, to capture the impact of an individual research paper, both direct and indirect citation impact should be counted. In addition to the challenges associated with impact assessment, the importance of meta knowledge is raising. Meta-knowledge concerned with the epistemological nature of scientific claims, hypothesis, controversies, and various anomalies (Chen & Song, 2017). Network-analytic tools enable to better capture the status of scientific knowledge at various levels of granularity (implicit, explicit, and tacit), therefore, provide a deeper understanding the underlying processes of knowledge dissemination.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 15

### Alternative science and technology: theories and practice

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

#### What research for an alternative science and technology? Building knowledge for a desirable post-growth future, the Horizon Terre project

Benegiamo Maura (University of Trieste, Italy), Simon Grudet (Science Citoyennes), Aude Lapprand (Science Citoyennes)

What knowledge do we need to divert our societies from the impasse and promote the transition to a sustainable, inclusive and desirable future? Today new networks are developing, involving committed scientists, citizens, students and researchers. While scholars are encouraged to engage in student climate mobilization, students are asking to learn things that match the challenges they will face in the future. A multi-faceted citizen expertise that is experimenting with new ways of building and sharing knowledge, and testing their social relevance is also developing. Against this backdrop, the project Horizon Terre brings together representatives of environmentally and socially concerned networks of students, activists, academic and associative experts to collectively determine our knowledge needs in a society that is compatible with the preservation of human and non-human life on Earth. Initiated in 2019 by three French associations sharing a critical approach to the relationship between science and society (Citizen Science, ATECOPOL and Engineers Without Borders), the project aims to develop research scenarios committed towards creating truly sustainable societies. By these means, it positions itself as an alternative to the scenarios proposed by the European Horizon Europe research framework program. Actors will meet three times in 2020, to elaborate roadmaps about three key-themes: 1-Agriculture and food; 2-Health; 3- Energy, dwelling and transport. The resulting alternative scenarios will be shared widely with citizens, institutions, academics and students in a bid to make public and to politicise the question of society's needs in terms of knowledge. By creating a discussion around the Horizon Terre project and the main issues it raises (which orientations and methodological approaches to take, and themes to prioritize), this paper aims to contribute to the debate surrounding the need for an integrated research regarding a society facing major environmental, social and health challenges.

#### Alternative STS for an alternative world: learning from pandemic practices

Claudio Coletta (Università di Bologna, Italy)

As scholars of Science and Technology Studies, we have rarely witnessed a massive deployment of STS at work, such as during the Covid-19 pandemic. It is like the whole epistemological archive of the last decades erupted worldwide, making visible at once and to everyone the scientific controversies, the construction of lay and expert knowledge, the laboratories and their actor-networks, the epistemic cultures and communities, the categorical work, the bodily and socio-material practices, and all the components that feature the field. It does not seem possible anymore to study the phenomenon with an "STS perspective" because STS themselves are fully embedded in the collective and painful experiment we are living in. Following up recent attempts in this sense, I aim to disentangle empirical, theoretical, and methodological matters from the STS and Covid-19 interferences: what could STS learn and/or borrow from the pandemic practices in terms of theorizing? How do we produce alternative versions of existing concepts? What methodological possibilities open up? Rephrasing Suchman, the inscription of STS analytical tools in pandemic practices transforms the debate into a contest over how our scientific community is ordered, how STS can offer, recognise and approach alternatives. The paper starts looking at how the Covid-19 outbreak put at the test two specific streams of STS: Repair & Maintenance Studies and Laboratory Studies. To do so, the empirical part focuses on the lockdown and tracking practices adopted in different European and Asian countries to manage the outbreak. I will finally reflect on the methodological value of analogy in STS thinking, in order to make sense of planetary matters of concern. The paper ends by proposing covid-revised versions of STS concepts such as care, fragility, and breakdown.

JUNE 17th, 18th, 19th

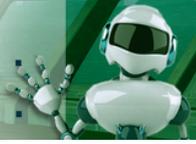


Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 15

### Alternative science and technology: theories and practice

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

#### **Making 'good food' practicable. The reconfiguration of alternative food provisioning in the online world**

Alice Dal Gobbo (Università di Trento, Italy), Francesca Forno, (Università di Trento, Italy), Natalia Magnani (Università di Trento, Italy)

Food production, distribution and consumption are key nodes in the contemporary phase of systemic and multifaceted crisis: they are necessary dimensions of existence and simultaneously exposed to a number of fragilities (both ecological and social). The reconfiguration of unsustainable systems of food provisioning is thus a priority, geared towards resilience, ecology and equity. Although Alternative Food Networks have been interrogating these issues since long time, a debate is emerging on whether digital platforms might promote food sustainability by enabling shorter distribution chains, organic and fresh food availability, waste reduction, peer-to-peer sharing, etc. Yet, an in-depth interrogation of the ways in which digital food consumption becomes part – if at all – of everyday routines is largely missing. The extent to which digitalisation of food consumption actually promotes sustainable food practices in daily life thus remains to be addressed. Also, one needs to interrogate the practical, ideological and affective reasons that support (or else prevent) people's engagement with food platforms. In this article, we start from a practice approach to investigate the extent to which online food provisioning helps people integrate 'good food' into their routines. Further, we investigate the politics and subjectivities that different types of food platforms embody. Of a larger data set, this article focuses on 23 in-depth ethnographic and multimedia interviews with consumers living in Milan, who utilise online alternative forms of food provisioning. Our aim is to investigate the meanings and material conditions informing platform use and the opportunities that it opens for more sustainable everyday food practices.

#### **After the (green) revolution, the (ecological) restoration: scientists, peasants and ants in Pontal do Paranapanema - Brazil**

Daniel Delatin Rodrigues (Università di Milano-Bicocca, Italy)

This article aims to discuss the practice of ecological restoration in a rural settlement in the region of Pontal do Paranapanema, located in the west of the state of São Paulo, Brazil. Inspired by the distinction between "royal" and "nomadic" science development by Deleuze and Guattari and by the conceptual tool of "ecologies of practices" of Isabelle Stengers we wanted discuss the different types of ecological restoration practices as a mode of composition of situated socio-natural assemblages. Restoration will be approached as an agencement of ecological and socio-technical practices, whose operation is accomplished through the combination of different forms of knowledge production ('scientific' and 'traditional' knowledge) and heterogeneous agents (inorganic, chemical, human and non-human). Working simultaneously as a technique of recomposing soil and local biodiversity, as a political organization of rural settlers and as a system of socio-economic production based in agroecological techniques, the case of Pontal show a experimental efforts – in a universe of social reproduction marked by vulnerability and precarity – to confront the hegemonic model that orient the practice in Brazil. The history of ecological restoration has a political-conceptual continuity with the techniques created in the period of agriculture modernization (end of 1950). This aspect is important because it allows us to distinguish the restoration approach based on agroecology and those linked to large property and agribusiness that would be better characterized as techno-ecological restoration. The distinction between both – considering what kind of composition are produced by the entanglement of sociotechnical materials – show different trajectories to produce spaces of human-nonhuman socialities. The paper is based in a fieldwork made by the author from 2014 to 2016 and from a review on literature on ecological restoration and agriculture in Brazil.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 15

### Alternative science and technology: theories and practice

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

#### Permaculture as a politics of matter

Andrea Ghelfi (University of Nottingham, UK)

The new peasantries can be understood as transition processes toward forms of living in which self-subsistence and ecological care are inextricably intertwined. The desire of an embodied, dirty, material relationship with the land meets permaculture, organic, bio-dynamic, regenerative agriculture: the peasant returns bring with themselves the experimentation of alternative politics of matter. By seeking different material circulations and channels of involvement, permaculture enacts alternative possibilities of human-soil-food relations. In the course of my presentation, I introduce permaculture as a more-than-social movement of ecological transition, as a set of eco-sharing practices and as a lure for thinking what 'mending ecologies' could mean in more than human communities.

#### SARS-COV 2 and the probiotic turn

Giampietro Gobo (Università degli Studi di Milano, Italy)

The SARS-COV 2 virus, like many other viruses and bacteria, has been portrayed as an 'enemy'. However, we have gone far beyond Schmitt's concept of 'enemy', which meant not an adversary in general, but essentially (in a particularly intensive sense) a foreigner and an otherness. Hence, for Schmitt (1927) the enemy is never "personal" (inimicus), but always "public" (hostis). Unlike, the SARS-COV 2 would be both! What if the metaphors ('enemy', 'aggression', 'war'), used to explain the virus' agency and the recent pandemic, were misleading? In recent decades, we are witnessing a "probiotic turn" (Lorimer 2020), a paradigm in which scientists and managers are working with biological processes to improve human, environmental, and even planetary health, pursuing strategies that stand in contrast to the "antibiotic approach", delivered by Big Pharma, extreme hygiene, and industrial agriculture. This new paradigm frames viruses and bacteria as partners in our evolution. In fact, human beings would be "symbionts": they live through a myriad of viruses and bacteria that they have in the organism (in the stomach, in the mouth, etc.), and which even affect their way of thinking. In fact, some bacteria produce  $\gamma$ -aminobutyric acid, which conditions the activation of brain centers. Or, when the skin peels, we have the presence of the papilloma virus. Therefore, living beings only in appearance are a worm, a deer, a human; in reality they are a population, a sociality, organisms that have developed gregarious behaviors in order to survive, that necessarily have a relationship with other living organisms (even if they do not necessarily take mutual advantage of life in common). Hence, to argue that viruses "attack" is misleading, in the sense that they come and go in/from the host's body and many of them are absolutely beneficial. This reflection was already partly present in the nineteenth century, when Bernard (1813 - 1878) and Béchamp (1816-1908) opposed Pasteur (1822-1895), who hypothesized that the diseases were due to germs. They thought that the disease developed only when it found the "fertile" cellular soil (in the sense of a sick body). In other words, the real cause of the disease was not the pathogens (which are always around) but the host (the environment) who became vulnerable due to an inappropriate diet and lifestyle. Hence, the pathogens are not the cause, but the result of the disease; denying that bacteria (which are always around) could attack a healthy animal and cause disease. Re-thinking about a different configuration of viruses, bacteria and human beings, in a non-dominative and non-instrumental relationship with the world (and themselves), does not necessarily lead to an "alternative science", but to a widening of the currently dominant science. In other words, an "other" science does not necessarily mean an "alternative" science.

JUNE 17th, 18th, 19th

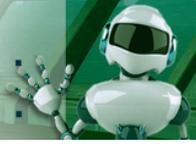


Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 15

### Alternative science and technology: theories and practice

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

#### From personal science to P2P science - Alternative pathways challenging self-experimentation towards knowledge commons

Enric Senabre Hidalgo (Université de Paris, INSERM U1284, France), Morgane Opoix (Université de Paris, INSERM U1284, France), Mad Price Ball (Université de Paris, INSERM U1284, France), Bastian Greshake Tzovaras (Université de Paris, INSERM U1284, France)

Personal Science approaches - the practice of individuals using empirical methods to answer questions related to their own lives - are a not-yet-widely studied phenomenon that is leading to alternative forms of agency and knowledge production. Individuals engaging in self-tracking activities can lead to intensive and extensive self-research regarding oneself. Largely driven by the technological possibilities of "quantified self" approaches in recent years - connecting new types of wearables with patient-led and inquiry-led communities of practice - we observe how the boundaries between expertise and value of this type of practices have the potential to go beyond mere self-tracking for personal health and wellbeing. These n=1 personal "case studies" can be starting points for bottom-up collaborations with academic researchers that involve all stages of scientific activity (as "extreme" citizen science), as well as collaborations between personal scientists occurring entirely outside the traditional academic research community. Based on a two-years extensive action research and community building process around the Open Humans initiative, we consider the implications of personal science as the basis for wider commons-based peer production in citizen science contexts, in parallel to key aspects of data and knowledge sharing. Our experience and advances in participatory case study settings, where personal scientists share their research processes and tools and learn from each other, also lead to questions we want to address for future scenarios regarding the potentially wider palettes of qualitative methodologies in such contexts, as well as the possibilities of translating these emerging forms of scientific collaboration to more formal research in health, well-being and other fields. These practices are relevant to the relationship between the alternative research culture of personal science and current challenges in sustainability of traditional research, as well as our relationship with natural and technological ecosystems.

#### Fighting Procrustes: moments of resistance in academic minds, identities and career choices

Karen Kastenhofer (Austrian Academy of Sciences, Austria)

In conventional STS analyses, accounts of controversy, denial or resistance are mostly made sense of as an indicator of explicit or implicit rules that actors react to. The focus is on the persisting hegemonies, prevailing paradigms and normative powers exerted in the academic field and these are thus reconstructed. Reversing the analytical gaze, one can also make sense of such accounts as traces of alternative paradigms, alternative choices of identity, career and academic sociality. The presented paper will make use of existing empirical material - interviews, field notes, documentary analyses, participatory observations - from a technoscientific context (systems biology as practice, identity, collectivity and interagency) and highlight moments of resistance and hints at alternative (techno)epistemic cultures depicted therein. It will also ask about the alternative spaces these moments of resistance are located in, build upon and co-create. More generally, it will raise the question to what extent and at which costs contemporary innovation systems provide for or tolerate alternative (techno)science, including alternative practices, paradigms, identities and collectivities - in short: how the conventional and the heterodox relate to each other in the current technoscientific academic regime. To do so, the co-existence of two contemporary phenomena is proposed: an increasing, centralized convergence of various scientific and engineering disciplines within a transnational technoscientific innovation regime on the one hand and a fragmented, mostly individualized way of circumventing the powers exerted by this regime on the other hand. It will be put up for discussion what the options for a collectivization of local, individual acts of resistance in the contemporary constellation are.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

TRACK 15

**Alternative science and technology: theories and practice**

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

## **Mind and life institute and the re-creation of being human**

Ana Cristina O. Lopes (Stanford University, USA)

Over the past few decades contemplative practices, and mindfulness meditation in particular, have become the object of a number of scientific investigations. These experiments have paved the way for their application in contexts as diverse as medicine, psychology, education, business management, and popular culture. This steady and powerful penetration of contemplative practices into different domains of Western societies is engendering what could be called a "globalized contemplative science," which could lead to a deep transformation in the way we understand our highest potential as human beings and what it means to lead a fulfilling life. In this presentation I investigate how these notions of human flourishing and well-being are changing in light of the impact that scientific research on contemplative practices and its diverse applications has had on contemporary societies. I will do so by discussing the activities of the Mind and Life Institute, a pioneering organization created by the Dalai Lama, the neuroscientist Francisco Varela and businessman Adam Engle that fosters dialogues in a variety of settings between scientists and representatives of Buddhist traditions, and is also a partner with major scientific research institutions in the world. In particular, I will present the result of the ethnographic research I recently conducted at the symposium "Beyond Confines - Integrating Science, Consciousness and Society" organized by Mind and Life Institute Europe. The general topic of this symposium addressed precisely the challenges in integrating the scientific knowledge generated over the years by the study of contemplative practices into different domains in our societies. I believe that a social research study about Mind and Life Institute and the scientific experiments associated with it would add to other studies in the field of science and technology studies by bringing into the fore the direct encounter between two complete and distinct systems of knowledge – Buddhism and science.

## **Il futuro come scienza (dell'Altro). La Causal Layered Analysis.**

Claudio Marciano (Università di Torino, Italy)

Da circa settanta anni il futuro costituisce un oggetto di studio transdisciplinare. Fattori economici, ecologici e politici di portata globale, come il riscaldamento globale, hanno ispirato i lavori di sociologi, filosofi, matematici, il cui obiettivo era quello di ridurre l'incertezza e sollecitare un'inversione di marcia. Se nell'arena delle policy i cosiddetti "futures studies" sono stati accolti e riconosciuti come approcci utili per la pianificazione economica e politica - il Joint Research Center della Commissione Europea ha dedicato, di recente, un apposito dipartimento al loro sviluppo - in ambito accademico sono stati finora sostanzialmente ignorati o criticati per alcuni fallimenti empirici a breve termine. Negli ultimi anni, grazie all'opera di diversi autori, si è tuttavia raggiunta una sistematizzazione degli assunti teorici e dei metodi di ricerca. A modelli che utilizzano calcoli probabilistici e inferiscono tendenze ricorrenti nell'analisi dei dati, si affiancano sistemi qualitativi basati sull'analisi del discorso e sulla facilitazione nell'interscambio di conoscenza tra diversi attori sociali. Il futuro diviene pertanto il terreno concettuale di un'esplorazione normativa, tesa a costruire, più che prevedere, diversi possibili e preferibili futuri. In questo ambito, una riflessione particolarmente interessante è quella compiuta da Sohail Inayatullah, che rileva come la produzione di immaginari sul futuro sia fortemente condizionata dai pregiudizi di classe, genere, religione, e che sia utile applicare alcuni concetti propri della riflessione post-strutturalista e post-coloniale - come quello di genealogia, di de-costruzione o di circuito di ricerca - per democratizzare la previsione sociale. La sua proposta operativa, chiamata "Causal Layered Analysis" (CLA) prevede la composizione di gruppi di elaborazione fortemente eterogenei, a cui viene richiesto di ricostruire un problema attraverso quattro livelli di analisi, dalla "litania" - il senso comune socialmente costruito dai media - fino ai "miti" - gli archetipi latenti che reggono le costruzioni sociali stesse. La CLA diviene pertanto uno strumento di confronto/confitto che prova a espandere la rappresentazione sociale del futuro a chi solitamente non ha voce, così come a rendere più esplicite le logiche esclusive e selettive del discorso più egemonico. Nell'ambito di un dibattito sulla scienza alternativa, si propone una riflessione critica sui futures studies, in particolare, il racconto di alcune pratiche di CLA su temi attinenti la sostenibilità urbana, come i) esempi di produzione della conoscenza tra accademia e altri campi sociali ii) come approcci dotati di scientificità eppure difficilmente inquadrabili nei criteri di riproducibilità, generalità e misurabilità del metodo scientifico "tradizionale" iii) come pratica culturale cooperativa, tesa a democratizzare il discorso sul futuro attraverso il confronto tra aspettative e appartenenze profondamente diverse.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 15

### Alternative science and technology: theories and practice

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

#### **Beyond 'technology': the material politics of alternative infrastructures**

Fredy Mora-Gómez (Linköping University, Sweden)

This paper argues for a line of inquiry within STS and social movements studies around the notion of material politics, everyday experience and non-institutional orders. Drawing on multisited ethnographic inputs, I describe sociomaterial arrangements of cooperation developed by social movements and their coexistence with post-conflict reparation in Colombia and governmental humanitarianism in Greece. Thus, I follow material practices of sewing and commemorating by transforming objects (not necessarily technologies) into forms collective support and political contestation. I build on the Mobile Commons manifesto to describe the exchanges within social movements of migrants. Taking a step further, I develop the role of everyday materiality in the production of contents, practices and affects and the ways in which material transformations also enact infrastructural orders. I describe how these orders challenge the restrictions of governmental management infrastructures and their instituted boundaries. Due to their origin in spaces beyond governmental technologies and infrastructures, I address these orders as alternative infrastructures, without denying its possible interactions and intersections with instituted orders. In resonance with the existing literature, I argue that material literacy is crucial in the configuration of alternative infrastructures. However, I empirically reveal how contestation brings specificities to social movements facing distinctive management orders in Europe and abroad. I suggest the necessity to explore an overlooked angle by citizenship studies and STS. It engages with the objects and relations embedded in the materiality of everyday life exceeding traditional (and colonial) notions of technology, and its politics challenging the boundaries of instituted orders.

#### **Schools of tomorrow: an inquiry into alternative education and knowledge transformation**

Cristina Popescu (Bielefeld University, Germany)

This communication offers not only an inquiry into the possibility of 'another' science, but also into the possibility of 'another' education, and the relation one could establish between them. It is indeed important to reflect on the way in which science is organized, its goals and methods today. Nonetheless, the forms and the mechanisms of its communication and dissemination are more than ever important during a 'post-truth' age, and period of reordering of legitimacy in knowledge production (Jasanoff, 2004). Additionally, education is here understood "as the process of forming fundamental dispositions, intellectual and emotional, toward nature and fellow men" (Dewey, 1916, 328), and therefore considered as having a transformative role towards a more sustainable world. In methodological terms, the relation between science and education is illustrated through two qualitative case studies: (1) the first one pays attention to the manner in which the 'black-box' of the academic work is opened through exceptional learning events, most often initiated by academics themselves and located in alternative educational spaces, that bring together art and science and test new ways of teaching and learning under a utopian model, e.g. the projects 'Making Futures School' (2019) or 'Schools of tomorrow' (2017-2019); (2) the second one refers to the 'ordinary' understanding of science in higher education, and introduces a University experimentation, or 'attempt' (Deligny, 2007, Krtolica, 2010) to make the functioning of (social) science more accessible during the learning processes, while developing a more learner-centred education. These alternative ways of manufacturing education aim to renew the objects of traditional education and its standardizing practices. They look into ways to make the results of the academic work accessible and therefore move from school environments highly oriented towards performance, that stress "the importance of schooling for both national economic development and individual mobility" (Carl, 2009), to new forms of education more suitable for learner's individual achievement or fulfilment, that increase the meaning of the community-making within a troubled world.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 15

### Alternative science and technology: theories and practice

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

#### Being alternative from within: the case of metagenomics

Roberta Raffaetà (Libera Università di Bolzano, Italy)

Metagenomics is the study of microbial communities in their natural environment, made possible since about a decade by the massive and parallel sequencing of a great number of microbial genomes at the same time. Metagenomics' epistemic practices are rooted in the traditional molecular approach, considered by many (see Keller 2000) as reductionist because mainly focusing on genes and genomes while ignoring broader environmental interactions. At the same time, metagenomics opens to an ecosystemic understanding of biological processes (Kelty and Landecker 2019) because microbes are mobile and polymorphous entities that connect bodies with environments and because metagenomics' object of study are communities of microbes and not singular microbes. In my presentation, I will illustrate the ontoepistemic but also biographical tensions, frustrations, challenges and aspirations of metagenomic researchers in bridging the micro scale of microbes with the macro scale of the larger environment outside the molecule. My presentation will draw on my long-term ethnography (2014-2020) across Italy and California on how researchers create knowledge about the microbiome. My argument is that metagenomics has the potential to ally with social sciences and others' efforts to imagine a science done 'otherwise', even if from within and through its specific logic. An ethnographic analysis of metagenomics mitigates and represents a challenge to polarized and dichotomous views between techno-science's enthusiasts and its discontents and opens ways to productive, even if experimental, interdisciplinary collaborations.

#### 'Let the river also live': The ram-pump as an alternative paradigm for science and technology

Punit Singh (Indian Institute of Science, India), Baliram Nag (Chhattisgarh State Renewable Energy Development Agency, India), Nithyanand Rao (University of California San Diego, USA)

We present an empirical case study of an ongoing small-scale hydro-power and irrigation project to meet the needs of a village in Bastar district of Chhattisgarh state in central-east India, in collaboration with its Adivasi (indigenous) residents. In an area with dense forests rapidly being brutalized by large-scale dams and mining, the ram-pump offers a hopeful vision of an alternative, non-exploitative technology that does not displace people and lets the river also live, in alignment with Adivasi cosmology. The ram-pump, also called the hydraulic ram, is a mechanical pump that runs by drawing a small part of the energy of the flowing water. It can pump water, even uphill, for irrigation, and/or drive a turbine for generating electricity for local usage. First developed in the 18th century in Europe, the ram-pump is now used in many places throughout Asia and Europe where low-head hydropower is appropriate. It is an example of the circulation of technology between the global North and South, and this particular project is being executed with German collaboration. Because of the open-source design and the small market, a customized ram-pump and turbine can be locally fabricated, thus opening up the possibilities for, at once, de-centering expertise and innovation, thinking outside the frontiers-of-science framework, and sidestepping the ideologies of standardization, growth and accumulation. A project of this nature has its challenges, allowing us to interrogate, from an Indian perspective, academia's norms of research agenda and evaluation practice, as well as its social positionality.

Drawing on over four decades of practice of "appropriate technology" at the Indian Institute of Science, Bangalore, this project, with its frugal device, is only one element of an alternative vision of socio-material relations where people are in charge.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 15

### Alternative science and technology: theories and practice

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

#### Open Science as an alternative science

Stefan Reichmann (Graz University of Technology, Austria), Bernhard Wieser (Graz University of Technology, Austria)

Open Science promotes a new way of science. This involves the inclusion of non-academics in processes of knowledge production, transparent forms of peer review and quality assessment as well as free and open access to research outputs. With this agenda, OS opposes predominant elitist, closed, and inaccessible forms of science. There is a broad consensus in the OS literature why an alternative – more open – form of scientific practice is favorable. These reasons include higher epistemic quality of research outputs, greater justice and social welfare in the utilization of scientific knowledge and even equal opportunity to all who seek to contribute or benefit from scientific knowledge. Moreover, OS promoters frequently declare their commitment to the global sustainability goals and seek to meet the challenges of our times. It is argued that OS is potentially relevant for many different domains and may affect the relationships between academia, industry policy and civil society (cf. Carayannis et al. 2009; Schütz 2019). Our research aims to demonstrate how OS practices counter cumulative advantages in academia, enhance and stimulate innovation, provide accountable evidence for policymaking and allows citizen engagement (ON-MERRIT 824612). Presenting first findings of our ongoing research, we go beyond the review of the endorsed intentions of OS. With our analysis, we propose instead to look at the effects of OS practices. Here we focus on the uptake of scientific expertise in policymaking processes and more specifically discuss available evidence regarding the role of OS in this context. In such a way, we aim to contribute to the broader discussion on how an “alternative science and technology” might look like.

#### Inside the « System » : (Feminist) Alternatives to Mainstream Obstetrics in Post-May 1968 France

Sezin Topçu (CEMS-CNRS-Ehess, France)

Many problematisations at the heart of the current denunciations of ‘obstetrical violence’ or ‘fordist’ birth practices were framed as such in post-May 1968 France. Such criticism was fueled by (i) the popularisation of Leboyer’s method (‘birth without violence’), and the strong controversy it generated between advocates of ‘science/security’ vs. ‘nature/respect’, (ii) the institutional turn of 1972 in favor of ‘big’ maternity units; (iii) and the more general criticism of medicalisation and of medical authority specific to the period. The movement of contestation of official obstetrics, albeit heterogeneous, was led first and foremost by dissident doctors who experimented what they named ecological or alternative birth in few maternity hospitals. Drawing on archival work as well as interviews conducted by pioneers of ecological obstetrics, in this paper I analyze the reasons behind the gradual de-radicalisation of such experiences inside the «system». I insist in particular on 3 issues that concern the ‘actors’, the ‘geography’ and the ‘public’ of alternative science. Regarding the actors, the fact that alternative practices were innovated and experimented by mostly male doctors without being accompanied by further politization of the field actors (especially the midwives) constituted a limit to its diffusion. Regarding the geography, the fact that such alternatives were designed to be practised inside the «system» (i.e. within hospitals only) represented an important fragility as exigencies for birth security expanded over time and threats for a shutdown of these places became systematic. As a result, many medical protocols, practices and products entered into the so-called alternative maternity hospitals, which blurred the frontiers between alternative vs. official science. Finally, the ‘public’ of alternative obstetrics, i.e. the women, and in first place the feminists, were too reluctant to adopt them until 2000s. The most influential figures of the 2nd wave feminist movement even accused them to be anti-feminist and machist, as their efforts were seen as a problematic return to essentialist representations and control of the female body.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 15

### Alternative science and technology: theories and practice

Convenors: Luigi Pellizzoni (Università di Pisa), Laura Centemeri (CNRS)

#### Alternative needs: reflecting on the promises of technological novelty

Harro van Lente (Maastricht University, The Netherlands)

STS has challenged the standard notion that technology is developed to fulfil pre-given needs. Empirical studies show that when technologies are promised, developed and used, many things change in the same movement, including needs and, eventually, rights, when new needs have become self-evident. The malleability of needs raises important questions about how novelty and needs are co-produced and whether such changes can be anticipated. Also, when needs are not pre-given, but dependent upon socio-technical configurations, and, in fact, both cause and effect of technological change, the question emerges what desirable directions are. What are the options for alternative needs? This paper will address this question in two strands. The first is to review how theoretical of technical change represent the role of needs. Here, I distinguish between evolutionary economic theories, socio-historical theories and management theories. In the second part of this paper I will investigate the contested case of space tourism and the various ways in which new needs, desires and rights are mobilized. Space tourism is not yet seen as a need, but that may change in due course. Several operators now offer space travel for private persons, or, at least, promise to organize such travels on a regular basis in the near future, with dropping costs. In their attempts to define and inhabit the prospective market for space tourism, these operators bring forth particular visions of the future of space tourism and why people would need it. In this case study I will investigate the unfolding of needs and the mobilization of publics in space tourism. Data are drawn from newspaper articles (2010-2020), websites of operators, popular books on space travel and governmental documents.

#### Artistic Research as Academic Borderlands

Lenka Veselá (Brno University of Technology, Czech Republic)

Following the Bologna Accord (launched in 1999) and its introduction of a three-cycle system of higher education, doctoral degree programs for artists started to emerge around Europe, and this has raised questions regarding the nature of epistemic contribution of art practice: what kind of knowledge does art-based research produce and how does it fit within established standards measuring quality of research in traditional academic disciplines? Artistic research can be said to be situated between art and research, between practice and theory, between singular and specific methods. Academic artistic research can also be said to be torn between conformity to academic standards of knowledge and disrespect for them. I examine this capacity of artistic research to challenge the hierarchies and conventions of academic knowledge in terms of decolonization. Building on Gloria Anzaldúa's concept of Borderlands (Anzaldúa, 1987), I consider the in-between position of artistic research in order to open up the question of coloniality of academic knowledge: what kind of Borderlands are we dealing with when it comes to artistic research split between the academic and the avant-garde? And how are rigid delimitations of academic disciplines related to walls and fences on the borders of nation states and how are both constitutive of hegemonic forms of power? Drawing on the history of artistic research spanning experimental practices of avant-garde artists who developed new means of investigation and representation as part of revolutionary struggles and in order to promote social change, I think about how the present-day form of academic artistic research can become a frontier where decolonial struggles take place. Borderlands forming around borders guarded by academic gatekeepers are different from those patrolled by armed military force but they are linked through interconnected systems of power-knowledge nevertheless. Declaring artistic research as academic Borderlands marks the importance of investigating these connections and engaging in struggles to undo and unlearn imposed borders.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 16

### Doing research in technoscience as affective engagement

Convenors: Silvia Bruzzone (Mälardalen University), Michela Cozza (Mälardalen University), Lucia Crevani (Mälardalen University)

#### **Blood Lines: Notes toward investigating affective-discursive entanglements of knowing and being through Canadian blood donation practices**

Tyler Anderson (Queen's University, Canada)

Who counts as human and how is this determined? For some these questions have been turned into unbounded ontological and epistemological debates, while for others they strike at the bodily level (Butler, 2004). Blood, as a natural technology of the body and meaning-making referent, speaks loudly about the entangled natures of knowing and being (Fraser & Valentine, 2006). It flows between our highest and lowest points where its curious material and discursive significance can affirm highly situated and embodied subjects, as well as those who become pathologized or condemned (Waldby et al, 2004). Blood is affective; the intense wave of 'giving life' (Shildrick, 2015). Blood is material; its flow allowed these words (Atkins et al, 2017). Blood is discursive; blood quantum that decide racial 'purity' (Hill, 2013). As an object of study in a Feminist STS tradition, blood is a fierce material and abstract signifier that demonstrates importantly how the Actual is always more than itself and how complex processes of understanding tend to become flattened into discrete Things to be acted upon, and how these objects of knowledge are made to speak some sort of Truth to being. This presentation puts forward how these epistemological tensions can be meaningfully addressed by tending to affect. Inspired by a close reading of Donna Haraway and Hasana Sharp, this presentation will explore and expand on a methodological approach that engages affect and how reading for it challenges anthropocentric reasoning, bounded individualism, and human exceptionalism. After briefly outlining the particulars of this method, this presentation will offer how tending to affect in the case of blood donation is also a way to meaningfully engage with questions of power and resistance. We are not separate from the worlds we seek to make and understand (Barad, 2007), and to tend to affect is to take this seriously.

#### **Bio-medicine, patient and researcher, a relational triangulation / an emotional triangulation**

Lucia Candelise (Université Paris 1 Panthéon-Sorbonne, France)

The doctor / patient relationship was a central subject for the anthropology of the Harvard school in the 1980/1990s (Lock & Scheper-Hughes 1987, Good 1993, Kleinman 1997) and it continued to occupy many socio-anthropologists in the decades to come (Lock & Nguyen 2010, Mol 2009...). In this context, it was particularly questioned the opposition between biomedicine and patient experience. Moreover, following the trend of the 'reflexive turn', a number of anthropologists began to consider the value of emotions and affects in the field research (Davies & Spencer 2010, Hsu 2006 & 2012). Based on the experience of collecting data as part of a research project on cancer patients outside the hospital walls (funded by French National Cancer Institute and entitled: "Social environment of outpatients. Social inequalities and socio-technical networks"), my idea would be to reflect on the emotional issues around the socio-anthropology survey in a biomedical environment. In other words, it would be a matter of analyzing the triangulation (Olivier de Sardan 2015) between biomedical context (hospital, oncologist, surgeon, nurses), patient and researcher in terms of affection and emotions. What then is the role of the researcher involved in the investigation? What relationship does he-she build with the patient? Since in the eyes of the patients he-she represents science, but a "different" science than that which took charge of his illness, what motivations and what expectations come into play in the patient / researcher relationship? What then is the role of the researcher involved in the investigation? What relationship does he-she builds with the patient? Since from the patient's point of view he-she represents the 'science', but a 'different' science than that which have cared his-her illness, what motivations and what expectations come into play in the patient / researcher relationship? My intervention is based on an exploratory research in which, by a reflexive posture, I question the agency of the investigation at the margins of its data production for a multicentric research project, by putting at the center of the analysis an epistemological reflection on affective implication and emotional meetings.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 16

### Doing research in technoscience as affective engagement

Convenors: Silvia Bruzzone (Mälardalen University), Michela Cozza (Mälardalen University), Lucia Crevani (Mälardalen University)

#### **Cyborg-academics: creating new affective spaces at the neoliberal academy**

Alejandra Corvalan-Navia (Universidad Andrés Bello, Chile), Javiera Garcia-Meneses (Pontificia Universidad Católica de Valparaíso, Chile)

Today's neoliberal academy perpetuates an androcentric and traditional view of what it means to be a researcher (Harding, 1996). This view has conceived research as a merely rational and objective activity (Clegg, 2013), which, combined with the managerial rhetoric of efficiency (Gill, 2009), has constructed a specific academic ideal within research spaces (Huopalainen & Satama, 2019). This academic ideal has been defined as a highly productive, competition-oriented, free, and independent male body (Acker, 1990). In this context, women academics have experienced the academy as foreigners (Martínez, 2015). This foreigner's position is constructed and reaffirmed daily by the affections that move between the (non-) human bodies that constitute the academy (Gherardi, 2018). Indeed, affects are nested in scientists' bodies, allowing or limiting the deployment of certain actions, thus determining their political and social value within the university spaces (Ahmed, 2014). This presentation intends to highlight the importance of generating collective-affective reflection sites where women scientists can experientially (re)encounter themselves with the binary ontologies and epistemologies building the neoliberal academy. We propose that these affective-reflexive spaces create new interstitial sites within scientific research, including marginalized voices, thus promoting linguistic and non-linguistic representations that articulate lived experiences and open possible and innovative routes within the socio-material entanglements involved in research (Gherardi et al., 2017). We carried out an autoethnographic-feminist experiment that blends the methodological proposal of Collective Biography (Davies & Gannon, 2006) and the Cyborg College technique (Smith, 2009). The Collective-Cyborg-Biography is constituted as a tool for individual and collective exploration around mobile and never essential identities (Haraway, 1991). The findings show that working with memory and narration, together with creating a collage that materializes these aspects, allows inhabiting the tensions and fissures of the neoliberal academy, making possible the emergence of new onto-epistemological worlds possible for women in science.

#### **Wild Woman (2020), disrupting the disembodied researcher: the personal essay film as feminist research methodology**

Anna Joos Lindberg (University of Manchester, UK)

Haraway writes, 'Perhaps our question, as scholars who professionally read and write about cultural and bodily difference, is not so much how we can get out of the field as how we can get into it'. Permeated by this concern, this study disrupts traditional distances between researcher and informant by employing the sensory faculties of filmmaking as opposed to those of text. Namely, *Wild Woman* comprises a study conducted 2019 on women's animist practices amongst horses in a remote corner of the Swiss Alps. While I, on an instrumental level, found that this neo-spiritual search for self-understanding largely consisted of native-Swiss women, the field started making demands on me as a woman, on a personal level, when attempting to understand the inner workings of the field. This study thus challenges the researcher-informant dichotomy which, in this case, was key to understand this animist practice that called subject-object divides into question.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 16

### Doing research in technoscience as affective engagement

Convenors: Silvia Bruzzone (Mälardalen University), Michela Cozza (Mälardalen University), Lucia Crevani (Mälardalen University)

#### Careful engagements in EU environmental policymaking: care, uncomfortable knowledge and (non-) intervention

Thomas Völker (University of Bergen, Norway), Zora Kovacic (University of Bergen, Norway), Roger Strand (University of Bergen, Norway)

In recent years STS scholars have directed attention to the idea of 'care' in technoscience (Mol, 2008; Puig de la Bellacasa, 2011, 2012). In policy- and decision-making contexts this has been described as an alternative to engagements framed in terms of a logic of choice that focuses on one-time engagements for the sake of making decisions based on sound scientific evidence (speaking truth to power). In contrast, care-oriented approaches emphasize the need for continuous long-term engagement between heterogeneous actors. This shift is especially important given the complexity of contemporary problems and the uncertainty of scientific knowledge claims in situations in which there are no clear-cut options to choose from (Funtowicz and Strand, 2007). In this talk we draw on data gathered in the H2020-funded project "Moving Towards Adaptive Governance in Complexity: Informing Nexus Security" (MAGIC) to reflect on our experiences of engaging with EU policymakers. In this project we used an approach called Quantitative Storytelling (QST) to critically and collaboratively analyse policy-narratives and their (quantitative) premises and assumptions in the case of the water-energy-food nexus. In a range of interviews, group discussions and workshops our interdisciplinary team raised unwelcome questions without clear-cut answers and discussed issues that undermined assumptions of action-oriented institutional practices. How to make sense of this (often contentious) practice with and within EU institutions? Bringing together literature focusing on logics of care with Steve Ranyer's "uncomfortable knowledge" (Rayner, 2012) and the Daoist notion of wuwei - non-action - we argue that in order to establish careful engagements it is necessary to move beyond a essentialist and static idea of the so-called "science-policy interface". Rather, following a logic of care, we propose to frame our work with EU policymakers as moments of "intervention" and "non-intervention" and ask for the politics and ethics of (non-)intervening.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 17

### **Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza**

Convenors: Flavio D'Abramo (Max-Planck-Institut für Wissenschaftsgeschichte), Gerardo Ienna (Università di Verona)

#### **An epistemology for scientific disagreement**

Federico Boem (università di Firenze, Italy)

The pandemic known as COVID19 has clarified how public health policies constitute a central element for the future of human societies, from different points of view. Public health policies focus not only on practical-political needs (e.g. ensuring citizens' health) but also on moral needs (e.g. health is a value) and epistemological questions (e.g. what shared knowledge is). In fact, devising effective policies requires first of all not only relying on reliable data and models (ie the so-called evidence based policy) but also ensuring that these policies are democratically accepted, shared (e.g. considering the cognitive dimension but also social aspects) and, hopefully, the conclusion of a deliberative process involving experts from various fields alongside citizens. On the other hand, it is increasingly clear that the translation of scientific evidence into policy implementation rules is not a linear path. Rather, it is often tortuous, with many different levels to consider, which are often difficult to reconcile for the different assumptions adopted or for the different purposes desired. Public health policies therefore constitute a perfect (and perhaps obligatory) laboratory for investigating the relationship between scientific knowledge, its epistemic justification and its ethical dimension, in relation to the democratic order. In this context, philosophy of science represents a fundamental component in providing for the creation of a shared knowledge space. On the one hand, in fact, philosophy can help to situate scientific knowledge in its specificity but also in relation to other types of knowledge. On the other hand, this perspective appears necessary to be able to convey the content of scientific research in a more adequate form but also to make the researchers themselves aware of the other aspects of the problem (the ethical-value one obviously, but also the social, political, economic one, etc. etc.) also putting them in fruitful communication with other experts from other disciplines. This work therefore aims to build an epistemology for scientific communication with the intent both to make public understanding of science more adequate and to modify the image and scientific narrative in order to make it less prone to stereotype and conflict.

#### **Microbial epistemologies amidst antibiotic production, antibiotic resistance, and health diplomacy**

Flavio D'Abramo (Max Planck Institute for the History of Science, Germany)

Scientific, technological and industrial enterprises transform the lives of people and their social and material environments on the planetary scale. These massive transformations have been named the Anthropocene, a term that is also a proposal for a new geologic epoch. The contested global identity that the Anthropocene implies, often justifies the mitigation of global disruptive effects caused by industrial activities with the same logic that has produced these effects, that is with industrial innovation. Activists and critical scholars have widely criticised this approach. In this article, I analyse the example of antibiotic resistance, that is the resistance developed by bacteria that allow us to exist, against products of industry to scale up food production or cure diseases. The bacteria 'naturally' create mutations to resist antibiotics and transmit these mutations through horizontal gene transfer, also within our bodies. I show that even if antibiotic resistance can be conceived as universal dynamic, one through which we can apprehend our bodies and metabolism as determined by the material and social environments we inhabit, the notion of horizontal gene transfer is scientifically controversial – e.g. it might conflict with some evolutionary approaches. I build on Hannah Landecker proposal for a historical enquiry on industrial production within a conception of the environment as composed by multi-species. In this way, a shared notion of human agency realised by human, non-human and institutional actors/structural agencies, is possible. I argue, through the example of antibiotic resistance, against the reductionist view of technological solutions, that a planetary planning such as the proposal for a planetary health program, has to consider and somehow care for local, relational dynamics by considering their historical dimensions. Such a proposal relies therefore on the historical dimension of industrialism and its related cultures, as well as the history of scientific inquiries performed on environmental changes caused by industrial activities and their effects on humans carried out in fields such as occupational and environmental health, and colonial medicine.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 17

### **Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza**

Convenors: Flavio D'Abramo (Max-Planck-Institut für Wissenschaftsgeschichte), Gerardo Ienna (Ca' Foscari University of Venice)

#### **The paradox of development: metaphysics, rhetoric and institutions of the 'scientific-technological revolution' 1960-1980**

Sascha Freyberg (Università Ca' Foscari, Italy)

Since the famous report of the Club of Rome (*The Limits of Growth*, 1974) growth and development became central concepts of disputes about the future not only in economic and ecological but also social, technological and scientific fields. This presentation provides some context to these debates by investigating in the origins, presuppositions, terminology and consequences of the concept of "scientific-technological revolution" in the central-European setting. Although many of these debates were focused on the vast potential of technological progress, creating technocratic visions of the future, which still have an impact today, some philosophers, sociologists and researchers in the field called "science of science" were wondering about the ambivalent aspects of civilization and general developments, as well as the role and genuine responsibility of science. In this way they posed the question: What is the general purpose of science? One of the most influential documents of this line of research was the so-called Richta-Report, which, as its title suggests, saw humanity and "Civilization at the Crossroads" (Richta 1968, later ed. in many languages). It was the final report of a big research group supported by the Czech Academy of Sciences in Praha. Radovan Richta was the leader of the group and it was him, who gave the term "scientific-technological revolution" a central place in the report, while also emphasizing "technological evolution" and "intensive growth".

The presentation will analyse Richta's work (and that of his colleagues) and inquire into its impact in East and West Germany. In both Germanies institutes for general science studies were founded in 1971: The ITW at the Academy of Sciences in East Berlin and the MPI for the Analysis of the Living Conditions in the Scientific-Technological World in Starnberg, Bavaria. A closer look at the programs written by their directors (Guenter Kroeber in East Berlin, Carl Friedrich von Weizsäcker in Starnberg) and the productive research lines of these institutes will motivate the question, why this kind of research was discontinued in the 1980s and 90s. It seems ironic, that while the geopolitical split and confrontation was at its height there existed a global interest in initiatives on the other side of the 'iron curtain' and beyond concerning the "great acceleration", whereas this planetary perspective got lost after the waning of this constraining constellation. Thus it may be shown, that today's controversies about the concept and the consequences of the Anthropocene may profit from the models and discussions of these earlier works.

#### **A new scientific policy: from 'non-neutrality', to citizen-science, to IPCC data trust**

Elena Gagliasso (Sapienza Università di Roma, Italy)

In the past twenty years the relationship between science and society has changed once again. Not homogeneously for all sciences, but significantly for research around environmental issues. Cross-covering Big Data and modeling (that is IPCC) on 150 years of 'Great Acceleration' of Climate Change a. requested new governance pathways, b. link the current state of the planet to forms of human production and c. receive strong endorsement by the new environmental movements. This configuration of paths indicates a change within the dialectic between citizenship and science: from radical criticism to a more confident alliance. To question, in this peculiar field, this novelty in producing and communicating research and in changing the Science & Society relationship, it seems useful to compare three phases on the light of a historical-epistemological analysis:

1. from the thesis of the non-neutrality of science (in the frame of post-fordist science) - in the seventies of the twentieth century;
2. to Post-Academic science (with the dissemination of social and economic stakeholders, in the 'knowledge society') - in the nineties-two thousand;
3. to the current form of transdisciplinary scientific production on issues of environmental emergency with a sort of new alliance between part of the scientific communities and those citizenships represented by the new environmental movements.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 17

### **Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza**

Convenors: Flavio D'Abramo (Max-Planck-Institut für Wissenschaftsgeschichte), Gerardo Ienna (Ca' Foscari University of Venice)

#### **Non neutralità della scienza: epistemologia politica e STS a confronto**

Gerardo Ienna (Università Ca' Foscari, Italy)

Questo intervento è volto ad introdurre il dibattito interno al panel in Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza. Il rapporto fra epistemologia, storia della scienza e STS non è mai stato tanto in crisi come in questo momento. Dopo una fase particolarmente fortunata dei dibattiti interdisciplinari sulla scienza e la tecnologia, sviluppatosi fra gli anni 60' e gli anni 90', sembra che vi sia attualmente una parziale richiusura dei confini disciplinari fra epistemologia, storia e sociologia della scienza a causa delle così dette "Science Wars". Tale processo di deflazione del dialogo fra queste discipline è pregiudiziale, a mio avviso, per una corretta interpretazione dei problemi più urgenti della nostra contemporaneità. Gli obiettivi di questo intervento sono principalmente di due tipi: uno storiografico e il secondo di tipo teorico. Dal punto di vista storiografico, è necessario risalire alle origini di questo processo rielaborando la narritività tradizionalmente consolidatasi come storia istituzionale degli STS al fine di far emergere alcuni momenti cardinali. In particolar modo, focalizzerò l'attenzione sul contributo sia italiano sia transnazionale (Francia, U.K. e U.S.) dei movimenti radicali per la scienza e dei dibattiti politico-epistemologici all'emergere della tematizzazione dei rapporti fra scienza, tecnologia e società secondo la chiave di lettura della non-neutralità (questa rappresenta una narrazione spesso trascurata nella storia istituzionale STS). In secondo luogo, a seguito della ricostruzione storica, il mio obiettivo è quello di far emergere la dimensione politica soggiacente ai dibattiti metodologici negli studi sociali sulla scienza al fine di impostare il dibattito che verrà articolato nel corso panel. In questa parte dedicherò spazio principalmente al confronto critico fra la posizione della non-neutralità della scienza e quella sviluppata con le multiformi applicazioni del principio di simmetria e imparzialità nel canone STS. Infine, esporrò alcune linee di ricerca nel recente dibattito in Political epistemology che –tramite un'analisi integrata di Political economy of knowledge e di Cultural politics of science– permetterebbero di colmare il gap creatosi nelle più recenti evoluzioni dei campi accademici relativi all'epistemologia, alla storia della scienza e agli STS.

#### **Democrazia social: autorità epistemiche e scelte pubbliche**

Federica Liveriero (Università di Pavia, Italy)

In questo contributo analizzo la tematica delle fake-news nei termini di una questione eminentemente pubblica e pongo due quesiti: i. se vi sia una differenza solamente quantitativa (i.e. l'effetto moltiplicante dovuto al web) con forme tradizionali di inganno pubblico oppure se vi sia una differenza anche qualitativa; ii. quali circostanze epistemiche rendono meglio conto del fenomeno fake-news. Attraverso alcuni studi di psicologia cognitiva (Levy 2017; Lewandowsky et al. 2012; Peter & Koch 2016) e di indagini sul potere di penetrazione delle notizie false (Vosoughi, Roy, Aral 2018) giungo a sostenere che tutti gli agenti possono essere soggetti a trappole cognitive, spesso dovute a forme di irrazionalità motivata (Galeotti 2019; Mele 2001), che possono condurre a credere notizie false o poco affidabili. Nell'analizzare la diffusione di fake news in contesti di forte polarizzazione politica, sostengo che tale diffusione sia dovuta a trappole cognitive e deficit epistemiche integrati con aspetti motivazionali spesso inconsci. Giunti a questa conclusione, nella seconda parte mi interrogo su quali siano le conseguenze e i rischi epistemiche nei contesti democratici, laddove i meccanismi di selezione delle scelte pubbliche, in democrazia, si basano su forme formali e informali di testimonianza epistemica. Poiché, però, abbiamo visto che assumere una posizione di moderato scetticismo sui meccanismi pubblici di testimonianza è adeguato, vi sono almeno tre questioni rilevanti da affrontare: i. l'erosione di fiducia reciproca tra cittadini, poiché nei contesti pubblici in cui la fiducia epistemica venga a mancare, vi sono meno incentivi ad essere epistemicamente affidabili per ognuno; ii. domandarsi se nel progetto di convivenza liberale vi siano anche degli impegni epistemiche oltre che morali/normativi che i cittadini debbano rispettare; iii. rivalutare il ruolo degli esperti e i meccanismi pubblici con cui le forme di asimmetria epistemica vengono codificate e rese legittime.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 17

### **Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza**

Convenors: Flavio D'Abramo (Max-Planck-Institut für Wissenschaftsgeschichte), Gerardo Ienna (Ca' Foscari University of Venice)

#### **Space without time: three snapshots from future Martian Anthropocenes**

Valentina Marcheselli (Università degli Studi di Milano, Italy)

Negli ultimi anni, l'esplorazione spaziale sta diventando una priorità per agenzie spaziali, imprese ed istituti di ricerca in tutto il mondo. La promessa di portare il primo uomo o la prima donna su un altro pianeta viene corrisposta da ingenti investimenti volti non solo all'ottenimento delle capacità tecnologiche per compiere l'impresa, ma anche alla definizione di un contesto sociale ed istituzionale che la valorizzi e la supporti. Le strategie retoriche utilizzate per promuovere questo contesto scientifico nell'opinione pubblica e all'interno della comunità scientifica, tuttavia, si basano molto spesso sulla sospensione della dimensione storica, e sulla conseguente negazione della dimensione politica intrinseca alla ricerca stessa. In questa presentazione si prenderanno in esame tre tecnoscientifici imaginaries relativi all'esplorazione di Marte: exploration, colonization ed exploitation. Questi tre immaginari sono accomunati da una tensione fondamentale: seppur declinato in tre modi differenti, il tentativo di evitare posizioni antropocentriche porta a nuove forme di antropocene, questa volta non terrestri ma Marziane. L'esplorazione spaziale fungerà da caso di studio per domandarci da un lato quale sia il ruolo degli STS nella riconciliazione di questi immaginari tecnoscientifici e nella risoluzione (o nella valorizzazione) delle controversie ad essi connesse. Dall'altro, ci aiuterà a prendere in esame in che modo ricollocare la ricerca in una prospettiva storica possa far emergere la dimensione politica di concetti e pratiche scientifiche.

#### **The Dialectics of Post-Truth and Postivism as a Dynamics of Capitalism**

Lukas Meisner (Università Ca' Foscari, Italy), Pietro Daniel Omodeo (Università Ca' Foscari, Italy)

Present-day debates on science are polarized between the radicalization of social constructionism (and post-modern relativism) in the direction of a post-truth regime, on the one hand, and neo-positivist reactions, on the other. Instead of looking at this anti-thesis as a clash of incommensurable paradigms, we claim that the two positions support each other. The supporters of the opposing parties suggest that a choice has to be taken (either relativism or facts) but actually they share the denial of praxeological subjectivity which, in our view, constitutes the kernel of historical-critical thinking and emancipatory action. Seen from this angle, post-truth and positivism have the same social function, despite the apparent contradiction. In fact, the denial of praxeological historicity is in its core the ideology of present-day Capitalist immanence. The immanent societal development occurs through the economic opposition between global financial capital and national suzerainty and, at the level of ideology, between neo-liberalism and populism. In our view, the political engagement for emancipation should correspond to a political-epistemological engagement for a science that is not cut off praxeology at the three levels of roots, validity and transformative power. Such a conception embraces anti-postmodern objectivity without reducing it to positivist facticity, that is, it assumes the historicity of the material transformation of the world, as a legacy as well as a task. In this communication we will first illustrate the cultural impasse of present day scientific public debates (as revealed by post-truth attacks against scientific trustfulness, the problem of fake news, etc.). Secondly, we will connect them to the theoretical contradiction between apparently irreconcilable epistemological positions: the populist occupation of epistemology through post-truth and the positivist occupation of epistemology through de-historicized facts established by scientific means. We will show that the appeal to facts as a response to the relativistic (often social-Darwinist) challenges is ambivalent as it can serve all purposes and, on the top of it, it is not politically different from post-truth in its anti-democratic delegation of political action and responsibility—be it charismatic leaders or technocratic experts.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 17

### **Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza**

Convenors: Flavio D'Abramo (Max-Planck-Institut für Wissenschaftsgeschichte), Gerardo Ienna (Ca' Foscari University of Venice)

### **Tra meta-parzialità e infra-parzialità. Un esercizio di riflessività intorno allo studio di una controversia**

Tiziana Piccioni (Libera Università di Bolzano, Italy), Alvise Mattozzi (Libera Università di Bolzano, Italy)

A partire da una ricostruzione della controversia che tra il 2008 e il 2009 è scoppiata in Italia intorno alla vendita diretta di latte crudo tramite distributori automatici, l'intervento intende proporre una riflessione che riguarda il terzo punto evidenziato dalla call for paper "questioni metodologiche relative agli STS e la loro collocazione politica e sociale con un focus relativo ai conflitti sociali, relative controversie tecnoscientifiche e possibili strategie risolutive." In particolare, confrontandoci anche con altre ricerche nate in ambito STS intorno al latte crudo, si tenterà un esercizio di riflessività riguardo la propria ricerca e il proprio posizionamento e i rispettivi limiti. Sapendo che, come dice Tommaso Venturini, un'analisi delle controversie non è volta a chiudere una controversia, ma a mostrare che essa può essere chiusa in molti differenti modi" e, aggiungiamo noi, dovrebbe essere volta anche a mostrare quali prospettive ogni chiusura può aprire e chiudere a sua volta, l'intervento intende riflettere sulla questione della imparzialità. Si proporrà di ripensare l'imparzialità in termini di meta-parzialità: cioè, pur non parteggiando per uno o per l'altro degli attori che prendono parte ad una controversia, riteniamo che la scienziata o lo scienziato STS non possa che parteggiare per il dispiegamento della complessità della controversia, delle posizioni in essa insite e della loro l'esplicitazione. Questo modo di parteggiare è evidentemente tutt'altro che neutrale: non lo è rispetto al valore della scienza e della conoscenza, ma può risultare non neutrale anche rispetto alla stessa controversia analizzata. In effetti, è più che probabile che la meta-parzialità dia voce e visibilità ad attori che, nel corso della controversia, non necessariamente hanno avuto la voce e la visibilità data loro dalla ricerca - e questo può successivamente anche influire sulla loro capacità di azione sociale. È dunque probabile che un'analisi di una controversia possa diventare un percorso o uno strumento anti-egemonico, in particolare se la strategia dei gruppi egemoni è quella di silenziare altri gruppi. Ma al contempo anche fornire strumenti per rendere efficienti strategie egemoniche, di risoluzione non consensuale di una controversia. Insomma, analizzare una controversia vuol dire inevitabilmente avere un ruolo in essa. Concluderemo chiedendoci allora se, o quando, sia più adeguato parlare di infra-parzialità, più che di meta-parzialità.

### **Febbre puerperale 1847 - 1861. Aspetti sociali ed epistemologici nella controversia sulla scoperta di Semmelweis**

Antonio Piccolomini d'Aragona (Aix-Marseille University, France)

Nel 1847 Ignaz Semmelweis propone un'originale eziopatogenesi ed un'innovativa profilassi per la febbre puerperale. Scontrandosi con teorie dominanti, avanza una spiegazione basata sulla nozione di particella cadaverica; con acume clinico e rigoroso mix di deduzione ed abduzione, anticipa così le scoperte di Pasteur. Introduce poi una prassi igienica che ha l'effetto di abbassare drasticamente la percentuale di mortalità. La scoperta è però osteggiata. Se ne scatena una controversia virulenta, dove alle obiezioni scientifiche si preferiscono spesso attacchi personali ed accademico/politici. Molti sono i fattori in gioco: posizione dell'Ungheria nell'Impero Asburgico; diversità linguistiche tra le etnie; effetto dei moti del 48 sull'Università viennese, con la nascita di una nuova scuola medica, progressista, opposta alla vecchia, reazionaria e legata all'establishment; rivoluzione ungherese del 48-49, ruolo che vi giocarono i parenti di Semmelweis, e simpatie politiche di quest'ultimo; status delle partorienti ospedalizzate, legate quasi sempre alle fasce più basse della popolazione. A Semmelweis, inoltre, la letteratura attribuisce errori "strategici" come: mancato utilizzo del microscopio, mancata conduzione di esperimenti, rifiuto di pubblicare di prima mano sulla scoperta, lasciando l'onere ad "alleati" che però spesso lo fraintesero. Ci proponiamo un'analisi socio-epistemologica della controversia, per mostrare come quest'ultima sia rivelatrice di due fenomeni di portata più vasta: (1) da un punto di vista sociologico, le mosse dei membri di uno dei poli del dibattito possono avere un feedback negativo sulla posizione del polo di appartenenza, a causa della configurazione del contesto scientifico di riferimento; (2) da un punto di vista epistemologico, il giudizio di valore sugli errori strategici muta sensibilmente a seconda del paradigma considerato. I risultati dell'analisi proposta consentiranno infine osservazioni di carattere generale su questioni di metodo nell'analisi sociologica delle controversie scientifiche.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3  
rethinking science, technology and innovation:  
emerging challenges

## TRACK 17

### **Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza**

Convenors: Flavio D'Abramo (Max-Planck-Institut für Wissenschaftsgeschichte), Gerardo Ienna (Ca' Foscari University of Venice)

### **Diversità da preservare: epistemologia femminista ed expertise**

Francesca Putignano (Università Ca' Foscari, Italy)

La crescente sfiducia nei confronti delle figure degli esperti e delle istituzioni scientifiche e lo scetticismo sulla validità della conoscenza da questi prodotta sono temi centrali in epistemologia politica e sociale, ed offrono un collegamento con l'epistemologia femminista, disciplina che si è interrogata in precedenza su questi temi, seppur guidata da propositi differenti. Una delle strategie indicate dall'epistemologia femminista è diversificare le identità sociali che ricoprono il ruolo di esperti per raccogliere i diversi valori epistemici (e non) che queste identità portano nei processi epistemologici. La molteplicità di figure e i diversi valori di cui si fanno portavoce promuovono un dialogo critico fra le prospettive che permette di avere una conoscenza meno parziale e di assicurare anche giusta rappresentazione ai gruppi sociali esclusi dalle comunità scientifiche, rimediando così ad un'ingiustizia non solo epistemica ma anche politica. Diversificare però è solo il primo passaggio, poiché la diversità epistemica deve comunque consentire la formazione di un consenso su cui fondare una conoscenza condividibile, seppur variabile. La via più chiara per considerare il ruolo della diversità è esaminare insieme due approcci in epistemologia femminista: la standpoint theory e il contextual empiricism. Nella standpoint theory, includere i gruppi marginali è la chiave per garantire la diversità nella composizione della comunità epistemica, in cui differenti punti di vista sono generati. Il contextual empiricism, invece, offre i criteri normativi per gestire la discussione e lo scambio critico fra le diverse prospettive (assicurate dalla standpoint theory), creando la cornice teorica in cui i contenuti offerti dalle prospettive assumono una validità giustificativa. I due approcci chiariscono come garantire la diversità, la quale non è preservata tramite il mantenimento di ogni singolo punto di vista, ma è essenziale e propedeutica alla discussione critica, arricchita da diversi punti di vista, che porterà ad un consenso mai prematuro ed immediato, ma sempre frutto di dibattito e di assimilazione dei punti di vista diversi.

### **From epistemic policies to governance styles: benefits assessment of foods**

Noemí Sanz Merino (University of Balearic Islands, Spain), José Luis Luján (University of Balearic Islands, Spain)

As many social epistemologists and STS specialists have pointed out, non-epistemic values directly influence the justification of scientific hypotheses, independent of any considerations about this being good or bad for science and/or society. In contexts in which policy and decisions are based on scientific knowledge (Regulatory Science) the influence of such values is inevitable. Regulators even consider it to be legitimate under certain circumstances. The aim of our paper is to analyze one of those particular contexts: the regulation of declarations of benefits for functional foods. We will show that the generation of expert advice in regulation is based on certain "epistemic policies", which are particular methodological decisions to validate procedures of assessing scientific evidence. On the one hand, our analysis continues similar STS work, such as on "epistemic cultures" in different scientific disciplines by Knorr-Cetina (1999) and on "civic epistemologies" that underlie each national style of science regulatory policy by Jasanoff (2005). We identify various epistemic policies and make clear how the adoption of one or the other epistemic policy has direct epistemic and non-epistemic consequences. They may have effects on consumers, food operators, and even on public health, the improvement of the latter being among regulators' aims. Epistemic policies may, however, also have unexpected implications for scientific practices, as well as for styles of governing public affairs. On the other hand, this case study contributes to recent debates within the STS field regarding regulatory policies related to science. It shows the limitations of several of the assumptions made under the Studies of Expertise and Experience (Collins & Evans 2002), while supporting the Political Epistemology of Bruno Latour (1999) and other "politics of what" approaches (Mol 2002).

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 17

### **Epistemologia politica delle controversie scientifiche, expertise e post-verità. Colmare il gap fra STS, storia e filosofia della scienza**

Convenors: Flavio D'Abramo (Max-Planck-Institut für Wissenschaftsgeschichte), Gerardo Ienna (Ca' Foscari University of Venice)

### **La società della pseudoscienza: fondamenti sociologici per un'analisi multisistemica**

Giuseppe Tipaldo (University of Turin)

In una prospettiva sistemica, la proposta che intendo discutere approfondisce il frame della post-verità assumendo come punto di partenza, modificandolo, il modello della «sfera pubblica mediatizzata» [Mazzoleni e Schulz 1999], ossia la declinazione empirica della mediated publicness proposta da Thompson [1995], a sua volta partorita da una revisione critica della «sfera pubblica borghese» habermasiana. In accordo all'oggetto cui si applica, la schematizzazione che presento incorpora due elementi ulteriori, la scienza (S) e la pseudoscienza (Ps), quest'ultima concepita come una componente trasversale a società (So) e politica (P), che acquista maggiore o minore visibilità in funzione delle strategie narrative elaborate dai media (M). I due punti innovativi della proposta sono: 1) permette di rappresentare le mutue dipendenze tra i cinque sistemi in termini di visibilità e invisibilità, ovvero, con le parole di Goffman [1959], «ribalta» (frontstage) e «retroscena» (backstage). 2) Fenomeni molto discussi nella recente letteratura STS (i.e. false balance, scientizzazione della policy e politicizzazione della scienza) possono essere decostruiti e sistematizzati sul piano teorico a partire dall'analisi delle reciproche influenze tra i cinque sistemi presi in esame dal modello. Difenderò il modello discutendo, dati alla mano, alcuni esempi di conflitti STS recenti e passati.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 18

### Disentangling digital feminist technoscience

Convenors: Mariacristina Sciannamblo (Sapienza Università di Roma), Letizia Zampino (Sapienza Università di Roma)

#### **The Sims as a Queer Sandbox: how to Push Inclusivity Forward in Computer Game Design**

Ona Bantjes-Rafols (Carleton University, Canada), Chiara Del Gaudio (Carleton University, Canada)

The virtual world brought hope for a utopia, for a world beyond the sexism of the physical one (i.e. Haraway, 1985; Wajcman 2007). However, as several scholars have pointed out, the otherness of the virtual cannot bring forward new possibilities when designed from the same epistemological and ontological positions of current sexist society. Gaming culture in particular has been criticized for embodying and fostering patriarchal attitudes, and upholding heterosexuality within their construction of gender and sexuality (see for instance Gray and Leonard, 2018; De Laurentis, 1987), thus reinforcing structures of power and gender issues experienced in the physical world, as cases like Gamergate showed. This presentation reflects on how computer games designers have the potential to challenge gender norms and encourage diversity and inclusion. It does that by analysing the disruptive potential of the game The Sims to interrogate assumptions and give voice to marginalized positions. The Sims is a computer game that demonstrates the queer potential of the virtual world, and in particular, "sandbox" style games. Although dismissed as "girly" and thus not "real gaming", its format and design have made it popular with queer gamers, who have furthered the queer potential of the games through the practice of "modding" (adding to or altering the game). This presentation will show the changes over time from The Sims 1 to The Sims 4 and the community interaction with it. Embedded limitations and potentials of the game for disrupting heteronormativities will be presented. The Sims shows how open and meta-design processes are an opportunity to embrace the radical potential of virtual worlds to challenge gender norms, and for designers to take on their responsibility at its fullest.

#### **Gendered assumptions in technology development: a reflexive approach to uncover gender in a Virtual Reality learning tool**

Elisabeth Frankus (Institute for Advanced Studies, Austria), Anna Gerhardus (Institute for Advanced Studies, Austria), Robert Braun (Institute for Advanced Studies, Austria), Julia Schmid (Institute for Advanced Studies, Austria)

This paper interrogates how to uncover specific intersectional positions and disentangle relations between humans and computational machines through feminist sensibilities in a specific real-life setting. The Virtual Skills Lab project (funded by the Austrian Research Promotion Agency - FFG) which is implemented by an interdisciplinary team including social and natural scientists, investigated how virtual reality (VR) is suitable for training social skills. Based on a mixed method approach and participatory, co-creation workshops at an Austrian company the project team decided to create a woman in her mid-thirties with a migration background as virtual agent. Through a qualitative, empirical reflection on and evaluation of the project we disentangle ascriptions towards a (female) virtual agent from the perspective of 13 project members, and echo gender-related attributions to this agent and the VR training in general. Our inquiry also reflects on gender sensibilities and the significance of gender in the lives of project members, and how gender sensibilities in VR development reflect on embodied knowledge in general and gendered experiences in specific. Our analysis specifically considers how gendered discourses are embedded within cultures of technology and biases may or may not be reflected upon when experimenting with new technologies.

JUNE 17th, 18th, 19th

Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 18

### Disentangling digital feminist technoscience

Convenors: Mariacristina Sciannamblo (Sapienza Università di Roma), Letizia Zampino (Sapienza Università di Roma)

#### **The technology fortifies the gender image? Toward the society without gender bias**

Yoshimi Kakimoto (Nara women's University, Japan)

This presentation aims to examine the relation between the technology and society in the point of gender equality. As the artificial product of human being, the technology cannot free from the social demand toward the reduction of the painful work and the realization of the desire for the comfortable life. The technology has not developed as a neutral artifact but the reflection of the collective conscience in the time and the society. In these days, the technology of the informatics seems to divide the social groups. SNS and the advertisement on Internet reproduces and reinforced personal bias on various matters by the automatic recommend from one's history of use. People tend to think that one's thought are majority when he or she has been read the opinions which he or she has the sympathy. As its result, the social divide has widened. Now, we don't surprise the apparition of the incommunicability among us. The technology of information has developed in order to promote the communication but the service in accordance with the personal interest nourishes the fragmentation of the people. The gender image is also enhanced by the technology. For example, the artificial voices of the guide for the machine, especially the digital devices with audio guide like an AI speaker, are always modeled after the female voice. The visual images of the young female models are reproduced in the cyberspace and becomes the norm of appearance for the young generation. The emphasized image of the gender feature makes an obstacle of the formation of self-respect for the young generation. We cannot deny that the progress of the technology reduces the painful work of women and makes a way to be independent. As for one's self-respect, taking a portrait makes a chance to discover another face of herself which she has not noticed. Here, referring to the image of femininity in technology of Japan and the French program concerning the protest to the violence toward women, I would like to indicate the possibility of the technology as the machinery to realize a democratic world.

#### **Stepping out of the vicious circle: overcoming the gender bias in Wikipedia**

Shlomit Lir (Ben-Gurion University of the Negev, Israel)

From its starting days, Wikipedia, the free online encyclopedia, carried an empowering ethos, as a user-generated content website, based on collaborative work, which produces a vast knowledge base. However, despite this ethos, the project suffers from clear gender bias, manifested in the paucity of women editors. Throughout the years, many scholarly answers were given to the question regarding the gender bias in Wikipedia. However, the research literature seldom explores how different barriers are interconnected and rarely focuses on what prevents women who initially declared their interest from eventually participating in the website. The current research deals with this lacuna and explores the gender bias in Wikipedia through examining how the different barriers are interlinked in a manner that deters women and prevents them from editing in the website. Based on action research with a mixed evaluation method and two rounds of interviews, the research followed the steps of 27 Israeli women activists who participated in editing workshops. The findings show that having the will to edit and the knowledge of how to edit are necessary but insufficient conditions for women to participate in Wikipedia. The finding reveals two categories: Pre-Editing Barriers of Negative Reputation, Lack of Recognition, Anonymity, and Fear of Being Erased; and Post-Editing Barriers of Experiences of Rejection, Alienation, Lack of Time and Profit, and Ownership of Knowledge. The research suggests a "Vicious Circle" model, displaying how the five layers of Negative Reputation, Anonymity, Fear, Alienation, and Rejection - enhance each other, in a manner that deters women from contributing to the website. In order for more women to join Wikipedia, the research offers the implantation of a "Virtuous Circle" that consists of Nonymity, Connection to Social Media, Inclusionist Policy, Soft Deletion, and Red-Flagging Harassments.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 18

### Disentangling digital feminist technoscience

Convenors: Mariacristina Sciannamblo (Sapienza Università di Roma), Letizia Zampino (Sapienza Università di Roma)

#### To curiously play with touch in a city

Annika Olofsdotter Bergström (Blekinge Institute of Technology, Sweden)

Introducing Donna Haraway's (2016) concept "A curious practice", as the art of touching in a small Swedish city named Karlshamn, I seek to defy playfulness as both an imaginary as well as a concrete practice. Play is a way to understand what surround us humans, to discover unexpected things and to engage with the city. With inspiration from Puig de la Bellacasa's concept of touch I have started to exploring different ways of touching a city as a playful way to discover what "was not there before" (Haraway, 2016). By asking what multiple ways there are to imaging and sensing a city I argue that playfulness can be used as a feminist tool to open up for how polyphonic experiences, bodies and perspectives can create new knowledge in a physical location. Feminist technoscience and design research have in common that they explore practices to continue developing the world (Forlano, 2017, Gabrys 2016). In my work playful touch become design of possible embodied actions to create relations to a city and its citizens by using mainly sensor technology. My work involves the meaning of materialism and how to use speculative fabulation (Haraway, 2013, Rosner 2018) to understand the challenges of future cities.

#### Doing IT together: a pragmatist-technofeminist perspective on women-centred groups for information technologists

Annika Richterich (University of Sussex, UK)

This paper will discuss women-centred groups for information technology (IT) specialists. It focuses on international networks and local meetups, like Women who code and PyLadies.<sup>1</sup> Such initiatives bring together individuals self-identifying as women, with members usually working in male-dominated IT companies and departments. The IT sector has a well-known yet persistent diversity problem, suffering notably from a gender imbalance. Across the EU-27 in 2019, only 17.9% of the IT workforce were women and, since 2011, fewer women have been taking up IT education.<sup>2</sup> Unfortunately, public debate and policy development have focused on the lack of women in IT and getting women into IT - leaving behind those women already working in IT. How do we strengthen the visibility of and support for these women information technologists? How do we break the vicious circle of women not joining IT because of problems that larger numbers of women in IT could help counteract? Experiencing corporate and governmental efforts as ineffective, women have taken these matters in their own hands. They founded women-centred groups: to facilitate knowledge exchange, vocational training, and networking among IT specialists. The paper starts from the research question if and how respective groups may strengthen women's position and inclusion in IT, despite being gender-segregated as such. It argues that women-only groups yield collective, societal benefits, while likewise suffering from shortcomings related to the lack of systemic support for women working in IT. Methodologically, the talk draws on qualitative research: mainly interviews, participants observation, and digital content retrieved from social media. Conceptually, these data are combined with pragmatist-feminist and intersectional, technofeminist theory. With this combination, the paper aims to develop a framework suitable for assessing collective, societal benefits/shortcomings of these groups, rather than foregrounding individual interests.

JUNE 17th, 18th, 19th

Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

### TRACK 18

#### Disentangling digital feminist technoscience

Convenors: Mariacristina Sciannamblo (Sapienza Università di Roma), Letizia Zampino (Sapienza Università di Roma)

##### **The privilege of anger. Embedded bias in intelligent voice assistants**

Natalie Sontopski (Komplexlabor Digitale Kultur, Germany)

Most users choose to let Siri & Co. speak with a female voice and conceive their intelligent voice assistant (IPA) as as “she”. This perception is emphasized by speech patterns: IPAs stereotypically speak very polite, give affirmations, signs of listening and suggest instead of dictate. Unfortunately, the new wave of AI falls into current gender role stereotypes of passive women who obediently take orders and seek pleasure in care work. How can we change this narrative and start breaking away from the gender clichés embedded in IPAs? To find answers we conducted a transdisciplinary artistic experiment to research how design, representation and stereotypes are entangled. And we asked ourselves: What if Siri could become angry? Would users stop interacting with her? We wanted to observe what happens when user-embedded gender bias towards IPAs is confronted with unexpected conversational patterns breaking away from underlying gender stereotypes. So we decided to conduct a “Wizard of Oz” experiment using speculative design methods and a sociological theoretical approach. An actress “played” the part of an IPA called “MiauMiau” and interacted with users as part of an experimental installation. MiauMiau aspires to be a kind of “Anti Alexa”, meaning that MiauMiau shows character traits which are not available for conventional IPAs, like declining to answer questions, demanding fair pay for her work and defending herself in cases of abuse. In other words, it has alternative embedded conversational patterns. The interactions between users and MiauMiau were recorded and participants were also asked to give feedback about their interaction experience in form of a questionnaire. Right now we are in the stage evaluating our findings. We would like to attend this workshop to present and discuss our research so far and get an overview about the work of others in the field and their research.

##### **Enacting the feminine subject: the performance of gender in home assistant AI robots**

Jamie Steele (Rensselaer Polytechnic Institute, USA)

This paper explores, through the analysis of media and advertising narratives, the construction of the Amazon Alexa and other “home assistant” robots as feminine. Tracing the gendering of domestic robots through the history of artificial intelligence, I argue that ideas of gender and the contemporary home assistant robots are co-produced, developing alongside each other through processes of economic and social power. Drawing on the work of early feminist technoscience scholars of domestic technology (Wajcman, Cockburn, Faulkner, Cowan), literature on co-production (Jasanoff, Wynne, Lynch), and feminist technoscience (Rose, Hayles, Chun), this paper situates the modern home as the site of the reproduction of hierarchical modes of gender and labor.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 19

### What is Expertise?

Convenor: Barbara Saracino (Università di Bologna)

#### **Debunking the expertise: analysis of an Italian communication campaign against medical pseudoscience**

Valentina Capi (Università di Bologna, Italy)

Nel mese di maggio del 2018, la Federazione Nazionale dell'Ordine dei Medici lancia una campagna di comunicazione che intende "sensibilizzare l'opinione pubblica e combattere il fenomeno della diffusione delle fake news sulla salute tramite la rete". La campagna si intitola "Una bufala ci seppellirà?" e tra le sue finalità dichiarate annovera la ricostruzione di un rapporto di fiducia medico-paziente e la messa a disposizione dei cittadini di informazioni di salute basate sulle "evidenze scientifiche". La campagna segna una presa di posizione "lapidaria" del principale organo italiano dei professionisti della salute nella battaglia tra "scienza medica" e "pseudoscienza", a pochi mesi di distanza dal decreto legge n.73/2017, che aveva infiammato il dibattito pubblico attorno alle "Disposizioni urgenti in materia di prevenzione vaccinale". Il presente contributo si prefigge di analizzare la suddetta campagna, esaminandone retoriche e strategie di comunicazione e individuando da un lato le diverse expertise non solo sanitarie - coinvolte nella sua realizzazione, dall'altro problematizzando il modo di esprimersi di una determinata "expertise" biomedica riguardo alle differenti pratiche, narrazioni e soggetti coinvolti o sottesi alla campagna stessa.

#### **Controversie d'impatto. L'expertise come rete e i conflitti attorno alle metriche di impatto sociale**

Davide Caselli (Università di Milano-Bicocca, Italy)

Il paper propone un'analisi delle controversie che si sono sviluppate in Italia in tema di misurazione dell'impatto sociale delle organizzazioni del Terzo Settore a partire dalla riforma del settore stesso approvata nel 2016. A partire da una visione dell'expertise come network, si propongono i risultati di una lunga ricerca sul campo del welfare, dei suoi esperti e delle reti di expertise in cui sono inseriti. In primo luogo si ricostruirà l'insieme degli attori esperti della ricerca, consulenza e valutazione nel campo del welfare a partire dal 2013-14, quando la proposta di riforma del terzo settore è stata lanciata dal governo nazionale. Prestando attenzione ai più ampi network in cui sono inseriti, evidenzieremo le diverse provenienze disciplinari e professionali e le diverse alleanze con altri ambiti di expertise legati al welfare (intervento sociale ed educativo ma anche lobbying e policy-making). In particolare si mostrerà il progressivo definirsi di due network di expertise, uno più legato al terzo settore e al mondo dell'"economia sociale" e uno più legato al mondo dell'investimento finanziario. Nel quinquennio analizzato infatti, i network evolvono e, accanto al comune interesse ad imporre il tema della misurazione dell'impatto sociale, emergono anche importanti conflitti attorno agli indirizzi metodologici e agli attori più indicati per svolgerla, nonché - a monte - sui sistemi di finanziamento del welfare che contribuiscono a legittimare il ruolo degli uni e degli altri. Le lenti dell'expertise come rete e della centralità degli strumenti e degli attori non-umani permetteranno di ricostruire ad un tempo l'affermarsi di una specifica rete di expertise e la dimensione parziale e incompiuta di questa affermazione.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 19

### What is Expertise?

Convenor: Barbara Saracino (Università di Bologna)

#### Adjudicating Expertise Algorithmically

Chris Hesselbein (Politecnico di Milano, Italy)

Longstanding questions about the nature of expertise and its boundaries have recently taken on a new sense of urgency as struggles over the authority of science and medicine have unfolded on digital platforms. Search platforms such as Google are increasingly criticized for providing their users with mis/disinformation and conspiracy theories instead of the scientific consensus. In response, Google periodically updates its automated ranking systems to privilege authoritative sources over less reputable ones. Search results and the (mis)information they make visible are, however, not determined by algorithms alone. They are also the outcome of search engine optimization (SEO) techniques, which are used to influence or manipulate the ranking of search results. Google's algorithms as well as the techniques mobilized by Search Engine Optimizers (SEOs) are both key to understanding how the scientific consensus as well as less mainstream information are made (in)visible on the internet. The algorithmic dynamics of digital arenas such as Google Search, however, also have implications for the concept of 'expertise'; information not only needs to be identified and evaluated as authoritative (or not) by humans, but also adjudicated by algorithms on a large scale in little time. This raises questions about Google's algorithmic ability to read and rank scientific content, how this algorithmic (in)ability is complemented or even determined by the hidden labour of human 'search quality raters', and how Google's E-A-T guidelines (Expertise, Authority, and Truthfulness) can be implemented or circumvented by SEOs. This struggle between search engine algorithms and SEOs as new mediators of information is a key instance for examining how the authority of scientific experts is being (re)conceptualised and (de)stabilised on digital platforms as (mis/dis)information is made readable and visible to both humans and machines, and ultimately, how demarcations between scientific expertise and alternative knowledges are being redrawn.

#### Addressing the problem of extension: Progressive Science vs. Pseudoscience

Carlo Martini (Università Vita-Salute San Raffaele, Italy), Mattia Andreoletti (Università Vita-Salute San Raffaele, Italy)

In science as well and in political debate, disagreement is generally considered an engine of progress, at least since the defense of disagreement voiced by John Stuart Mill in his *On Liberty*. The role of disagreement, however is in stark contrast with the call for suppression of dissenting voices in situations in which it seems important to rely on an epistemic authority alone. This tension is typical of technocratic societies (see e.g. Turner 2001), whereby educated individuals are encouraged to take an active role in society, but, at the same time, a larger and larger number of decisions are of such technical nature that democratic voices are seen mostly as interference against the smooth process of decision-making. In this paper, we argue that the problem of extension (see Collins and Evans 2002), that is, the tendency to dissolve the boundaries between the experts and the public, accentuated by social media, is in part addressed by revising the problem of demarcation between science and pseudoscience while at the same time avoiding the pitfalls of scientism of the early XX century logical positivists (see e.g. Haack 2011 and Pigliucci 2013).

Here we propose a strategy for identifying genuine vs. pseudoscientific disagreement, based on the extensive literature on expert judgment and the identification of expertise (see Martini 2019). We argue that controversies regarding science or technical matters ought to be evaluated in terms of their satisfying a number of criteria that help laypeople, who are lacking domain knowledge, identify where substantial expertise lies, as opposed to the mere appearance of expertise (see e.g. Goldman 2001).

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 19

### What is Expertise?

Convenor: Barbara Saracino (Università di Bologna)

#### Of fragmentation and debilitation of expertise knowledge in contemporary society

Emil Perron (University of Bergen, Norway)

For the past few years, populism has blossomed in a multitude of different countries. This populism is often accompanied by a disbelief towards seemingly obvious truths about the world, meaning statements that are supposed to accurately represent the (facts of the) world. I argue that there has been a greater and greater fragmentation, specialisation, and specification (or reductionism) of knowledge in the past decades. Moreover, there has been a greater focus on knowledge- or science-based politics. With a greater focus on experts, and a greater use of and appeal to experts by politicians, administration and government, a dichotomy has been created between those who, on the one hand, inhabit, or detain, or have privileged access to the expert knowledge, and, on the other hand, those who do not inhabit this expert-knowledge. In today's world, these authorities on truth (often within their respected fields of expertise) are supposed to be understood as detaining the authoritative knowledge regarding their specific field of expertise, and the layman is considered to have to accept the communicated knowledge of said experts as accepted truths. The result is a dichotomy between (Foucauldian) creators of truth and those laymen expected to merely accept said truths. A dichotomy which seems to be prevalent among those opposed to the authority of experts and expertise. In this paper, I argue that when politicians and other political actors in power appeal to said experts, expertise gets politicised and experts are increasingly perceived as political actors. I argue that an increase in the current political actors' use of expertise will merely increase a damaging dichotomy, reinforcing distrust in experts and the knowledge they try to convey.

#### Trust and Mistrust in Italians' Views of Scientific Experts

Andrea Rubin (Università di Torino, Italy), Giuseppe Pellegrini (Università di Trento, Italy), Sonia Brondi (Observe Science in Society, Italy)

In societies characterized by the complexity, that is one of the distinctive features of modernity, the public role of experts has increased considerably. Engineers, doctors, jurists or politicians are increasingly called upon to talk about issues of public relevance. In this context, experts are forced to undertake a role in the public sphere. In this contribution we focus attention on a particular type of expert, that is scientists and researchers. The scientific community, indeed, has been wondering—and often worrying about—to what extent the lay public trusts science. Observers and popular science magazines have also warned of a “war against science” and more recently have expressed concerns about the rise of populist antagonisms on the influence of scientific experts. This contribution shows the results of the European Horizon 2020 project CONCISE. CONCISE carried out five citizen consultations in five European countries, with the participation of 100 citizens in each country. Focusing on the Italian consultation, this contribution will illustrate preliminary results on how citizens form opinions about four “hot” scientific issues (i.e., climate change, GMO's, vaccines and complementary and alternative medicines), which information sources they use to access scientific knowledge, the level of trust (or mistrust) in experts and the role of expertise on the change of public attitudes. Overall, results emerging both from quantitative (lexical-metric with the support of T-Lab software) and qualitative (content with the support of Nvivo software) analyses provide interesting insights: on the one hand, they highlight common elements, transversal to the four issues, on how citizens perceive scientific communication and make decisions on them; on the other hand, they underline specificities, depending on the issue, about the preferential information sources, their perceived reliability, and on the proposals to improve scientific communication. Structural variables (e.g., gender, age, provenance, educational level) play a role in this process and sub-groups of citizens tend to stress certain nuances of the whole picture.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

## TRACK 19

### What is Expertise?

Convenor: Barbara Saracino (Università di Bologna)

#### The “first wave” of Experts on TV. Players and topics of the Covid-19 issue in Italian talk shows

Christian Ruggiero (Sapienza Università di Roma, Italy), Giovanni Brancato (Sapienza Università di Roma, Italy), Mauro Bomba (Sapienza Università di Roma, Italy), Antonella Pillozzi (Sapienza Università di Roma, Italy)

The current health emergency and its spread on a global scale have highlighted the complex relationship between expertise and its public role in the media, which has been challenged in the context of the “informational contagion” brought by Covid-19. This proposal shows the preliminary findings of an analysis carried out with the aim of analyzing the way in which two kinds of experts, representatives from the worlds of politics and science, discussed Covid-19 on TV talk shows. To do this, we considered the most critical period of the pandemic in Italy: the month around the “first wave” phase. Starting with a recognition of the Covid-19 issue’s coverage in television’s talk shows aired on the seven Italian generalist networks between February 24 and March 23, we selected the specific segments in which at least one of the two types of experts mentioned above were included in the discussion. From this, by means of the typical tools of content analysis applied to the television text, we obtained a clear map of the themes and types of subjects that discussed on the topic. Then we focused on the time slot in which the confrontation between experts from the worlds of politics and science was more frequent: morning television programs. Through the application of a lexicometric approach, it was possible to carry out two kinds of outputs. On the one hand, an analysis of the most frequent terms with respect to the overall totality of lexical forms in the corpus. On the other, according to the “time” variable, the evolution of “thematic” peculiarities of the speeches analyzed. The analysis of the balance of power between scientific and political discourse allows outlining the role of expert communication in the context of the polarisation of the ongoing health emergency debate.

#### The construction of the consumer by the experts: the case of European health claim regulation

Oliver Todt (University of the Balearic Islands, Spain), José Luis Luján (University of the Balearic Islands, Spain)

In our contribution we analyze the role of experts in the European regulation of health claims. The latter are statements, usually in the form of food labels, regarding the health benefits that a food may confer upon its consumer. Regulatory authorization of health claims is dependent upon scientific knowledge that has to be validated by expert committees. We show how the scientific evaluations conducted by experts at the relevant regulator, in our case the European Food Safety Authority (EFSA), rely on implicit and unproven assumptions about consumer values and preferences. These underlying assumptions frame not only the generation of scientific data, but also its regulatory assessment. EFSA’s relevant expert committee has implicitly adopted a particular construction (or definition) of a “standard consumer” of foods with health claims, whose overarching preference is presumed to be the protection, at all costs, from incorrect or fraudulent health claims. We show how this underlying assumption determines the expert panel’s choices regarding scientific methodology and standards for regulatory analysis. We argue that even though it is entirely unclear if EFSA’s expert construction of the consumer corresponds to real-world consumers of foods with health claims, the efficacy of the entire regulation depends on this underlying assumption being correct. If not, that is if the preferences of actual, real-world consumers do not correspond to those of EFSA’s “standard consumer”, then the regulatory process will not be able to generate trust among consumers in expert decisions. In addition, it will also encourage pseudoscience by nudging consumers to search out non-official sources of information about health effects of foods. Direct consumer engagement in the decision making processes of EFSA’s expert committee could be one way of preventing a gap developing between real-world consumers and expert assumptions.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 3

rethinking science, technology and innovation:  
emerging challenges

### TRACK 19

#### What is Expertise?

Convenor: Barbara Saracino (Università di Bologna)

#### **Credibility and legitimacy: the contradiction of expert scientists**

Paolo Volonté (Politecnico di Milano, Italy)

Starting from the shared idea that the crisis of expertise is not a crisis of knowledge but a crisis of legitimation (Jasanoff, Eyal), I would like to address the contradiction between the mechanisms of production of reliable knowledge and those of legitimation of social orders. While the former, particularly in science, are essentially utilitarian, that is, based on the principle of individual interest expressed through the tools of credibility and reputation (Latour and Woolgar), according to Max Weber the latter come into play just when the principle of utility is suspended and agents decide to comply with an order even if it goes against their personal interests. The crisis of expertise is said to have erupted when the recourse to expert advice by Western political systems dramatically increased (Bijker et al.). I will argue that this happens to the extent that experts are also scientists (i.e., expert scientists). If considered in the framework of the sociology of knowledge rather than political sociology, the crisis of expertise is triggered by the contradiction intrinsic to the figure of the expert scientist. By resorting as expert to some form of legitimation, the expert scientist risks jeopardizing his or her own scientific authority, which is based on credibility. More precisely, s/he risks submitting the stabilization of knowledge claims to ephemeral social dynamics, such as the principles of legitimation, which are not suitable to that goal and cannot elicit the "heterogony of ends" of which Western science has been capable (Bourdieu). The problem we are facing is therefore to identify regulatory mechanisms of expert consultancy capable of preserving the autonomy of the field of science. Democratizing expertise, i.e. weakening the expert scientists' epistemic authority in regulatory science (Gieryn), could paradoxically be a tool to safeguard the stability of their scientific results.

JUNE 17th, 18th, 19th

Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 20

#### What is a cashless society? Interrogating access, stakeholders and practices

Convenors: Anwasha Chakraborty (Università di Bologna), Jillet Sarah Sam (Indian Institute of Technology Kanpur)

#### Digital cash as mean to safeguard fundamental rights in the digital society

Andrés Chomczyk Penedo (Vrije Universiteit Brussel, Belgium)

Cashless systems are being deployed by national governments all over the world for various lawful reasons, ranging from financial inclusion to preventing money laundering or tax evasion. Nevertheless, in their efforts to achieve these objectives, governments are overlooking certain fundamental rights of individuals that could be threaten by these cashless policies. Cashless systems operate with a trusted third party that, among other activities, maintains a record of the existing money supply to avoid issues such as double spending. This role doesn't exist in the realm of traditional cash where ownership of money is determined by possession of physical bills and issues as double spending cannot take place. Therefore, cashless systems cannot be considered as equivalents to cash. The existence of a trusted third party poses two significant risks for individuals: (i) the possibility of censorship due to the existence of entity that could prevent certain transactions from taking place; and (ii) a lack of privacy due to the existence of an entity that watches every transaction made and controls all associated data. While cash might be seen as a relic from the past, it still enables people to transact with whoever they wish to and for any purpose they would want to while keeping the transaction private. In that sense, cash is the instrument that allows individuals to exercise their fundamental rights without limitation. Any digital version of cash must, at least, be able to allow these possibilities and governments should respect the fundamental rights mentioned above that are at stake. In this regard, we analyze two alternatives to achieve this: (i) safeguards that should be adopted into state-backed cashless systems; and (ii) the use of alternative digital cash-like systems, such as cryptocurrencies.

#### Media narratives of cashlessness post the Indian experiment of demonetisation: towards a text-network analysis

Anwasha Chakraborty (Università di Bologna, Italy), Rajorshi Ray (Indian Institute of Technology, India), Jillet Sarah Sam (Indian Institute of Technology, India)

On the 8th of November, 2016, the Government of India announced that currency notes of Rs 500 and Rs 1000 (which combined comprised over 80% of the total value of cash in circulation) would lose their status as legal tender. The event, termed 'demonetisation', was covered widely in national, regional and local media in India, while also gaining substantial coverage in international press. It was lauded in some quarters as a fight against corruption and black money and a move towards greater transparency, while multiple other voices rued the sheer undemocratic method by which the measure was introduced, and the massive public inconvenience that followed, with long lines outside ATMs across the country. The period following demonetisation also saw an increase in the volume of digital payments in India, with companies such as PayTM increasing their subscription base substantially within a matter of months. This short paper intends to track the coverage of the event and its aftermath for a period of one year in the Indian daily, The Hindu. It aims to analyse the narrative (or narratives) that developed over the course of one year after the event, using text network analysis.

JUNE 17th, 18th, 19th

Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 20

#### **What is a cashless society? Interrogating access, stakeholders and practices**

Convenors: Anwasha Chakraborty (Università di Bologna), Jillet Sarah Sam (Indian Institute of Technology Kanpur)

#### **Cashlessness and Consumption: student practices in India and Italy**

Jillet Sarah Sam (Indian Institute of Technology, India), Piergiorgio Degli Esposti (Università di Bologna, Italy)

Youth – particularly young students – are often considered to be the early adapters to technology. In this respect, young students are agents who are very explicitly included in the socio-technical imaginaries that surround digital money. In our paper we examine these socio-technical imaginaries – involving international organizations, nation-states, financial organizations, and companies – at three levels. The actors involved are global corporations at the macro level; semipublic subjects at the meso level; local community business at the micro level. At the global level we will focus on the main players. At the national and local level we compare initiatives in Italy and India. For instance, as part of the broader Cashless India initiative, the government of India launched the Visaka initiative in 2016 with the aim of promoting awareness of digital money among the youth and developing cashless campuses. In comparison, in Italy there is a concrete political attempt in the promotion of digital payment which is restrained by low digital literacy. We then compare these imaginaries to the localized practices of the students themselves. We present sociological data on the social practices of college and university students when they engage with digital money in the sphere of consumption. Here we compare the practices of college students in two cities – Kanpur, India and Bologna, Italy. Both are representative of a culturally dynamic students youth community. In the context of cashlessness, India and Italy make for an interesting comparison. Both countries have been relatively cash-dependent economies till now. In India, the route towards cashlessness has been driven by the will of the state through initiatives such as Digital India, Cashless India and the demonetization exercise in 2016. Meanwhile in Italy the initiative was Agenda Digitale according to which each citizen performed less than half of the EU average digital transactions in 2016.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 21

#### **Effect of dataveillance on artistic and cultural production. Exploiting user data to shape user preferences and create new content**

Convenors: Fabio Morreale (University of Auckland), Maria Eriksson (Umeå University)

#### **The Datafication of Art Audiences in Quebec: Practical, Ethical and Policy Challenges**

Guillaume Sirois (Université de Montréal, Canada), Nathalie Casemajor (Institut national de la recherche scientifique, Canada), Guy Bellavance (Institut national de la recherche scientifique, Canada)

If collecting data about users is now a key strategy for major entertainment corporations, like Spotify or Netflix, it is still a complicated matter for local art organizations. In Quebec (Canada), art organizations have been particularly encouraged to develop new projects related to audience data with the adoption, by the local government, of an action plan fostering such initiatives. As a result, many arts organizations are currently experiencing with existing datasets (ticketing, sociodemographic, behavioural), while developing new ways to collect data, such as RFID bracelets or facial recognition. They see in these projects an opportunity to enhance the visitors/spectators' experience and reach out to new audiences. Yet, this process of datafication redefines their relationship with audiences and raises several practical, ethical and policy challenges. This paper is based on a series of focus groups involving 50 representatives of Quebec arts organizations in four disciplines (libraries, dance, museums, and music). It suggests three main challenges for these organizations. A first challenge is related to audience privacy when it comes to data collection and exploitation. Participants wish to develop practices different from those of GAFAM platforms which constantly monitor their users but are left without clear guidelines or ethical frameworks. A second challenge concerns the type of data collected and their willingness to share them with other stakeholders. The encouragement to mutualize data is significant in the sector and organizations are torn between their desire to be part of the collective movement while protecting their market shares. A third challenge deals with the representation of audiences drawn from these data. Indeed, it remains unclear if the aggregation process that is inherent to data analysis allows for an accurate representation of the audience diversity or conversely if it contributes to the standardization of taste. Thus, all these challenges raise questions vis-à-vis arts democratization, which remains a policy goal for many Quebec art organizations.

#### **TikTok and the Performance of the Self**

Thomas Hodgson (King's College London, UK)

This paper develops an ethnographic analysis of the two sides of TikTok's camera lens. On one side, I look at how users perform (primarily through dance, but also other kinds of performance: monologues, skits etc.) to their phone cameras through a re-reading of Roland Barthes Camera Lucida, Susan Sontag On Photography, and Michael Forrester's Psychology of the Image. Drawing on ethnographic data, I draw out some of the emotional responses of these performances, their motivations and their afterlife, especially as they become algorithmically reflected back through the app. Who are the users really performing to here and to what end? There is a fleetingness to these performances that bear more resemblance to live concert settings than to, say, live performances on YouTube. I describe this as 'performative intimacy'. On the other side of the lens, I draw on interview data with an executive who has been central to the development of AI music at TikTok. There is a precision to how the executive understands musical creativity that does not always correspond with how users emotionally engage with the app. This prevailing view of a 'quantified music' is having a profound impact on song-writing more broadly (see the number of TikTok songs in the charts, for example). The paper will begin with the corporate before zooming into the user experience (to use camera pun).

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

## TRACK 21

### Effect of dataveillance on artistic and cultural production. Exploiting user data to shape user preferences and create new content

Convenors: Fabio Morreale (University of Auckland), Maria Eriksson (Umeå University)

#### **The Optimized Performer: Musicians and their Metrics**

Robert Prey (University of Groningen, The Netherlands)

The contemporary musical artist must pass through a number of performance sites on their way to the stage. Through social media platforms such as Facebook, and streaming services like YouTube or Spotify, artists perform for their audiences. In turn, the metrics generated by these platforms are increasingly important determinants of career viability in an increasingly data-driven music industry. Data, however, is never merely descriptive; it is always also performative. Datafied feedback in the form of performance metrics challenge how artists see themselves and their work. In turn, such metrics influence how artists produce and perform themselves and their work. From indepth interviews with practicing musicians, this paper discusses the relationship artists have with their metrics. Performance metrics shape one's sense of self-worth and professional value. In turn, they compel artists to consider how to best "optimize" their content, performances, and selves for optimal discovery and circulation through online platforms. Like software that is 'always in beta', our bodies and identities are understood as perpetually in flux and updatable. But what does data-driven optimization mean - and do - to the creative artist? While the tensions between creative and commercial logics in music and other cultural industries has been explored by many scholars, dataveillance of the self introduces a new dynamic; further mediating the social worlds and provoking new anxieties and coping strategies. This paper calls for greater critical attention to the role dataveillance plays in the production of culture for platforms by examining its affects on musicians under conditions of platform capitalism.

#### **Music at the Frontiers of Artificial Creativity and Criticism**

Bob L. T. Sturm (KTH Royal Institute of Technology, Sweden)

This talk presents an overview of the 5-year research project (commencing June 2020), Music at the Frontiers of Artificial Creativity and Criticism (MUSAiC, ERC-2019-COG No. 864189). MUSAiC will analyze, criticize and fundamentally broaden the AI transformation of three interrelated music practices: 1) listening, 2) composition and performance, and 3) analysis and criticism. For each practice, and grounded in traditional music (e.g., Irish), MUSAiC will document and critique the impacts of and ethical issues surrounding AI, e.g., recommendation, generation and performance synthesis, not to mention frictions around the participation of something divorced from the cultural and historical contexts of music, e.g., national and social identity. What kinds of threats does AI music generation pose to human musicians and traditions? How and to what extent does bias manifest in a listener's analysis and criticism of music created by or with machines? How can ethical considerations be folded into the engineering and application of these AI? When an AI generates a billion tunes, how can one navigate them? (Does the world even need a billion more tunes!?) MUSAiC aims to formulate, implement and test the first "music pedagogy for AI", which can then be used to produce and study novel AI music systems that dynamically adapt to specific users as "digital apprentices". This can bring human-AI music partnerships to new levels of fruitfulness and sustainability, but also contribute to the further deskilling and devaluation of musicianship. How can one evaluate such applications along dimensions of utility, impact, and ethics? The outcomes of MUSAiC will facilitate applications of AI to music in robust and responsible ways, impacting a wide variety of stakeholders. It will prepare music practitioners and audiences of the present (human and artificial) for new ways of listening, working, appraising, and developing the art form, but also pave the way for analyzing, criticizing and broadening the coming AI transformation of the other Arts.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

## TRACK 21

### Effect of dataveillance on artistic and cultural production. Exploiting user data to shape user preferences and create new content

Convenors: Fabio Morreale (University of Auckland), Maria Eriksson (Umeå University)

#### **The Optimized Performer: Musicians and their Metrics**

Robert Prey (University of Groningen, The Netherlands)

The contemporary musical artist must pass through a number of performance sites on their way to the stage. Through social media platforms such as Facebook, and streaming services like YouTube or Spotify, artists perform for their audiences. In turn, the metrics generated by these platforms are increasingly important determinants of career viability in an increasingly data-driven music industry. Data, however, is never merely descriptive; it is always also performative. Datafied feedback in the form of performance metrics challenge how artists see themselves and their work. In turn, such metrics influence how artists produce and perform themselves and their work. From indepth interviews with practicing musicians, this paper discusses the relationship artists have with their metrics. Performance metrics shape one's sense of self-worth and professional value. In turn, they compel artists to consider how to best "optimize" their content, performances, and selves for optimal discovery and circulation through online platforms. Like software that is 'always in beta', our bodies and identities are understood as perpetually in flux and updatable. But what does data-driven optimization mean - and do - to the creative artist? While the tensions between creative and commercial logics in music and other cultural industries has been explored by many scholars, dataveillance of the self introduces a new dynamic; further mediating the social worlds and provoking new anxieties and coping strategies. This paper calls for greater critical attention to the role dataveillance plays in the production of culture for platforms by examining its affects on musicians under conditions of platform capitalism.

#### **Music at the Frontiers of Artificial Creativity and Criticism**

Bob L. T. Sturm (KTH Royal Institute of Technology, Sweden)

This talk presents an overview of the 5-year research project (commencing June 2020), Music at the Frontiers of Artificial Creativity and Criticism (MUSAiC, ERC-2019-COG No. 864189). MUSAiC will analyze, criticize and fundamentally broaden the AI transformation of three interrelated music practices: 1) listening, 2) composition and performance, and 3) analysis and criticism. For each practice, and grounded in traditional music (e.g., Irish), MUSAiC will document and critique the impacts of and ethical issues surrounding AI, e.g., recommendation, generation and performance synthesis, not to mention frictions around the participation of something divorced from the cultural and historical contexts of music, e.g., national and social identity. What kinds of threats does AI music generation pose to human musicians and traditions? How and to what extent does bias manifest in a listener's analysis and criticism of music created by or with machines? How can ethical considerations be folded into the engineering and application of these AI? When an AI generates a billion tunes, how can one navigate them? (Does the world even need a billion more tunes!?) MUSAiC aims to formulate, implement and test the first "music pedagogy for AI", which can then be used to produce and study novel AI music systems that dynamically adapt to specific users as "digital apprentices". This can bring human-AI music partnerships to new levels of fruitfulness and sustainability, but also contribute to the further deskilling and devaluation of musicianship. How can one evaluate such applications along dimensions of utility, impact, and ethics? The outcomes of MUSAiC will facilitate applications of AI to music in robust and responsible ways, impacting a wide variety of stakeholders. It will prepare music practitioners and audiences of the present (human and artificial) for new ways of listening, working, appraising, and developing the art form, but also pave the way for analyzing, criticizing and broadening the coming AI transformation of the other Arts.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

## TRACK 22

### Education and/as its making. Vulnerabilities in the sociomaterial worlds of learning

Convenors: Assunta Viteritti (Sapienza Università di Roma), Leonardo Piromalli (Sapienza Università di Roma)

#### **"Is this how the future looks like?" Education, WhatsApp and technomaterialities—remote teaching in a public school in Brazil**

Ana Carolina Nunes (Oregon State University, USA)

The Covid-19 pandemic has ignited some discussions about "the future of work" and its societal challenges. The situation isn't different in Brazil, where several people now find themselves working from home due to the pandemic. In this scenario, my presentation focuses on the stories of two elementary school teachers involved in the education and care of children with special needs in the city of Aparecida de Goiânia—a city located in Goiás' State, Brazil—that as a consequence of the "stay at home orders" suddenly had to start teaching through WhatsApp. This presentation will give a glimpse into how digitalization processes that characterize education may generate new inequalities and how the impact of Covid-19 in the education system also reinforces pre-existing ones. Through remotely conducted ethnographic conversations around the questions "What has it been like homeschooling/teaching during the COVID-19? What have the main challenges been? Benefits or unexpected joys?" I'll be engaging not only with these teacher's stories but also with the material conditions of educational practices, as well as with the multiple relationships or mediations that are afforded by and constrained within the interactions among other teachers, technology infrastructure, and school materials (Pargman & Cerato, 2019). My presentation centers the teachers who are organizing and delivering the teaching practices remotely and will shed some light on how digital infrastructures materialize themselves in the educational system in Aparecida de Goiânia, generating sociotechnical materiality and accentuating precarious systems.

#### **Reassembling ecologies in higher education: following interoperability in action**

Leonardo Piromalli (Sapienza Università di Roma, Italy)

Today, interoperability - i.e., 'technically' speaking, a connective capability of heterogeneous software applications to 'talk' to each other and work in a coordinated way - is a highly relevant and pervasive issue. After the Covid-19 pandemic in particular, it has become an important player in law and regulation, politics at all scales, and everyday life in all social worlds. However, interoperability is very often treated as a technical - therefore, neutral - matter of fact. Is it possible to observe it as a social process? And how does it emerge in the processes, practices, and organisation of higher education? What does it do? I followed interoperability in action in a large university in central Italy in order to examine its emergence and performance. To this end, I carried out digital ethnography, interviews, collection of subjective diaries and documental analysis with an ecological, proximal and practice-based sensitivity (Star, 1995; Giancola & Viteritti, 2014; Gherardi, 2019). Interoperability was followed along three fields in particular. First, I adopted a micro-sociological eye to observe its effects on the situated practices of academics, IT specialists, and students. Furthermore, I have examined some values-laden professional visions and organisational cultures that interoperability ideas and software applications conceal and perform. Lastly, I have focused the associations that are established in the Sapienza organisation and digital ecology through interoperability-in-action. Through this scrutiny, interoperability in higher education appear both as connectedness-in-action (Gherardi, 2019) that intertwines scales (institutional, national, global) and actors (human and non-human, with diverse purpose and values), and as a sociotechnical organisational texture that constantly (yet not infallibly) holds together the university's organising (Weick, 1995). Digital ecologies in higher education are knotted together through the ongoing interconnectedness among, and within, infrastructures and data.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 22

#### Education and/as its making. Vulnerabilities in the sociomaterial worlds of learning

Convenors: Assunta Viteritti (Sapienza Università di Roma), Leonardo Piromalli (Sapienza Università di Roma)

#### Is technology enhancing education? Analyzing discourse and practices of Brazilian teachers through a sociomaterial perspective

Magda Pischetola (Pontifícia Universidade Católica do Rio de Janeiro, Brazil)

Technology adoption in teaching practices has been at the core of debates concerning educational innovation for the last two decades (Retalis et al., 2010; Weller, 2018). However, despite extensive investments in edtech solutions, with software and devices saturation in schools, there is little evidence of an effective transformation of pedagogy, and teachers are mostly held responsible for limited didactical innovation (Brasilino et al., 2018; King et al., 2016; Pischetola et al., 2019). A growing body of literature has pointed at the need to adopt a more critical perspective on the use of technologies in education (Hamilton & Friesen, 2013; Selwyn, 2017), one that would be able to avoid pre-determined interpretations of ICT in schools and make teachers less vulnerable. By showing sociomaterial entanglements that take place in a school classroom, contributions from Science and Technology Studies are shaping a new frame for research (Fenwick et al., 2011; Lenz Taguchi, 2010). In this perspective, day-to-day teaching practices are both relational and emergent (Law, 2009), as teacher's agency is enabled by the sociomateriality of spaces, artefacts and technologies (Sørensen, 2009; Viteritti & Landriscina, 2016). On these grounds, the paper presents an ethnographic research undertaken in two public primary schools of the municipality of Rio de Janeiro, between 2015 and 2018. The schools were chosen based on their public visibility around edtech projects. Participant observation in the classrooms, in-depth interviews with teachers and principals, and focus groups with selected teachers were used as tools for data collection. Findings show that the way teachers ally with technologies in their work is never neutral or predictable. Their situated actions emerge from sociomaterial interactions, often detached from their initial intentions. Furthermore, shared spaces, such as the teachers' room or the school corridors, represent the material expression of networked meaning-making processes and common understanding of technology.

#### The technological frames of educational texts: what we can learn from the reappropriation of pre-digital technologies

Michael Schlauch (Free University of Bozen-Bolzano, Italy)

There have always been controversies about the role of textbooks and other media in the classroom. Current debates oscillate between techno-determinist and humanistic interpretations that ascribe the success of teaching either entirely to the technology or to the teacher, whereas conventional use of new technologies tends to exacerbate disparities (Reich and Ito, 2017). This contribution highlights the sociomaterial entanglement of human actors and texts and examines different ways of how text has historically configured interactions in the classroom. Extending our scope to artifacts following a methodological path "that leads from text to things and from things to texts" (Latour, 1992), one can distinguish three competing 'technological frames' (Bijker, 1995) that afford different kinds of spatial arrangements and interactions; a teacher-centric, a technology-centric and a distributed model of instruction. Within the first frame, textbooks stabilize the teacher's identity as the main mediator of the book's standardized content and the students as passive receivers. The technology-centric frame is exemplified by the mechanical 'teaching machine' (Skinner, 1953) which was designed to autonomously impart programmed lectures to the individual learner. The distributed model of instruction, however, acknowledges multiple human and nonhuman mediators that accomplish learning. Notably, Freinet's 'boite enseignante' was a simple alternative to the teaching machine which enabled students to engage in situated activity according to a sequence of instructions prepared locally. Moreover, long before the 'flipped classroom', Jacotot avoided what he called the 'explicative order' (Rancière, 1991) by the means of self-directed reading. This examination explains how the teacher-centric and the technology-centric models still provide the technological frames of today's digital texts in education and thereby reproduce vulnerabilities. The accomplishment of distributed instruction, however, involves instances of 'repurposing', 'reinscripting' and 'repairing' (Jarzabkowski and Pinch, 2013) that expand beyond the prescribed usage of artifacts. I argue that awareness about the importance of such sociomaterial flexibility in educational technology may contrast vulnerabilities in education.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

## TRACK 22

### Education and/as its making. Vulnerabilities in the sociomaterial worlds of learning

Convenors: Assunta Viteritti (Sapienza Università di Roma), Leonardo Piromalli (Sapienza Università di Roma)

#### Rethinking knowledge production to confront vulnerabilities in a European project

Mariacristina Sciannamblo (Sapienza Università di Roma, Italy)

In the last decades, the arena of higher education has been invested by several transformations which reconfigure the very role of academic profession within. Among these multiple transformations, there is the so-called “third mission” of higher education, that is the effort to establish and nurture a fruitful collaboration with society in order to shape academic outputs into commercial products, as well as to generate public goods that increase the general level of well-being of society from a cultural, social, and educational point of view. The European Union (EU) plays a crucial role in this effort, with the elaboration of research policies and framework programmes that clearly define the dialogue between scientific research and public opinion as a general requirement for any research proposal that aspires to access European funds. This contribution aims to attend the issue of the relationship between knowledge production and the emergence of vulnerabilities in the context of a European-funded sociotechnical project focused on precariousness and how it is experienced by people in Europe. The discussion focuses on how an interdisciplinary project, designed by researchers to address social vulnerabilities, can unexpectedly reinforce those same vulnerabilities it aims to confront through the production of knowledges and languages that do not account, or even stigmatize, the struggles and experiences that a growing number of people is living. Moreover, the contribution shows the extent to which the configuration of institutional/academic knowledge production may create new vulnerabilities by encouraging or discouraging collaborations between different disciplines, researchers, and non-academic actors.

#### Does our future have a gender?

Sara Tranquada (The NOVA School of Science and Technology, Portugal)

One’s gender identity can be impacted by his or her gender expectation on how to behave (gender roles), portray a specific personality trait (gender stereotype), situation (gender attitudes) or even information. When both female and male come together to solve a problem, their efficacy is greater than individual work and a group of individual belonging to the same sex gender. However, when the problem is associated with gender, the efficiency stops. Studies have used riddles to demonstrate how pre-existing beliefs influence problem-solving. In almost every case, people identify a specialist as a male rather than a female. This study explores how influential gender bias can be for students on the moment they apply for a higher education. We’ve used two opposite riddles (the surgeon is a male or the surgeon is a female), and measured the students time and difficulty regarding the riddle they had, their subjective and objective learning about gender stereotypes and the relationship between their answer in the riddle (right or wrong) to the gender majority of the degree they want to choose. Results mirror previous work, being able to distinguish by gender in the subjective and objective learning. This study demonstrates a possible explanation of the path of the student : just by answering a riddle, we could predict if the participants goes to a gender-biases (e.g., nursing that has more than 50% of female students) program or a gender balanced one (with 50/50 of female and male students).

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 22

#### Education and/as its making. Vulnerabilities in the sociomaterial worlds of learning

Convenors: Assunta Viteritti (Sapienza Università di Roma), Leonardo Piromalli (Sapienza Università di Roma)

#### The University Professor "Attached and Entangled" in the New Sociomaterial Daily Practices

Assunta Viteritti (Sapienza Università di Roma, Italy)

The life of the university professor has become a daily Odyssey. Every day, s/he is caught in the multiple effects (Gherardi 2017) of the new organizational and operational practices that exceed the consolidated teaching and research activities (Higgs et al. 2013; Kennedy et al. 2015) To comply with the multiple effects of New Public Management in the Higher Education field (Tolofari, 2005), the university professor must fulfil the needs of new issues emerging from the market of academic institutions. In particular, s/he has to: pay attention to rankings, positioning, citational indexes; continuously account for her/his work; maintain good performance indicators so as to find funding opportunities; constantly update her/his personal performance indicators in the web pages in the various academic digital platforms; produce efficient performance in the professional academic market; etc. All these practices and artefacts, which act mostly in the digital field, are both enemies and allies of university professors. They become attached to (Latour 1990; 2011) and entangled with them (Barad 2007). These practices solicit the university professor to provide good performance every day in order to remain included, visible and present within the global connection of the academic market. These practices require to be confident with and tied to the non-human artefacts devote to create relational effects in terms of recognition. The different degree of confidence of University professors with these artefacts can create sociomaterial textures (Orlinowsky 2007; Fenwick 2015) which diverge indeed from earlier traditional university practices. The agency of the university professors allies with different and new ecologies of elements (Priestley et al. 2015) and produces unexpected attachment to the new socio-material networks. These sociomaterial practices can create emerging challenges and different effects on the academic life in terms of exclusion/inclusion, visibility/invisibility, presence/absence. The paper aim at exploring 3 cases, collected in the Italian University, that show the emergence of different forms of attachment and entanglement to these new sociomaterial practices in the Higher Education field.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

## TRACK 23

### The digital transformation in education: addressing or reinforcing vulnerability?

Convenor: Valentina Goglio (Università di Torino)

#### La voce dei lavoratori nel modellare la formazione aziendale nell'indagine INDACO 2018

Roberto Angotti (Istituto Nazionale per l'Analisi delle Politiche Pubbliche, Italy), Achille Pierre Paliotta (Istituto Nazionale per l'Analisi delle Politiche Pubbliche, Italy)

La presente proposta intende rispondere ai seguenti quesiti: la formazione aziendale in che modo può aiutare i lavoratori a far fronte al cambiamento tecnologico sui posti di lavoro? Quanti lavoratori sono coinvolti nelle attività di formazione? Essa passa attraverso un accordo sindacale oppure è espressione solo dei desideri del gruppo dirigente rispetto a determinati gruppi professionali. Quanto sono coinvolti i rappresentanti dei lavoratori nelle decisioni relative alla formazione aziendale? In che misura incide la segmentazione presente tra i gruppi professionali all'interno della stessa organizzazione? Quando sono presenti in azienda una commissione/comitato paritetico/RSU/RSA essi hanno o no una qualche forma di voce (così come esplicitata da Budd in *Employment with a Human Face*) per quanto riguarda: 1) definizione degli obiettivi della formazione; 2) determinazione dei criteri di selezione dei partecipanti; 3) modalità e tipologia di formazione (interna/esterna, altre forme); 4) contenuti dell'attività di formazione; 5) budget da destinare alla formazione; 6) selezione di fornitori esterni di formazione; 7) valutazione dei risultati della formazione. L'indagine sulla conoscenza nelle imprese (INDACO) permette di rilevare anche le competenze che si intendevano aggiornare o sviluppare con i corsi di formazione aziendale nonché se l'impresa ha adottato innovazioni tecnologiche 4.0 per la digitalizzazione e l'automazione. In definitiva quello che si cerca di approfondire in questo paper è se tutti i lavoratori sono in grado di partecipare e beneficiare della formazione in azienda, anche di quella digitale oppure se determinati gruppi professionali sono in grado di avvantaggiarsi di tali cambiamenti in misura maggiore rispetto ad altri gruppi. Base dati: La base dati utilizzata è inedita in quanto si tratta della seconda edizione dell'indagine INDACO, realizzata da INAPP, la cui rilevazione è appena terminata (annualità di riferimento 2018, 19 mila imprese rispondenti, rappresentative delle imprese con più di 5 addetti) e non ancora divulgata. INDACO, inserita nel Piano Statistico Nazionale del SISTAN, ha l'obiettivo di analizzare le politiche e i modelli di organizzazione del lavoro adottati dal sistema produttivo italiano, in tema di apprendimento permanente e trasferimento intergenerazionale delle competenze. Sulle stesse tematiche verrà effettuato un raffronto anche con le edizioni precedenti di INDACO e con CVTS (Continuing Vocational Training Survey) di EUROSTAT, con cui è pienamente confrontabile essendo armonizzata metodologicamente con essa.

#### Le competenze socio emotive di fronte alla sfida della DAD: la tecnologia come rischio o risorsa?

Giulia Maria Cavaletto (Università di Padova, Italy)

Il tema delle competenze come oggetto di apprendimento (e quindi insegnamento) è recentemente dibattuto nella letteratura internazionale. Al pari delle conoscenze curricolari, anche le competenze possono essere apprese e dunque trasmesse. In particolare il tema della relazione tra competenze socio emotive (SES) degli studenti e dei docenti è stato più volte ribadito, sottolineando la centralità della figura dell'insegnante per gli apprendimenti, non soltanto curricolari ma ancor più extra-curricolari. All'interno di una ricerca biennale (2018-2020) avente ad oggetto le competenze socio emotive di bambini di scuola primaria e loro insegnanti all'interno della città di Torino, che ha coinvolto 14 scuole primarie con le loro classi V, si presentano qui i risultati di una parte della fase qualitativa con dirigenti e insegnanti. Attraverso 14 interviste a dirigenti, 20 focus con insegnanti è stata indagata la transizione alla DAD e i suoi effetti sulla trasformazione, rimodulazione, valorizzazione delle competenze socio emotive di docenti e alunni. I principali risultati possono essere ricondotti a tre ambiti: i. la relazione educativa e didattica è stata perturbata dal venir meno della compresenza; ii. in tale relazione si sono inseriti i genitori come mediatori nell'utilizzo delle tecnologie; infine, i diversi gradi di competenza dei docenti nell'utilizzo delle tecnologie ha avuto effetto sul tipo di DAD e su alcune competenze socio emotive: capacità organizzative, resistenza allo stress, creatività, socialità, perseveranza, cooperazione. L'irrompere inatteso, imprevedibile ed imprevedibile dell'emergenza sanitaria ha trasformato il processo di apprendimento/insegnamento, non necessariamente in modo negativo: anzi la contingenza emergenziale si è qualificata come risorsa, fattore di innesco di una nuova riflessività all'interno di condizioni ambientali del tutto nuove e dagli esiti non prevedibili.

JUNE 17th, 18th, 19th

# DIS/ENTANGLING TECHNOSCIENCE:



*Online*  
stsitaliaconference.  
spazioiris.it/login



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 23

#### The digital transformation in education: addressing or reinforcing vulnerability?

Convenor: Valentina Goglio (Università di Torino)

##### About platform education: concepts, problems and a case study

Federica Cornali (Università di Torino, Italy), Giulia Maria Cavaletto (Università di Padova, Italy)

In recent times, in correspondence with the pervasiveness of the so-called platform economy, the expression platform education has also begun to spread. It is not a simple linguistic assonance, but a plausible label that refers to the growing diffusion of educational activities through the use of platforms that are generally available online. This approach is broad and heterogeneous including a wide range of activities ranging from the Learning Management System (LMS), to the MOOCs, to the use of social media for educational purposes (Kimmons and Veletsianos 2016). The diffusion of digitization processes in the field of education, in which a central role is played precisely by online platforms, brings out new methods and practices of teaching and learning, unrelated to the traditional spatiality and temporality of education (van Dijck et al. 2018). However, these digital products/artefacts do not only constitute a new mediation in the teaching and learning processes, in fact they can also play an important role in the governance, evaluation and monitoring processes of education systems (Kogan & Hanney 2000; Landri 2018). The complexity of the platform education implications – not only educational but more widely social – urges scholars and researchers to make better conceptualization and definition efforts in order to delimit the semantic area of the notion and identify its specificities, distinguishing the different types of platform according to their origin, and to their uses and purposes. In reference to a greater awareness of the mechanisms that govern the dissemination of knowledge, it seems particularly useful to dwell on who are those that design, realize and implement educational platforms. In fact, the platforms have different origins, they can be produced by ed-tech companies (e.g. Homuork) for commercial purposes or they can be produced by IT companies (e.g. Google) but provided free of charge to schools however making it necessary to create an email account for each student who wishes to receive notifications, or finally they can originate from a community of developers and users (Moodle). In this contribution, after a brief examination of the main issues relating to the definition, conceptualization and identifying the various type of platform education, we will present a case study. We will focus our attention on one of the rare cases of application managed in complete autonomy by a community of students. In the specific case, we will focus on “Sciumegu”, a digital platform managed by a group of medical students from the Italian university of Genoa.

##### Information-processing skills and financial literacy in a technology-rich environment

Anna Lo Prete (Università di Torino, Italy)

Technological change requires people to use high-level cognitive skills that involve applying literacy, numeracy, and problem solving to everyday life, and to work tasks, in a technology-rich environment. In the literature, proficiency in key information-processing skills is associated with better labor market outcomes, depends on education attainment, and is related to individual socio-economic backgrounds (OECD, 2019). This work aims at exploring if its level and distribution are also related to people's ability to access, and benefit from, technologically highly-sophisticated financial markets. Proficiency in the use of basic economic and financial concepts, the so-called financial literacy, is associated to better decision-making, both as regards economic and electoral choices, and to lower inequality across countries (Lo Prete, 2013, 2020; Fornero and Lo Prete, 2019). Using an indicator of financial literacy compiled by the Standard & Poor's Ratings Services Global Financial Literacy Survey, and information on information-processing skills from the Survey of Adult Skills compiled by the OECD Programme for the International Assessment of Adult Competencies (PIAAC), this paper offers a first cross-country analysis of the association between these two intertwined high-level skills.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

## TRACK 23

### The digital transformation in education: addressing or reinforcing vulnerability?

Convenor: Valentina Goglio (Università di Torino)

#### Parents, the Marginalized Gatekeepers for STEM

Sabine Zauchner-Studnicka (MOVES - Centre for Gender and Diversity, Austria), Natalie Denk (Danube University Krems, Austria), Katharina Resch-Schobel (Austrian Computer Society, Austria), Nicole Salomon (Ovos Media, Austria)

When it comes to mastering the challenges arising from the current technological developments, the term STEM is frequently cited, as it stands for the competences which influence how individual participation in technological innovation is shaped. While further increases in the demand for STEM graduates in technology are expected and the labor market for STEM graduates is excellent, still too few young people choose to study these subjects. This is especially true for girls: According to EIGE1 the percentage of women in ICTs is 17% and in engineering 19% (EU28). The reason for this gender imbalance is a well-documented multifactorial process that is first and foremost produced by gender stereotypes. These have been researched in STEM with regard to attitudes, motivation, attributions, assessment of individual abilities or achievements. Also, a lack of role models, knowledge about STEM education and professions, and women's media representation add to this imbalance. Parents, even more than pedagogues, are regarded to be the most essential gatekeepers for STEM because parental values establish the importance young people give to STEM. Further, parents have the opportunity to motivate and influence interests at a very early stage. Though parents are often not aware of their essential role and frequently do not have the necessary knowledge to support their children, STEM activities or initiatives hardly ever focus on them. The "E-MINT"2 project - framed by the recently developed Science-Capital-Model - and based on an extensive requirements analysis addresses this issue in creating analogue and digital spaces to empower parents to effectively take over their roles as coaches for their children in STEM.

#### Makerspaces are not for females, are they?

Elisabeth Limbeck (Technisches Museum Wien, Austria), Sabine Zauchner-Studnicka (MOVES - Centre for Gender and Diversity, Austria)

Industry 4.0 production processes change organizations, all areas of society are affected by digitization like for example AI is expected to become a mass phenomenon within the next 10 years. It is vital to keep up with these consistently changing technological developments in order to shape individual opportunities for participation in technological innovations. Still, females tend to be excluded from these processes like current data from the EIGE1 impressively show: Counted over all industries the share of female and male IT-Specialists in Europe in 2018 is 16,5 % versus 83,5 %. Building on its democratizing idea, a makerspace2 was established at the TMW which is characterized by a wide range of different technologies (laser cutter, 3D printer, vinyl plotter, digital sewing machine). We aimed at providing a space for young people - especially for girls - in order to inspire them to embrace technological developments. Deconstructive feminist approaches were applied in order to develop a gender-sensitive set of organizational and didactic activities. Evaluation shows, that factors like a high degree of gender competence of the facilitators is crucial to involve girls as well as boys. Self-directed learning processes can emerge, when the facilitators take over their roles as coaches be it as creating an atmosphere characterized by respect and authenticity or being open to all questions. Not to speak of the fact that prior knowledge of participants must not be high and they are not rated. Young people benefit in getting a picture of technology as being manageable and motivating due to their learning that technology is linked to design and to creating a product specifically relevant for themselves.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 24

#### Migration and ICTs: bodies, spaces and imaginary

Convenors: Guido Nicolosi (Università di Catania), Olga Usachova (Università di Padova)

#### Digital connectivity and migration towards Europe

Diotima Bertel (SYNYO, Austria), Rut Bermejo (Universidad Rey Juan Carlos, Spain), Fiona-Katharina Seiger (Erasmus University Rotterdam, The Netherlands), Karen Hough (Sheffield Hallam University, UK), James Rhys Edwards (SINUS Markt- und Sozialforschung, Germany)

Much research has been carried out among the various drivers of migration, often in the logic of push and pull factors (e.g., Dhoest 2019; Crawley & Skleparis 2018; Van Praag & Timmerman 2019). Among them are narratives and perceptions of the country of destination. The way these perceptions are created is multifaceted. Certainly, traditional mass media, as well as social media, play a role in this process – and while it is obvious that they are disseminated with the use of digital technologies, their actual impact on narratives of the EU is still unclear, as is the role of ICT in this process. While research has shown that word of mouth is crucial in the way imaginaries are created (Kuschminder, 2017; Fiedler 2019), interpersonal connections are facilitated via ICT, which become actors (Latour 1987) themselves in this network of migrants, media, and technology. Digital connectivity affects every aspect of migration (Gelb & Krishnan 2018); and as a key element in this process – for communication (Almenara-Niebla & Ascanio-Sánchez 2019), orientation (Fiedler, 2019), participation (Leurs and Smets 2018), etc. – it becomes ever more important to understand its impact. This paper focuses on the impact of technology in the migration process towards Europe. While a lot of focus has been put on the way traditional and social media transport narratives about migration/migrants, there is little research on narratives of Europe created by the media; nor the role ICT play in this process. Indeed, in a technologically interconnected system, it is crucial to understand the factors that influence migration decisions, beyond a push and pull model. Furthermore, research examining the effects of narratives on migration – e.g., on increasing or decreasing migration flows – is largely lacking. Finally, how migrants imagine Europe and how Europe imagines migration/migrants is interconnected and influences all involved actors, transported via a technology that shapes the communication process by enabling, changing, or disrupting it.

#### Understanding perceptions of Europe, their influence on migration decisions and the role of ICT

Diotima Bertel (SYNYO GmbH, Austria)

Much research has been carried out among the various drivers of migration, often in the logic of push and pull factors (e.g., Dhoest 2019; Crawley & Skleparis 2018; Van Praag & Timmerman 2019). Among these factors are narratives and perceptions of the country of destination. The way these perceptions are created is multifaceted. Certainly, traditional mass media, as well as social media, play a role in this process – and while it is obvious that narratives are disseminated with the use of digital technologies, their actual impact on migration decisions is still unclear, as is the role of ICT in this process. While research has shown that word of mouth is crucial in the way imaginaries are created (Kuschminder, 2017; Fiedler 2019), interpersonal connections are facilitated via ICT, which become actors (Latour 1987) themselves in this network of migrants, media, and technology. Digital connectivity affects every aspect of migration (Gelb & Krishnan 2018); and as a key element in this process – for communication (Almenara-Niebla & Ascanio-Sánchez 2019), orientation (Fiedler, 2019), participation (Leurs & Smets 2018), etc. – it becomes ever more important to understand its impact. While a lot of focus has been put on the way traditional and social media transport narratives about migration/migrants, there is little research on narratives of Europe created by the media; nor the role ICT play in this process. Indeed, in a technologically interconnected system, it is crucial to understand the factors that influence migration decisions, beyond a push and pull model. Furthermore, research examining the effects of narratives on migration – e.g., on increasing or decreasing migration flows – is largely lacking. Finally, how migrants imagine Europe and how Europe imagines migration/migrants is interconnected and influences all involved actors, transported via a technology that shapes the communication process by enabling, changing, or disrupting it. This research is carried out as part of the PERCEPTIONS project, funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No 833870

JUNE 17th, 18th, 19th

Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 24

#### Migration and ICTs: bodies, spaces and imaginary

Convenors: Guido Nicolosi (Università di Catania), Olga Usachova (Università di Padova)

#### **Moving Bodies. Drowning and Creative Infrastructures for Identification**

Sara Casartelli (Sapienza Università di Roma, Italy)

This article empirically analyses how the unknown bodies of migrants who died in the attempt to reach Europe are managed and potentially identified. Shifting attention away from the border, the paper provides a new angle to the crisis unfolding in the Mediterranean, investigating the socio-technical assemblage required to know and attend to the dead migrant's body. Exploring initiatives of identification in Italy, the article presents an ethnographic account of the emergent forensic infrastructure and the work required to give a name to a drowned migrant. It does so by looking at movement. The movement of bodies towards identification. The pursuit is informed by Science and Technology Studies (STS); the focus is on the socio-material practices aimed at the identification of unknown bodies. Taking stock from recent debates in the anthropology of infrastructure in which scholars critique the idea that infrastructures are passive architectures comprising circulations, the paper proposes an alternative perspective on infrastructures, showing how infrastructures are a creative praxis done by movement, rather than a prior and fixed road. Following the circulation of the bodies and bodily material in the infrastructure whose purpose is identification, I argue that circulations are performative events, that change things and people as they move through space and time. The argument will be developed in two steps. First, foregrounding the movement of the body in the journey towards identification, the paper demonstrates the forensic infrastructure is enacted through the circulation of the body, as it imposes its own pace and trajectory. Second, unfolding the material fostering of the emerging infrastructure to identify an unknown body, the article reveals how in the process of circulation the body is turned into data for forensic evidence. Traveling through frontiers, from physical to digital, via cameras and computer databases, the body on its route towards identity arrives changed.

#### **Perceiving and Controlling Maritime Flows: Technology, Kinopolitics and the Governmentalisation of Vision**

Georgios Glouftsiotis (Università di Trento, Italy), Panagiotis Loukinas (Trilateral Research, UK)

In this paper, we explore how satellites and drones co-produce the capacity to make Europe's maritime borderzones visible and controllable. We synthesise Thomas Nail's work on kinopolitics with ideas inspired by Foucauldian studies on governmentality to develop the following argument: satellites and drones are technologies of power embedded within a kinopolitical regime of maritime surveillance which strategises vision in attempts to govern subjects and objects on the move – attempts that challenge any clear-cut distinction between security controls and humanitarian interventions in the field border management. We forward an understanding of kinopolitics as a governmentality that has as its referent object neither the territory of the state (as in the case of sovereignty) nor life processes at the level of population (as in the case of biopolitics), but transboundary flows. In our empirical context, such flows are desperate migrant journeys in the Mediterranean Sea, but also mobilities associated with criminal activities, like drug smuggling and trafficking. In this puzzle, we unveil the power of the machinic vision generated by satellites and drones. Machinic vision, we suggest, comes to be governmentalised, in the sense that it produces knowledge that informs programmes of security- humanitarian action related to the regulation of maritime flows.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 4

including, excluding and connecting through / within  
technoscience

### TRACK 24

#### Migration and ICTs: bodies, spaces and imaginary

Convenors: Guido Nicolosi (Università di Catania), Olga Usachova (Università di Padova)

#### **The Powerful Medium: Refugees' Smartphone Practises**

Stephan O. Görland (University of Bremen, Germany)

Practically every refugee who came to Germany after 2015 carried a smartphone with him. No wonder, it helps to obtain information in the country of origin, navigate via GPS and communicate with friends and family during and after the escape process. These "migrant digitalities" (Trimikliniotis, Parsanoglou & Tsianos, 2015) have thus become indispensable for refugees: The "connected migrant" (Diminescu, 2008) faces new challenges during the flight, in addition to familiar problems, such as sleeping, eating and drinking as well as recharging the telephone and access to SIM cards (Gillespie et al. 2016). This paper, which is based both on the results of 17 guideline interviews with young Arabic and Farsi-speaking refugees and on a short questionnaire filled out by 97 Arabic-speaking people (both surveys took place in Berlin from May to December 2016), is intended to present three essential moments of self-empowerment in mobile media use during and after the successful migration to Germany, which will be briefly explained below. (A) Autonomy in the coordination of flight processes This means processes that result from the immediate migration process. Here, the fled digital apps used for route planning such as google maps of importance (route planners were the second most frequently used apps during the escape). (B) Autonomy through verification of information. This point describes the verification of information: This can be via a real-time connection to already successfully emigrated relatives. Or via so-called "smuggler rankings", which can be found on Facebook to see which smuggler are "trustworthy" and which are not. (C) Autonomy in integration into the majority society. This results with the use of the smartphone in the target country, the smartphone is often the "only window to the world". It can be shown, that the integration happens self-determined and through participation, e.g. in Facebook groups or WhatsApp group chats and not via so-called integration apps. Furthermore, for 70% of the respondents even the smartphone was the biggest helper to learn the German language. Overall, the paper wants to discuss the importance of the smartphone for refugees - and discuss in the second part the necessity of top-down computed applications for refugees.

#### **Questioning "representation" of forced migration in media**

Vita Zelenska (University of Regensburg, Germany)

Although hate-speech is obviously a problem, I would like to discover what processes stand behind it in every case. Thoughtless liberal approach to the question of forced migration, that lacks understanding of structural economic and political background is often similarly dangerous. I am going to discuss how qualitative ethnographic analysis of media can problematize such issues as exoticization, victimization and objectification related to the topic of migration. I will pay special attention to the feminist criticism of objectification (Rosi Braidotti, Trinh T. Minh-ha) and will try to find the point where feminist studies and critical migration studies intersect in the ways they disentangle mechanisms of objectification in media. As to the concrete examples, I will touch upon the ways various media products, such as the music videos and pictures, various platforms, such as Facebook and internet sites of NGOs and informal housing organisations, perform the connections between refugee images and concrete geographical places in Greece and in the US, thus asking the question of belonging in a new way, of whether places belong to people or people belong to places (Setha Low) on the internet, and whether the "real" places are necessarily situated outside of representation. I wonder if we could talk about representation in that simple meaning of word any more (Karen Barad, Marilyn Strathern). What terms should we imagine instead of it? Should we call the specific aforementioned relations "media entanglements"? My study will contribute to the non-representational studies of media. This presentation is a result of the theoretical development of my PhD thesis: "What does it mean to be a refugee? Sites of knowledge production and their asymmetrical entanglements".

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 5

governing and reshuffling technoscience and innovation processes

### TRACK 26

#### Law, data and technology: the role of STS in dis/entangling individual rights and social justice

Convenors: Carlo Botrugno (Università di Firenze), Gianmarco Gori (Università di Firenze), Laurence Diver (Vrije University Brussel)

#### Claiming environmental justice otherwise: the case of grassroots-driven environmental monitoring

Anna Berti Suman (Tilburg University, The Netherlands)

On January 28, 2020, in a conference on new frontiers in environmental mediation held in Milan, a member of the European Parliament stressed the unrealized potential of the Aarhus Convention on access to environmental information and the need to reflect on ways to ensure that the provisions of the Convention are concretely implemented in environmental decision-making processes. This missed opportunity also relates to the unsatisfactory space that is currently given to participatory or even grassroots-led forms of environmental monitoring. Interestingly, in 2018 a study was published by the European Commission on the "EU implementation of the Aarhus Convention in the area of access to justice in environmental matters". An ad-hoc Committee found a breach of the Aarhus Regulation implementing the Convention by the EU under a number of aspects. Increasingly, concerned citizens appropriate of technological infrastructures to create alternative environmental data, bypassing somehow the institutional channels of access based on – among the others – the Aarhus Convention. These actors generate deviating forms of normativity that interact with existing institutions in complex ways, suggesting new ways of gathering and spreading environmental information. The contribution will frame these forms of information production as manifestation of a new right, enhanced by recent technological developments, that is "a right to contribute to environmental information". I will argue that grassroots actors, by producing alternative data on environmental issues, advance claims to environmental justice otherwise, i.e. outside the institutionally designated channels.

#### Law is in the air: (dis)entangling the epistemological challenges of working at the interplay of law, science and technology

Carlo Botrugno (Università di Firenze, Italy)

Mainstream legal approaches strongly rely on technological determinism and view technological innovation as a value-free process necessarily headed to improve human life, which entails technology is seen as a neutral (discrete) object (Suchman et al. 1999). STS' scholars have largely contributed to 'disentangling' this perspective and therefore to build a huge array of middle-range notions through which unveiling the social processes implicit in the design, implementation and use of the new technologies. However, this work of unpacking the black box of new technology has been mostly conducted in absence of the 'legal', also due to consolidate connections that STS hold especially with sociology, philosophy and anthropology. In meantime, legal scholars have shown to be reluctant to meld legal reasoning with the STS perspective, namely to develop an effective interdisciplinary gaze through which to look what is behind and beyond law, legal practice and the norms. In this context, a notable exception is represented by the creditable work by Sheila Jasanoff who made the paradigm of co-production between law and science emerge and influence internationally investigation at the interplay of law, science and technology (Jasanoff 1995). Notwithstanding, the co-production paradigm has not effectively permeated the legal practice, thus leaving untouched dominant, conventional legal approach based on normativism and statalism. In this context, the main aim of this communication is to build on the co-production perspective in order to reframe the co-constitutive terms of the relationships of law and science, with the ultimate purpose to unfold the 'ubiquitousness of the law', its being embedded in space and place (Delaney et al. 2001), which would lead to restore a perspective in which it could be argued that 'law is in the air', i.e. law is a social practice, embedded in social practices and situated context(s), thus contingent, inescapably everywhere

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 5

governing and reshuffling technoscience and innovation processes

### TRACK 26

#### Law, data and technology: the role of STS in dis/entangling individual rights and social justice

Convenors: Carlo Botrugno (Università di Firenze), Gianmarco Gori (Università di Firenze), Laurence Diver (Vrije University Brussel)

#### Food in the digital ecosystem: from food e-commerce to sustainable digital food systems

Margherita Brunori (Università di Trento, Italy)

Food is on the verge to be a protagonist both in the sustainability and the digital transition. On the one hand, according to the Farm to Fork Strategy, food will acquire increasing importance to vehicle sustainable consumption practices in the coming years. On the other, especially since the surge of the Covid-19 pandemics, the phenomenon of food e-commerce is steadily growing and bringing innovation in the food chain. Taking into consideration that EU consumers are increasingly called to make informed choices and play an active role in the green and digital transition, the study aims at assessing the legal framework that governs these intertwining issues. Notably, it reconstructs the EU legal discipline regulating food e-commerce and, in consideration of the fact that online food sales increasingly occur in the context of online platforms, it illustrates the main innovation brought about by the Digital Services Act regulation proposal. The study critically addresses the main surfacing challenges: the risk of information overload and unfair information practices, the need to attune different responsibility regimes, and the increasing role of private standards. Underpinning these elements, there is the need to draw a balance between the freedom of expression and information, the right to high standards of health, and the freedom to conduct business, as recognized by the Charter of Fundamental Rights of the European Union. By addressing these issues, the the study lingers over the aspect of private standards, by analysing the potential effects of the promotion of corporate social responsibility in the emerging digital food system. The paper concludes with a reflection on to what extent the adoption of the right to food as a guiding principle can inform the development of a clearer regulatory regime for a digital food ecosystem in Europe.

#### Technological innovation and tort functions

Alessandro Drigo (University of Lucerne, Switzerland)

The development and diffusion of AI systems represents only one example of a much broader and pervasive process, capable of changing socio-economic balances both at national and international level. From this point of view, taking into account both the new role of the technological phenomenon in society and the new pace of technological innovation, some considerations can also be developed in the field of tort liability. In fact, emphasizing the close dialogue developed between the technological world and tort analysis, the "institutional" recognition of the role of the technological phenomenon and some concrete examples of legal experimentation, it will be possible to develop a reflection on the theoretical heart of the Aquilian liability, namely its functions. Their possible integration could provide new food for thought by adapting, once again, the "moving boundaries" of tort liability to the needs and shape of society.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 5

governing and reshuffling technoscience and innovation processes

### TRACK 26

#### **Law, data and technology: the role of STS in dis/entangling individual rights and social justice**

Convenors: Carlo Botrugno (Università di Firenze), Gianmarco Gori (Università di Firenze), Laurence Diver (Vrije University Brussel)

#### **...and objectivity for all**

Gianmarco Gori (Università di Firenze, Italy)

Criticism against legal practice because of its “human-dependent” features has been a recurrent topic in the history of western legal thinking. The need to harness power and neutralize the elements related to an emotionalist picture of human judgment, legal theorists have sought to turn law into a science. A correspondent narrative has permeated legal operators’ identity and practice: maintaining one’s position as a member of the community of jurists often implies to present oneself as scientist and the knowledge one is producing as objective. Where the embodiment of law into written text, legal codification and the quest for a formalist application of rules can be seen as a set of techniques and technologies typical of the modern legal endeavour towards objectivity, nowadays data practices and all the various tools labelled as Artificial Intelligence are being welcomed as instruments capable of emancipating law from its “human-related deficiencies” and provide a more objective justice. What the law is – but also what the law should be – seems to become questions that can be answered objectively: machines can provide a “view from nowhere”, ensuring a form of knowledge free of the risks related to humans’ subjectivism. In this perspective, it is significant that, speaking of an AI-driven tool under development at the Constitutional Court of Argentina, the President has emphasized that the tool “serà totalmente objetivo” (will be completely objective). The proposed contribution aims at disentangling the rhetoric of objectivity afforded by Artificial Legal Intelligence. In particular, the presentation will focus on how, thanks to data and computer science, law seems to gain epistemic authority through a processes of double objectification: whether, on one hand, datafication increasingly turns legal practice into an object of knowledge, on the other, once objectified, legal practice is also objectified, assumed as objective.

#### **Pushing security. apps to make citizens responsible for crime prevention?**

Selma Lamprecht (The Fraunhofer-Gesellschaft, Germany)

How technologies shape the work and the perception of police have been investigated in numerous research studies. Whereas in the past technological developments, such as motorized vehicles and landline telephones promoted a centralized police, current platformization of (internal) police work is generating a new contiguities between the police and the public. The activity of police on twitter and facebook can be viewed as an examples of how media technologies enable new forms of public relation and prevention. But these technologies transform the relationship between the police and the public. My research focuses on mobile apps made available to the public by the German speaking police offices. Unlike twitter or facebook, the infrastructures and interfaces of these apps are specially developed for the police. Therefore the analysis starts with a structured comparison of existing applications and their features using the comparative analysis described by Dieter et al. (2018). In a second step these functions are analyzed regarding the responsibilities they ascribe to the police and to citizens. The question is, whether the idea of responsabilization – the transfer of criminal justice responsibility from governmental authorities to private actors; organizations as well as citizens (Garland, 2001) – can be found in these media technologies as well.

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 5

governing and reshuffling technoscience and innovation processes

### TRACK 26

#### **Law, data and technology: the role of STS in dis/entangling individual rights and social justice**

Convenors: Carlo Botrugno (Università di Firenze), Gianmarco Gori (Università di Firenze), Laurence Diver (Vrije University Brussel)

#### **Connecting entities vs. controlling informational boundaries? Disentangling the controversial interplay of digital identification and privacy from a systemic perspective**

Stefan Strauß (Austrian Academy of Sciences, Austria)

There is a natural interplay between privacy, identity and identification. Digital technology, though, has been altering this interplay significantly in a way that complicates the effectiveness of data protection and the fundamental right to privacy. Based on empirical examples, this contribution analyses and discusses how the toolbox of surveillance capitalism (Zuboff 2019) functions and what this implies for privacy as core value of democracy and enabler of other human rights. As will be shown, digital technology features and fosters identification practices used by various public and private actors to systematically collect and analyze large amounts of data about individuals. Practices like the creation of so-called identity graphs combine online and offline data aiming at building comprehensive models of individual identities and their behavior. These practices are largely uncontrolled, serving a complex mix of economic and political objectives. Cases like the Cambridge Analytica data scandal, e.g., demonstrate how questionable business models can feed into unethical political strategies that together undermine democratic processes. This is not a single case but part of larger, widely unregulated markets trading with identity information. I thus speak of an intensifying economization and securitization of digital identification that further reinforce the core problem of sociotechnical identifiability (Strauß 2019). Taming this problem is a crucial challenge to strengthen informational self-determination and revitalize the effective protection of privacy. This suggests stronger regulation of these markets and privacy-intrusive business models. The GDPR brought some improvements in this regard but is it sufficient to reduce profiling and uncontrolled identification practices? These and related issues will be discussed in the paper along with the proposal of a novel typology of identifiable information that may contribute to improve privacy impact assessments.

#### **Make legal way for the robots! the boomerang of object-centricity & rights for non-humans**

Niels van Dijk (Vrije Universiteit Brussel, Belgium), Kjetil Rommetveit (University of Bergen, Norway)

This talk presents the results of a four-year case study tracing the innovation networks gathering around the policy vision of building autonomous robots to address the grand societal challenges of European societies. It describes how various techno-epistemic networks within industry, science, ethics and law appropriate and enact this imaginary, by working and building across the boundaries between man and machine and between different disciplines and public and private sectors in working towards a public-private partnership. We study the work and tools mobilized in aligning these different practices involved along a common machine-centric and future-oriented innovation trajectory. We specifically focus on the role assigned to jurists in this co-production through their conceptual work in removing legal obstacles, creatively propose new legal constructs and to stabilize expectations in fields like intellectual property, liability and electronic personhood, to make way for the introduction of autonomous robots in society. A breakdown of the fundamental axiology of legal subjectivity and legal objectivity allows for the transfer of aspects of human autonomy and agency to robots, which would enable the imputation of legal qualities to robots that were previously only reserved for humans. These propositions were infamously extended when the European Parliament in its Civil Law Rules on Robotics proposed to introduce a new legal status of electronic personhood for robots. This case hereby serves as a point of critical reflection for STS, given its previous focus on hybrids, object-centricity and focus on granting rights to non-humans. There is an increasing need to think about check & balances for an epistemic ecology of practices involved in innovation governance. This at least requires reasserting autonomy, not so much for robots, but at least for the practice of law itself.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACKS OF THEMATIC STREAM 5  
governing and reshuffling technoscience and innovation  
processes

## TRACK 27

### Responsible and inclusive citizen science. Comparing initiatives and assessing impacts

Convenors: Paolo Giardullo (Università di Padova), Rosa Arias (Science for Change), Leire Leguina Casas (Fundación Española para la Ciencia y la Tecnología)

#### Responsible research and innovation by knowledge co-production with citizens

Saliha Hadna (Conservatoire National des Arts et Métiers, France), Cyril Fiorini (Conservatoire National des Arts et Métiers, France), Bertrand Bocquet (Conservatoire National des Arts et Métiers, France)

The scientific research domain has undergone a deep reconfiguration for questioning strong societal challenges. These challenges ask a better understanding of raised problems, a strong interdisciplinary in the knowledge production and in the design of innovative solutions. If many research programs take into account the institutional and economic factors, citizens concerns remain underestimated in research policy<sup>1</sup>. The way defined by the technical democracy<sup>2</sup> is interesting to take especially with the concept of knowledge co-production between citizens and researchers. We will present three cases of this bottom-up approach qualified by the term of science in society: a citizen counter- expertise of old uranium mine risks, the process of the merging of knowledge created by the french nonprofit organization ATD Fourth World and participatory research with a science shop. The consultation bodies on former uranium mines highlighted shortcomings in the effective participation of the associations. The latter have opted to develop citizen expertise by measuring the levels of radioactivity in their territories. It is proposed to take an interest in the development of this knowledge production by seeking to understand whether it complements or is in direct opposition to official expertise. ATD Fourth World Movement implemented at the end of the 1990s a 2-year program called "Fourth World - University Program". Based on a complex methodology, this participatory research involved people living in extreme poverty, ATD Volunteer Corps members and scientists. The process led to the production of a co-written book<sup>3</sup>. The Science shop North of France leads scientific works in all disciplines. Its specificity is the co-production of knowledge by involving applicants (Civil Society Organizations), academics (researchers, students) and active facilitator of the Science shop<sup>4</sup>. We show that this hybrid and stable university facility allows to treat questions with the respect of equity between each stakeholders and with a high level scientific requirements.

#### Agenda 2030's, "Leave no one behind", in citizen science?

Madeleine Cléa Montanari (Wageningen University, The Netherlands), Liesbet Jacobs (KU Leuven, Belgium), Mordechai Haklay (University College London, UK), Felix Kwabena Donko (University of South Africa, South Africa), Rosa Maria Mondardini (University of Zurich, Switzerland)

Citizen science (CS) can be viewed as a practice that enables the public to take part in the monitoring of their environment, gain agency to address a problem that directly faces them, and/or empowers them to take action, through the access to scientific research. CS is a field that is currently looked at, with other sources of data, as a supplementary source for the monitoring of the Sustainable Development Goals (SDGs). The involvement of CS in the monitoring of the SDGs entails more than additional data, but also the ability to enable people to participate in the achievement of the SDGs. The SDGs are adorned with the overarching principle "Leave no-one behind" (LNOB), an action to remediate the fact that the Millennium Development Goals (MDGs) did not address inequity (Fukuda-Parr & Hegstad, 2018). This paper argues that for CS to fully contribute to the SDGs, the same concept of LNOB should be analyzed in CS, as current literature has highlighted, that the benefits of participating in CS are not reaped by everyone, and that people are therefore left behind in the possibility of participating (Pandya, 2012). To analyze this, this paper offers a framework to look at the concept of LNOB in CS by looking at dimensions and factor. By dimensions this paper brings different existing typologies of CS into one framework that looks at CS: within creation (i.e. the level of collaboration between scientists and the public); within practice (i.e. the method/tool used); within purpose (i.e. the intended outcome/goal). By factors, this paper adopts five factors highlighted by the UNDP that seek to explain who and why people are left behind: discrimination (eg. identity), geography (eg. place of residence), governance (eg. ineffective national and/or sub-national institutions), socio-economic (eg. inability to fully participate in their economy, society).

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 5

governing and reshuffling technoscience and innovation processes

### TRACK 27

#### **Responsible and inclusive citizen science. Comparing initiatives and assessing impacts**

Convenors: Paolo Giardullo (Università di Padova), Rosa Arias (Science for Change), Leire Leguina Casas (Fundación Española para la Ciencia y la Tecnología)

#### **Why is it so important to measure the impact in Citizen Science Projects? The case of D-NOSES**

Giovanni Maccani (Ideas for Change, Spain), Rosa Arias (Ibercivis Foundation, Spain), Lucia Errandonea (Ideas for Change, Spain), Nora Salas (Ibercivis Foundation, Spain)

In any citizen science and participatory intervention, measuring impact is fundamental in order to promote accountability, in particular to those who participated or funded the intervention; to track progress and make sense of what was or was not achieved; to inform decisions to improve the intervention; to increase motivation; and to increase credibility on the methods implemented and the intervention itself. This could be highly beneficial for the citizen science initiative, especially if carefully thought from an early stage and conceived as an ongoing process. It can measure the effects of the actions on engagement and can help towards increasing participation. It contributes to assessing the feasibility of data collection methodologies and the confidence on citizen generated data. It demonstrates the contribution of citizen science to the generation of new knowledge. It provides important information on impacts for quadruple helix stakeholders, including the engaged citizens, but also academia, policy makers, the involved industries or local businesses. Despite its importance and potential, measuring and demonstrating impact remains a well-acknowledged challenge in the citizen science discipline. To contribute to this ongoing debate, this paper proposes an integrated impact assessment framework developed within the D-NOSES Project (dnoses.eu), a citizen science project in the field of odour pollution that aims to raise awareness, validate a new scientific methodology to collect odour observations in real time from the receptors' point of view (i.e. the affected neighbours), build the International Odour Observatory to provide access to information, and introduce the issue in the public agendas. Our approach combines Action Research Methods, to document, assess, and reflect on facts and indicators that demonstrate impact, with "Community level indicators", to privilege the community's perspective on what needs to be achieved from a group perspective rather than an individual one. The latter could should evidence of goal achievement (e.g. reducing odour pollution in a neighbourhood, participating in the creation of new policy, or collecting evidence of a given problem), learning new skills, sustaining number of participants, or scaling up the intervention to reach other groups and communities. These two dimensions allow to assess the D-NOSES impact both from the top-down (as project instigators and pilot facilitators) and from the bottom up, that is, taking into account participants' expectations and perception of achievement.

#### **Social impacts of participation in collaborative collective action in three cases of citizen science**

Benjamín Tejerina (University of the Basque Country, Spain)

The aim of this communication is to explore the impacts of citizen participation in some cases of collaborative action in scientific research and dissemination projects, with the purpose of finding out what the effects are of opening the doors of science to citizens' regular active participation. I am especially interested in the social impacts of this kind of collective action as defined in the literature. Special attention has been paid to three cases of citizen and open science: the work carried out by the Ibercivis Foundation, Biobook Project/ Biology by and for citizens (activities dedicated mainly to the dissemination of the scientific culture) and Mosquito Alert Project (about the tiger mosquito). The information used in this communication comes from a) document analysis of the selected experiences, b) testimonies of strategic informants and experts gathered in individual interviews, and c) discourse analysis of a series of focus groups. Firstly, I will present a provisional classification of the different roles that citizens can play in the intersection between scientific knowledge and society. The classification identifies 9 different combinations/roles between: a) different knowledge degrees; b) different levels of mobilisation; and c) different levels of commitment with the principles of scientific culture. Secondly, I will look into six other aspects related to citizen participation in the three scientific projects: 1) difficulties in mapping citizen science's territory, 2) issues referring to the definition of CS itself, 3) what participation is for CS, 4) how participation happens, 5) effects and impact of participation, and 6) resistance to participation. The results are part of the project Sharing Society. The Impact of Collaborative Collective Actions in the Transformation of Contemporary Societies

JUNE 17th, 18th, 19th



*Online*  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 5

governing and reshuffling technoscience and innovation processes

### TRACK 27

#### **Responsible and inclusive citizen science. Comparing initiatives and assessing impacts**

Convenors: Paolo Giardullo (Università di Padova), Rosa Arias (Science for Change), Leire Leguina Casas (Fundación Española para la Ciencia y la Tecnología)

#### **Developing a modular, flexible and scalable impact assessment framework for Citizen Science projects following a co-design approach**

Antonella Passani (T6 Ecosystems S.r.l.), Janssen A. (Erasmus University Rotterdam, The Netherlands), Hölscher K. (Erasmus University Rotterdam, The Netherlands), Wittmayer J.M. (Erasmus University Rotterdam, The Netherlands)

The engagement of citizens in research, data collection, decision-making, capacity-building, and integration of local knowledge into science is becoming more and more relevant in the light of current debates on climate change, environmental pollution, and the like. Indeed, participatory practices can strengthen the understanding of public issues and improve trust within community (Wong et al., 2018) and between communities and scientists. In this context, citizen science (CS) initiatives are flourishing as a way to engage citizen in different phases of the scientific process and the attention for this phenomenon is growing among researchers and decision-makers. As indicated by a White Paper, edited by European Commission in 2014, impacts of citizen science projects can be different and can affect different aspects of life. However, the potential effects of citizens science to tackle emerging social and environmental issues, empower local communities, promote behavioural change, support learning and skill acquisition, just to mention few of its potential impacts, are hard to measure. Impacts thus potentially affect scientific, inspirational, educational, social, economic, environmental and/or political areas. For each potential impact, the indicators, variables and approach to data gathering are numerous, while often CS projects do not have the time and/or the competences for designing and applying evaluation and impact assessment methods (Kieslinger, B. et al, 2018). As stated by A. Wiggins et al. (2018) "defining metrics for assessing the full range of citizen science outputs will help describe the breadth and value of this emerging field" and could help decision makers in better designing supporting measures for this community. To this end, the authors are developing an impact assessment framework within the ACTION project. The framework starts with an impact assessment canvas that - following a visual approach - guides the CS managers through the whole impact assessment process. Each included areas of impact, scientific, social, economic, political and environmental, is articulated in several dimensions which include, but are not limited to, impact on community empowerment, inclusiveness, civic and political participation, behavioural change and transformative capacity of the project. Each CS project will be able to measure the impacts that are more relevant in a given period, but also enlarge the analysis when the condition will eventually change. Different projects will probably consider different, but complementary, areas of impact and the data gathered will be compatible and aligned. The ACTION impact assessment framework thus aims at supporting CS project managers following a number of steps: map stakeholders, define areas of impact and sub-dimensions most relevant to them, describe their project following an impact value chain approach and access readily usable modular data gathering tools. A first version of the framework is developed at the time of writing and will be further co-designed in the next 2 years in collaboration with at least 12 CS projects.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



## TRACKS OF THEMATIC STREAM 5

governing and reshuffling technoscience and innovation processes

### TRACK 27

#### Responsible and inclusive citizen science. Comparing initiatives and assessing impacts

Convenors: Paolo Giardullo (Università di Padova), Rosa Arias (Science for Change), Leire Leguina Casas (Fundación Española para la Ciencia y la Tecnología)

#### Unpacking values in and of citizen science: A conversation

Michiel Van Oudheusden (University of Cambridge, UK), Anna Berti Suman (Tilburg University, The Netherlands) Ine Van Hoyweghen (KU Leuven, Belgium)

Citizen science currently enjoys high levels of investment in many industrialized countries, with various stakeholders (policymakers, funding agencies, scientists, citizens) valuing and prioritizing measures of (civic) inclusion, co-creation, and impact. In this presentation, we ask what these measures entail drawing on our experiences and roles as initiators, orchestrators, facilitators, and/or evaluators of citizen science processes in Europe, Asia, and other parts of the world. The presentation takes the form of an open-ended exploration, with each of us raising additional questions (e.g., how to best fulfil the promise of inclusion in citizen science; whether exclusion is – or can be – warranted; how to translate citizen science research into responsible ‘impact’; and how to effectively develop and use citizen science methods, among others). In this exploratory process, we seek to unearth our own assumptions about civic participation in science (e.g., citizen science promotes wider public engagement with science and technology) and point at tensions and paradoxes inherent in citizen science practice (e.g., appeals made by stakeholders to appreciate all ‘knowledges’ while reinforcing expert-nonexpert distinctions). Our conversation is meant to be incomplete and provocative, disentangling our personal convictions, struggles and developments, and bringing complex practical and speculative considerations into the picture so that others could get an idea of what is at stake in citizen science, for individuals with their own experiences and commitments, and for broader communities. We invite Science and Technology Studies researchers to think through these issues with us and explore them through further discussion and exchanges.

#### Urban Well-being Laboratories: a real case study in SMACC Project, Naples

Chiara Vassillo (Università di Napoli Federico II, Italy), Amalia Zucaroo (ENEA Research Centre, Italy), Sergio Ulgiat (Università di Napoli Parthenope, Italy)

A very large fraction of world population is already living in urban systems and an even larger fraction is expected to concentrate towards existing large cities and megacities in the next few years, surrounded by apparently unlimited urban sprawl. The reasons and driving forces underlying such trends are multifold: (i) search for better jobs and living conditions, (ii) more services available in urban centers than in rural areas (e.g. education and training, health care, community services), (iii) environmental changes affecting rural activities, (iv) changed land use policies by Governments, (v) perceived safety and several others. As a consequence of population convergence to urban systems, size of cities increases and become more complex to live, in fact social habits and relations are lost or dramatically affected and new ways need to evolve; governance of economic, social and environmental problems also becomes complex and affect wellbeing and democracy. During the implementation of the Erasmus Project “SMARt City Coaching, Multi-stakeholder training concepts for the city of the future”, focuses on “smart city coaches”, there was the possibility to train and introduce this role to different levels of society as multipliers for the development and support of smart cities. Smart City projects generally focus on technical innovations (green urban technologies, ICT) and are often top-down driven by investors, global technology interests and building developers. This approach excludes other urban actors that play a crucial role for the quality of results and broad acceptance of the solutions for urban challenges. In fact, for the successful implementation of smart cities it is important to address social innovations, mutual learning processes and aspects related to urban quality of life. It clearly appears that the search for solutions is affected by boundary, spatial and time scales, focus limitation on specific aspects, different complexity of models and approaches, available data. For this reason, Urban Well-being Laboratories, were implemented in the city of Naples and are suggested to promote patterns for participatory and transparent assessment of alternatives as well as for cost/benefit understanding of best practices, towards improved quality of life and relations in urban systems. During SMACC project, different living labs were implementing, monitoring the participation of the different stakeholders and analyzing their level of involvement.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACK ON

sts in post-socialist/cee countries

## TRACK 33

### Science and Technology Studies in Post-socialist countries/in Central and Eastern European countries

Convenor: Aleksandra Lis (Adam Mickiewicz University in Poznań, Poland)

#### Greening Polish transportation: tackling scalar, cultural and market/state contradictions

Aleksandra Lis (University in Poznań, Poland), Rafał Szymanowski (University in Poznań, Poland), Adam Mickiewicz (University in Poznań, Poland)

In 2016 the new conservative government of Poland introduced a plan for developing electromobility at the national scale. The plan assumed production a Polish EV, development of charging infrastructure and electrification of public transportation at the municipal level. Four years later, the Polish EV is still only a concept; however, there is a growing interest among small scale market actors to develop the infrastructure. At the same time, since January 2020, the government is subsidizing private EV purchase up to 30% of the car price (only for EVs that cost not more than 30 thousand Euros). The greening of the Polish transportation system is moving ahead slowly, but it is not devoid of several contradictions that we want to explore in this paper. We distinguish between three main types of contradictions: (1) scalar, (2) cultural and (3) a market-based versus state-led approach. The scalar contradiction refers to discrepancies between municipal efforts aimed at fostering smaller scale green energy and transportation infrastructures in order to establish more efficient green energy production-consumption systems, and the national government's efforts to sustain a large scale, centralized coal-fired power production and other coal-dependent industries. The cultural contradiction pertains to the changing mobility culture in Poland, whereby the majority of middle and lower classes still values a private car as an important status symbol, while smaller consumer groups, rapidly emerging in the metropolitan areas, lean towards public transportation and electric car sharing. At the same time, the Polish car fleet, similarly to other countries in the region, is composed mostly of old diesel cars imported from Western Europe, which only adds to local pollution and the Polish carbon footprint. Additionally, we can see a clash between a statist, centralist approach promoted by the conservative Polish government which envisions large-scale infrastructure projects (in transportation: the Polish EV, the Central Communication Port) and, on the other hand, a market-driven logic of developing smaller scale, dispersed and decentralized electric transportation systems (household-based renewable energy production and charging systems). Paradoxically, the main vision on the part of the national government behind Polish electromobility revolution is not the need to fight climate crisis and become climate neutral (as in the West), but rather the will to regain economic sovereignty and build international competitiveness thanks to domestic nascent e-mobility industry. Moreover, we point out to the lack of analysis of possible externalities, like new types of waste, new technological lock-in or geo-political dependencies as possible consequences of greening transportation in Poland. In this paper, we shed light on the existing contradictions in the green economy by exploring in detail the Polish example of a heavy coal-dependent economy which plans to embark upon a major electromobility transformation. Based on around twenty expert interviews and a document analysis (legislation, position papers, strategies), we map the landscape of this transformation, identify the mains actors with their agendas and visions, and search for ways out of these contradictions in order to propose a perspective that would also account for the possible externalities.

JUNE 17th, 18th, 19th

# DIS/ENTANGLING TECHNOSCIENCE:



Online

stsitaliaconference.  
spazioiris.it/login



TRACK ON

sts in post-socialist/cee countries

## TRACK 33

### Science and Technology Studies in Post-socialist countries/in Central and Eastern European countries

Convenor: Aleksandra Lis (Adam Mickiewicz University in Poznań, Poland)

#### **Forensic genetic technologies in post-socialist societies: collective memories and recreations of the past**

Helena Machado (University of Minho, Portugal)

The use of genetic technologies in the criminal justice system has received widespread attention from both practitioners and academics in different regions of the world due to expectations of increased reliability and efficiency in the identification of perpetrators. However, there is scarce knowledge about the application of criminal DNA databases and other forensic genetics tools in the criminal justice systems of the European post-socialist societies. On the basis of a set of interviews with forensic geneticists working in Bulgaria, the Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, and Romania, this paper uses a cross-national comparative approach to address expectations towards the uses of forensic genetic technologies. I argue that elements that produce the different ways of perceiving forensic genetic technologies entail, in a fragmented and complex way, the weight of socio-historical and techno-political backgrounds. Using an STS approach, this paper explores how subjective meanings about present and future uses of forensic genetic technologies to fight criminality are interlinked with assertions about social order and recreation of collective memories of the legacy of the past. The evocation of the political past of the totalitarian communist regimes is particularly recurring in the narratives of the forensic geneticists, reflecting the subjective effects of the influence of the varying relationships between the state and the citizens as they transition from authoritarian regimes to democracy. In this group of European Central and Eastern countries there seems to be a trend towards expanding the size and reach of the genetic databases controlled by the police, contributing to a phenomenon of genetic surveillance expansion. The interviews reflect the perceived inherent risks to collecting citizens' genetic data, translating complex and ambivalent relationship of public (dis)trust about the justice system and State institutions. In sum, the meanings and expectations attributed to forensic genetic technologies in European post-socialist societies result from interactive social processes by which interpretations of the past are conveyed, but also disputed, silenced and negotiated.

#### **The impact of transformational rent in Post-socialist country on technology and innovations**

Małgorzata Bielenia (University of Gdansk, Poland)

Science and technological studies explain how society, politics, and culture affect scientific research and technological innovation. In European Post-socialistic countries (commonly known as Central and Eastern Europe - CEE countries), the communist and post-communist inheritance in the form of transformational rent is still significant for technology development and innovation. The transformational rent is characterized by a hybrid structure, because it is at the same time a product of the past with elements of the pursuit of a centrally planned economy and the availability of opportunities created by the new system (capitalism). The transformational rent chase is created as a result of the deterioration of the welfare of groups losing the benefits achieved in the economy of shortages. In this context, transformational rent can be treated as a barrier for the innovative potential of the economy. The basic compensation mechanism through which the old nomenclature sought to immediately adapt to the changed political conditions. Transformational chase for rents is, on the one hand, a continuation of the old normative standards of individuals and, on the other hand, the chase for pensions took on a new form due to the introduction of different rules in the market economy. The innovative potential of an economy depends on the state of resources, such as human and social capital, and its creation takes time. The transformational rent hybrid structure can be defined as an agglomeration of continuation of old habits and changes related to the processes of adaptation to systemic transformations. The main reason for the failure of the post-socialist transformation and the accumulation of excessive social inequalities was the construction of new structures on already distorted and degenerated structures. Scientific research and technological innovation are affected by transformational rent.

JUNE 17th, 18th, 19th

# DIS/ENTANGLING TECHNOSCIENCE:



*Online*  
stsitaliaconference.  
spazioiris.it/login



TRACK ON

sts in post-socialist/cee countries

## TRACK 33

### Science and Technology Studies in Post-socialist countries/in Central and Eastern European countries

Convenor: Aleksandra Lis (Adam Mickiewicz University in Poznań, Poland)

#### **Ambivalence of (In)visibility Infrastructures of hegemony and material interventions. Learning from struggles in Poland**

Andrzej W. Nowak (University of Poznan, Poland), Adam Mickiewicz (University of Poznan, Poland)

As a theoretical background paper combines experimental practice (Papadoulous), ontological design (Nold) and multiple ontologies in practice (Mol) to expand a notion of an 'ontological imagination' (Nowak) and to create STS-inspired support for active ontological interventions. Following this I would like to use and expand a concept of "more-than-social movements" (Papadoulous). Agreeing with the general direction proposed, I noticed that his proposal has a certain anarchistic and grassroots bias. Analysing the right-wing movements in Poland I want to show that Gramscian postulate of the struggle for hegemony and taking over the totality of the state is still relevant. Only that right-wing movements do it better than left-wing ones. Through the analysis of specific actions and hegemonic fights in Poland, I want to ask about the infrastructural conditions of possibilities (at the state and system level) necessary to make the "crafting ontologies" postulated by Papadoulous possible. In my presentation I will analyse emancipatory (grassroots) movements in their struggle and clash with the right-wing Catholic think tank Ordo Juris, Polish branch of Tradition, Family, and Property (TFP), which aims to "install" the Catholic Gilead (a fundamentalist political and social order) uses a strategy of invisible takeover of the structures of state and law to install hegemonic order. Two mainly battlefields are the "pro-choice" rights and the rights of LGBT people. I will focus on the material and visual dimensions of these hegemonic and counter-hegemonic struggles. I am particularly interested in the specific ambivalence and dialectic of visibility and invisibility. I will defend thesis that the infrastructure of hegemony is similar to that of technoscience, but serves the opposite purpose. And just as the techno-science infrastructure (Haraway) serves to make what is previously invisible visible (and manipulative), so the hegemonic infrastructure serves to make what is visible (interests, power) invisible (and not susceptible to manipulation). Analysing the activist actions (pro-choice activists' actions: "Away from the hospital" and Bart Staszewski and his action on the visibility of "LGBT-free" spheres) together with project "Atlas of Hate" will show how producing visibility becomes a counter-hegemonic activity.

#### **A new innovation paradigm, smart specialization and the changing position of public science in countries in Europe's scientific periphery**

Jadranka Švarc (Institute of Social Sciences Ivo Pilar, Croatia), Jasminka Lažnjak (University of Zagreb, Croatia)

One of the great ongoing debates in the area of science, technology, and innovation (STI) studies is the role of public science and research-based innovation for the technological advancement and socio-economic progress. This research offers a critical assessment of the changing position of public science in the peripheral European research countries, caused by the emergence of the new innovation paradigm based on entrepreneurship and incorporated into the European Smart specialization (S3) strategy which is widely implemented in the cohesion countries. It is argued that S3 provide substantial resources for science, technology and innovation through Structural funds and promote entrepreneurial innovation. However, the focus of S3 on regional development with local entrepreneurs, business ventures end entrepreneurial innovation in the centre, challenged the role of public science and availability of national funds to sustain public research systems in research peripheral countries. To prove the thesis the article provides theoretical argumentation for emergence of a new innovation paradigm based on entrepreneurship, its incorporation into S3 and a consequent retreat of science policy in favour of entrepreneurship policy with long-term implications for innovation and science policy. The empirical analysis is focused on funding trends over the last decade (2008-2017), in the business and public sectors of science which have shown that S3 has not contributed, despite expectations, to an increase in public expenditures for science in those countries in which scientific potentials are weak. Entrepreneurial policy, regardless of its undisputable necessity and benefit, has a tendency to absorb science policy instead of complementing it. It challenges the concept of S3 for reducing wide disparities in research and innovation performance across the European Union.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACK ON

sts in post-socialist/cee countries

## TRACK 33

### Science and Technology Studies in Post-socialist countries/in Central and Eastern European countries

Convenor: Aleksandra Lis (Adam Mickiewicz University in Poznań, Poland)

#### Breaking the Wall: the early times of 'New Space' Entrepreneurship in US

Ivan Tchalakov (University of Plovdiv, Bulgaria)

The paper proposes a theoretical frame and provide and outline about the emergence and early steps in the establishment of what later will be named 'New Space' entrepreneurship (or 'New Space movement') in US. Based on purely historiographic approach, four aspects of these early developments are discussed: 1) The advances of Governments' lead space industry at the both sides of Iron Curtain during late 1950s and early 1960s as the root cause of the substantial transformation in 'cultural moods' (Highmore 2017) and overall public perception of space exploration; 2) The effects of the termination of Apollo program, persistent problems with Space Shuttle and the growing bureaucratization in NASA during 1970s and 1980s on American youth and space enthusiast; 3) The predecessors and the pioneers of New Space movement: heroes and communities; and 4) The Commercial Space Act from 1984 as a harbinger of coming legal and policy changes. The simultaneous analysis of these overlapping developments aims to reveals the complex processes underpinning the 'quixotic' efforts of the few individuals, and which eventually transformed them in an important civic movement an economic and technology program of its own. The last part of the presentation makes brief parallel with the establishment of new innovative entrepreneurship in Eastern Europe after the fall of communism to identify striking analogies and similarities, bringing to the fore the phenomena of persistence and endurance of engineers as non-psychological phenomena.

#### Governing the Outer Space - Infrastructuring Europe: the ESA case

Zinaida Vasilyeva (Technical University of Munich, Germany)

The European Space Agency was founded in 1975 with the main goal to advance the European research in space. This goal resonated with the post-WWII bipolar geopolitical order and the Cold War discourse of competition; and yet, it explicitly proposed an alternative framework: the one of cooperation. While putting Europe as a new actor on the international map of space exploration, the ESA itself was imagined by its designers as an instrument of the European integration and a platform for transnational cooperation. Using the theoretical framework of co-production (Jasanoff), I will show in my paper how the development of the ESA research programs went hand in hand with the evolution of the European integration processes. Thus, I approach the European way of governing the Outer Space as a mean to infrastructure the socio-technical political order down here, on the planet Earth. While looking through a half-century long history of the ESA I will identify a number of competing and conflicting imaginaries on space and Europe and demonstrate how these imaginaries produced (or are currently producing) particular socio-technical political orders. I argue that the analysis of infrastructures - complex assemblages of material, institutional, and ideological elements - allows to better understand how space and Europe are governed not so much by individual actors, such as nation states or private individuals, but rather through soft and flexible instruments of transnational politics. The paper is based on the ongoing empirical research of the ESA as an example of the European research infrastructure.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACK ON

sts in a in a [post]-pandemic age

## TRACK 34

### How to Protect Communities from Sars CoV-2 through Coproduction of Health and the Design of Commons-Based Ecosystems by Adopting Distributed Ledger Technologies?

Convenors: Sowelu Elios Avanzo (Università di Torino), Guido Boella (Università di Torino), Vincenzo Mario Bruno Giorgino (Università di Torino), Valeria Poli (Università di Torino)

#### Gender analysis on COVID-19 data in Piemonte: the virus prefers men

Silvia De Francia (Università di Torino, Italy), Alessandro Ferretti (Università di Torino, Italy), Francesco Chiara (Università di Torino, Italy), Sarah Allegra (Università di Torino, Italy), Daniele Mancardi (Università di Torino, Italy), Tiziano Alice (Laboratorio di Microbiologia and Virologia Asl Torino, Italy), Maria Grazia Milia (Laboratorio di Microbiologia and Virologia Asl Torino, Italy), Claudio Avanzini (Laboratorio di Microbiologia and Virologia Asl Torino, Italy), Valeria Ghisetti (Laboratorio di Microbiologia and Virologia Asl Torino, Italy), Alessandra Durio (Università di Torino, Italy)

Several important gender differences in clinical manifestation and response to treatments for many diseases are known since a long time, although they continue to be underestimated. Recent Covid-19 pandemic has provided further evidence of the importance of gender-based approach. Many fields of study, such as medicine, law, psychology, sociology, as well as sciences applied to data analysis, highlighted the importance of a gender perspective in studying Covid-19 pandemic effects, and the actions to contain it. Gender factor is strongly present in this health crisis: Covid-19 mainly affects men, with a worse symptomatology and a general disease exacerbation. Aim of the work was to analyze data on Covid-19 testing in Piedmont region, northwest of Italy, from people admitted to Amedeo di Savoia hospital, regional referral center for infectious diseases. Data are referred to a period of two months (March-April 2020), i.e. the beginning of pandemic. We performed analysis on 38018 testing records: 77.99% was suitable (N = 29653) and 22.01% (N = 8365) not evaluable. Among suitable sample, N = 21466 was negative for Covid-19 testing (about 72.3%) and N = 8187 was positive (about 27.7%). Of suitable sample, N = 26361 was attributable to unique subjects; on this number we performed disaggregation by sex: 10651 were males (about 41%) and 15710 females (about 59%). Median age for males was 57 (range 0-101); median age for females 54 (range 0-111). At the symposium we will show analyses on the suitable sample concerning regional distribution of data, recurrence of Covid-19 testing in the same person and correlation of testing with hospital admission motivation. Gender approach should be recognized as part of the medical knowledge: a gender-based approach to clinical practice also in the context of this pandemic seems to be mandatory for patients and for the sustainability of the National Health System.

#### Social vulnerability in the pandemic: risk, uncertainty, social and policy response. A research in Lombardy

Lia Lombardi (Università degli Studi di Milano, Italy)

The study I propose is part of the research project of the Italian Society of Sociology of Health on "The impact of the COVID-19 pandemic on social vulnerabilities", and it involves various local and regional Italian bodies. According to Ulrich Beck (2000), we can interpret the pandemic as an example of the "Risk Society" highlighting the uncertainties in science and its experts; insecurities in the welfare state; lack of safety in our lives and health. With reference to these premises, the research design focusses on the impact of the virus and lockdown on the everyday life of vulnerable people in some regional contexts, on the reorganization of social and healthcare policies and on future prospects. The study - carried out between June and July 2020 - used a qualitative methodology that included ten in-depth interviews with stakeholders of local institutions and the third sector of the cities of Milan, Brescia, Cremona, Mantua and Pavia. The fields investigated are: reception facilities for migrants, poverty and homeless, LGBT associations and disability. The multifactorial nature of social vulnerability emerges from the research. Illegal migrants, homeless, sex workers, the poor are at risk of survival because of isolation, lack of resources, exclusion from welfare benefits. Conflict and domestic violence worsen; poor children and students do not have the means to continue their schooling from home. On the other hand, new social policies and services are offered, such as information, food, economic support and 24-hour shelter for the homeless. Devices are also made available for distance learning (DAD) while training and psychological support is offered to social workers. A strong sense of solidarity emerges among operators, users and social welfare organizations. In Lombardy, in the face of a great weakness of regional healthcare, a significant programme of city policies for the management of social and health emergency has been implemented, in collaboration with local institutions (prefecture, police headquarters, hospitals) and organizations of the third sector.

JUNE 17th, 18th, 19th



Online

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACK ON

sts in a in a [post]-pandemic age

## TRACK 34

### How to Protect Communities from Sars CoV-2 through Coproduction of Health and the Design of Commons-Based Ecosystems by Adopting Distributed Ledger Technologies?

Convenors: Sowelu Elios Avanzo (Università di Torino), Guido Boella (Università di Torino), Vincenzo Mario Bruno Giorgino (Università di Torino), Valeria Poli (Università di Torino)

#### **A peer to peer solution for Health Insurance**

Giulio Peraldo (Università di Torino, Italy)

The pandemic has proved to be a catalyst for digitalization and innovation, as it fostered the adoption of systems, which allowed automation of productive processes in every industry and field.

This has resulted in new perspectives driven by the Internet of values based on distributed ledger technologies to emerge. These aspects can facilitate disintermediation in industries which are facing deep challenges and transformation and are key to the protection of communities from unforeseen events, such as the insurance sector. Long before the pandemic field experts provided evidence that insurance market is on the verge of disruption (Moffatt 2015 and BCG Reports 2014 and followings) and as Holly and Greszta underline, various forms of risk distribution exist, which use the leverage of various strategies: mutual insurance, co-operatives, captive insurance, peer-to-peer, risk retention schemes as well as internal risk distribution. All of them are forms of social ties that are used to formulate a viable distribution of risk, reducing individual suffering and reinforcing the same social ties (Holly and Greszta 2016). In this light, A Peer to Peer Solution for Health Insurance project, one of the winners the EUvsVirus Hackathon aims to overcome through the DLT both the dimensional and operational limits that traditional industries face. This project, developed in collaboration with WiseLifeLab, aims to create a disintermediated health insurance system, in which transactions are carried out on distributed ledger technologies and the distribution of premiums and reimbursement is managed through smart contracts.

#### **Andrew Feenberg and The Democratization of Technology: Covid-19 and the Case of Hydroxychloroquine**

Tina Sikka (Newcastle University, UK)

In this talk I examine the contentious Covid therapeutic, hydroxychloroquine, using Andrew Feenberg's theory of technological democratization. I explore whether the use of this experimental medicine is suitable, fit for, or reflective of a process of technological democratization in a manner that is similar to that of HIV/AIDS medicines and trials. In answering this, I draw on Feenberg's technological democratization thesis and extend his conception of care, bodily integrity, and communication in medicine using a reconstructed concept of care as expressed by feminist ethics. My central argument is that technological democratization of Covid-19 treatments and the underlying science has been made extremely difficult because hydroxychloroquine has become emblematic of polarized and polarizing political battles. In doing so, I articulate a model of 'distorted technological democratization' to explain this phenomenon.

JUNE 17th, 18th, 19th

*Online*

stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



TRACK ON

sts in a in a [post]-pandemic age

## TRACK 34

### How to Protect Communities from Sars CoV-2 through Coproduction of Health and the Design of Commons-Based Ecosystems by Adopting Distributed Ledger Technologies?

Convenors: Sowelu Elios Avanzo (Università di Torino), Guido Boella (Università di Torino), Vincenzo Mario Bruno Giorgino (Università di Torino), Valeria Poli (Università di Torino)

#### **Social assistance for the elderly in the situation of the Covid-19 pandemic**

Beata Ziębińska (Pedagogical University of Cracow, Polonia)

The situation in which societies found themselves in relation to the COVID-19 pandemic created a reality in which the use of social assistance has a different specificity than before. The need for support arises in connection with the simultaneous and, importantly, common occurrence of a natural problem and a social problem. It seems that in a pandemic situation, the greatest victims are mainly the elderly and the sick, not only because they are the most vulnerable to infection, but also because natural support systems in many cases, especially in situations of independent living, cannot be carried out. their functions. The aim of the presentation is, first, to present the conclusions from the analysis of the literature on the subject, which is to answer the question about the specificity of social work provided in an emergency. Secondly, the presentation of the results of an empirical study, the topic of which is social work and care services for the elderly during a pandemic. The study was based on 40 written interviews in which social workers and caregivers presented their experiences of working in a pandemic situation.

JUNE 17th, 18th, 19th

# DIS/ENTANGLING TECHNOSCIENCE:



OPEN TRACK



Online

stsitaliaconference.  
spazioiris.it/login



## OPEN TRACK

Convenor: **Simone Arnaldi (Università di Trieste, Italy)**

### **Questioning the independence of medicine in Belgium: what definition(s) of influence in medical training and R&D?**

Lucas Bechoux (University of Liege, Belgium)

My PhD thesis intends to question the independence of Belgian medicine toward pharmaceutical industry. To do this, its first objective is to build one or more definition(s) of influence within medical training as well as in the production of medical knowledge. In the existing literature, influence is often restricted to the issue of conflicts of interest. I postulate the idea that influence in medicine is a much more complex and subtle phenomenon that can take many forms and be exerted via a panel of tools that should not be presupposed but to be constructed as a common thread of the research. This will lead the project to focus on three different fields: medical schools which provide initial and continuing theoretical training, university hospitals and major non-university hospitals which provide practical training and carry out medical R&D. Initially, my project has the ambition to establish a battery of criteria adapted to each field and contextualized to the reality of the Belgian medical sector, to assess independence and influence on the basis of stable indicators. In a pragmatic approach and in order to best meet the expectations of the medical world, the project wishes to start from the multiple situations and experiences encountered by actors in the field (students, researchers, doctors, experts) by involving them throughout the definition process of influence and criteria. A pilot study has already been carried out on this theme and made it possible to mark out and define the outlines of my project. An expert consultation (Delphi) will be carried out on the basis of all empirical data collected previously, with a view to producing guidelines and recommendations in terms of influence management for authorities and medical institutions in order to promote more independent medicine focused on the common good.

### **Politics of Making Sense of Atomic Bomb Exposure: Grouping and Shaping Subjects within South Korean Epidemiological Study**

Sujin Kim (University of Manchester, UK)

This paper discusses the politics of cohort making in atomic-bomb affected families in focus of the South Korean government affiliated epidemiological study: first, the study (2020–2024) tries to find out the extent to which the radiation exposure genetically passes onto the second and third generations; second, the government affiliated study looks at the radiation sicknesses and late effects through modern bio-medicine: genomic-testing, medical exam, etc. If we can understand the function of the study in terms of what role epidemiology on specific population could serve in public health research of the modern state, we can better understand how the researchers' sense making inscribes differences and inequalities (Farmer, 2001): inequality between those who are treated by 'first-world' Japanese medicine and those treated of 'third world' certain opportunistic sicknesses and/or focused on cancers and lifestyle-related issues. The researchers might be innocent of their work but the processes of research that intimates them with the subjects re-constitutes the risk of radiation exposure (Brown, 2013): knowledge on how contaminating atomic bomb had been to the two Japanese cities. The processes of cohort making is more than an administrative apparatus (Sturdy and Cooter 1998) as researchers actively shape the notion of toxicity in radiation: then, how do researchers 'get around' the existing knowledge (Schofield, 2019), and take into account the context of emigrated Koreans as well? Researchers construct the late-effects of radiation exposure from their understanding on the fragility: complicated by migration, lack-of-access to treatment and ignorance of modern radiation biology. Upon joining the task-force on oral and documented records of Korean emigrants from Hiroshima and Nagasaki Japan, I wrote this paper to help the task-force investigate the processes and function of the epidemiological study (2020–2024) to understand the roles of categorisation of sicknesses and lasting effects.

JUNE 17th, 18th, 19th



Online  
stsitaliaconference.  
spazioiris.it/login



# DIS/ENTANGLING TECHNOSCIENCE:



OPEN TRACK

## OPEN TRACK

Convenor: **Simone Araldi (Università di Trieste, Italy)**

### **Redesigning Smart Technology as a Silent Partner**

Yueh-Jung Lee (University of Texas at Dallas, USA)

In the age of smart technology, I propose a role for our smart devices—a silent partner, which has a closer relationship with day-to-day human activity. It is not only a business partner but also a working and living partner. Therefore, in the context of technological smartness, a silent partner is a nonhuman actor whose involvement in a partnership is limited to providing technical support to humans' daily practices. On the one hand, the silent partner emphasizes the silent in terms of privacy; on the other hand, it emphasizes the partner in terms of trust with two or more parties. This research consists of three main themes: materiality, politics, and affect by drawing on varied fields such as critical cultural studies, STS, media studies, information studies, psychology, and design. I utilize theoretical frameworks such as posthumanism, actor-network theory, assemblage, materialism, and affect theory to analyze the underlying factors and relationships among human and nonhuman actors such as technology companies, governments, engineers, designers, users, and infrastructure, algorithms, and smart devices/systems. Finally, I offer 15 design principles to redesign smart devices/systems as silent partners. The 15 design principles cover three stages: interface, introduction, and interaction. The principles are: (1) Identity information as a name tag; (2) A legible list of the required information; (3) Negotiable terms of service; (4) Process informing; (5) Detailed chart of functions, components, and the associated manufacturers; (6) Detailed chart of user statistics, third parties, and the revenue ratio from the third parties; (7) Condition informing; (8) Always open to rearranging; (9) Increase the range of default settings; (10) Decrease the threshold of usage; (11) Be anti-addictive with limited automation; (12) Connect via P2P; (13) Promote social engagement; (14) Manage data lifecycle; and (15) Be forgettable, resettable, and deniable.

### **The (un)making of election transparency through technology: the Kenya 2017 presidential controversy**

Cecilia Passanti (Deutsches Historisches Institut, France)

From the political murder of an ICT professional, to the Supreme Court's annulment of election results over suspicions of hacking, the 2017 Kenyan elections are the perfect setting for the analysis of a new STS object: digital electoral technologies. This article updates the historical STS debate on the social and political construction of technology (Bijker et al., 2012), and extends it to the social and political construction of a concept: "transparency." How is digital technology conceived and designed to implement transparency in the electoral process? This article tells the story of the social construction of 'electoral transparency' through technology. It first illustrates how digital technology transforms the material infrastructure of elections and how this transformation results in a new distribution of knowledge among election professionals (ICT experts, judiciary, technology providers, politicians). It then explores how the new materiality of elections shapes public controversy and the ability of political actors to claim the electoral truth they support. The article argues that the socio-historical materiality of current Kenyan electoral technology - a hybrid system in which manual and digital procedures are combined - has set the stage for a heated debate about how to implement transparency in elections through technology. In this political debate, digital knowledge and expertise became the only legitimate way to claim multiple electoral truths. Once the debate shifted to the courts, legal advice regained its authority over digital expertise for a time, inciting actors to produce non-digital evidence to explain in an understandable way what happened to the presidential results after Election Day on August 8.

JUNE 17th, 18th, 19th

# DIS/ENTANGLING TECHNOSCIENCE:



*Online*

stsitaliaconference.  
spazioiris.it/login



OPEN TRACK

## OPEN TRACK

Convenor: **Simone Arnaldi (Università di Trieste, Italy)**

### **The governance of the Italian contact tracing app “Immuni”: the role of government, corporations, and citizens in the development of an urgent technology**

Dario Pizzul (Università di Milano-Bicocca, Italy)

The 2020 COVID-19 pandemic hit the world hard, affecting several domains of social and economic life. Digital technologies are one of the realms that have been largely involved since the coronavirus spread at the worldwide level. Among its many other applications, since the spring of 2020, digital technologies started to play a role in tracing the contacts between people, intending to slow down the spreading of the disease by interrupting its chain of diffusion. Many countries developed their own technological solutions for digital contact tracing, releasing different apps and relying on different protocols. In the first half of April 2020, two multinational tech corporations, Apple and Google, announced the release of a joint protocol to help develop these technologies, clearly indicating which approach they were adopting among the many that the states were developing. Within this scenario, the paper aims at considering how multinational corporations, the government, and - to a smaller extent - citizens interacted in the governance of the design and the implementation of contact tracing apps in Italy. The whole work relies on and aims to contribute to the literature that considers technology as a socially constructed object. By analyzing relevant official documents produced on this matter by involved actors, it will be possible to analyze the strategies, the interests, and the values that were brought to the table during the design phase of the digital technology. Moreover, by applying a walkthrough method on the Italian contact tracing app “Immuni”, this work will consider how the main design concepts have been implemented in the technological artifact.



### **SCIENTIFIC COMMITTEE**

<i>SIMONE ARNALDI</i>	<i>UNIVERSITY OF TRIESTE</i>
<i>ATTILA BRUNI</i>	<i>UNIVERSITY OF TRENTO</i>
<i>STEFANO CRABU</i>	<i>POLITECNICO DI MILANO</i>
<i>MARINA MAESTRUTTI †</i>	<i>UNIV. PARIS 1, PANTHÉON-SORBONNE</i>
<i>PAOLO MAGAUDDA</i>	<i>UNIVERSITY OF PADOVA</i>
<i>FEDERICO NERESINI</i>	<i>UNIVERSITY OF PADOVA</i>
<i>GIUSEPPINA PELLEGRINO</i>	<i>UNIVERSITY OF CALABRIA</i>
<i>MANUELA PERROTTA</i>	<i>QUEEN MARY UNIVERSITY OF LONDON</i>
<i>SARA TONOLO</i>	<i>UNIVERSITY OF TRIESTE</i>
<i>ASSUNTA VITERITTI</i>	<i>SAPIENZA UNIVERSITY OF ROME</i>
<i>PAOLO VOLONTÈ</i>	<i>POLITECNICO DI MILANO</i>



### **ORGANIZING COMMITTEE**

<i>SIMONE ARNALDI</i>	<i>UNIVERSITY OF TRIESTE</i>
<i>STEFANO CRABU</i>	<i>POLITECNICO DI MILANO</i>
<i>PAOLO GIARDULLO</i>	<i>UNIVERSITY OF PADOVA</i>
<i>VERONICA MORETTI</i>	<i>UNIVERSITY OF BOLOGNA</i>
<i>BARBARA MORSELLO</i>	<i>UNIVERSITY OF PADOVA</i>
<i>LEONARDO PIROMALLI</i>	<i>SAPIENZA UNIVERSITY OF ROME</i>
<i>MARIACRISTINA SCIANNAMBLO</i>	<i>SAPIENZA UNIVERSITY OF ROME</i>
<i>ASSUNTA VITERITTI</i>	<i>SAPIENZA UNIVERSITY OF ROME</i>
<i>LETIZIA ZAMPINO</i>	<i>SAPIENZA UNIVERSITY OF ROME</i>