

Report:
Science and Democracy Network 16th Annual Meeting, 2017
28 June to 1 July 2017

From 28 June to 1 July 2017, the annual meeting of the Science and Democracy Network (SDN) was held at Harvard University, Cambridge, USA. The [Science and Democracy Network](#) aims to connect scholars and practitioners in science and technology studies (STS) and related fields such as law, bioethics, and political sciences. The common interest lies in the democratic governance of science and technology. Two anniversary panels and seven topical sessions set the framework for this year's conference. The paper presentations addressed several major research themes of relevance for STS with the overarching themes being science and democracy. Throughout the conference the discussions focused on the role of institutions, the politics of citizenship and participation, and the challenges of communication and representation.

15th Anniversary Panel: Traveling Imaginaries of Innovation

The first anniversary panel was built around the overall topic of 'Traveling Imaginaries of Innovation' and presented five case studies, each of which illustrated how innovation models are deployed in an urban context. The case studies covered examples from around the world: *Shobita Parthasarathy* (University of Michigan) talked about 'The Politics of Technology for Development: A View from India towards the World', *Joakim Juhl* (Aalborg University) presented 'Copenhagen: From National Capital to Regional Metropolis', *Margo Boenig-Liptsin* (Harvard University) talked about 'Living with Innovation: Designing New Life on the Edge of Boston', *Sebastian Pfotenhauer* (TU Munich) presented 'Of Bits and Pretzels and Bureaucracies: Imaginaries of "Conservative Innovation" in Bavaria' and *Hilton Simmet* (Harvard University) held a talk on 'Beacon of Hope, Lakes of Fire: Imagining the Future in India's Silicon Valley'. The presentations dealt with varied imaginations of innovation and showed that the cases still have common ground; whether a particular imagination arrives at being implemented depends on the specific political, social and economic context of the case study.

Session 1: Biomedicine, Publics and Populations

Erik Aarden (University of Vienna), 'Engaging Populations for the Public Good in Biomedical Knowledge Production', elaborated on how biomedical research is being framed by socio-political and cultural effects, using three different case studies (in Singapore, the USA, and India) with a focus on questioning public participation in a biomedical setting.

Flavio D'Abramo (Freie Universität Berlin), 'Can the Biomedical Enterprise be a Public and Democratic Endeavour? The Case of Biobank Research', presented an empirical case study in the field of biobank research that highlighted the need to reflect on, and assess how to balance, the use of data-intensive technologies and respect for the rights of donating patients within the present institutional framework.

The talk by *Robin Scheffler* and *Natalie B. Aviles* (MIT) on 'Managing Cancer and Cancer Researchers: Organizing Cold War Cancer Vaccine Development at the National Cancer Institute' focused on scientific autonomy and effective management in research by illustrating a historic example of biomedical research: the case of cancer vaccine research without the said cancer virus having yet been identified.

Lindsay Smith's (University of New Mexico) paper on 'Necrological Citizenship: DNA Identification, Social Death, and the Politics of Recognition' showed how DNA is being used as a mediating technology tool in the Mexican migration crisis. Death being omnipresent, forensic knowledge, and in particular DNA analysis, plays an essential role in governing the politics of death at the border of Mexico and the USA.

The presentations of the first session made it clear that it is crucial to pay attention to the role of 'the public' in biomedicine, and at the same time raised the fundamental question of 'who is the public?'. Furthermore, the case studies showed the importance of taking a close look at the underlying politics in biomedical research, whether that research is on biobanks, cancer or DNA testing.

Session 2: Technologies of the Self

Melissa Creary (University of Michigan), in her paper 'Biocultural Citizenship and Embodying Exceptionalism: Biopolitics for Sickle Cell Disease in Brazil', explored how the discourse on sickle cell disease is framed by race and the cultural ideologies of patients, civil society and the Brazilian government.

Sayantana Saha Roy (University of Chicago), 'Environmental Jurisprudence in India: How to Do Things with Life', discussed the interplay of law and life in postcolonial India using the concept of bioconstitutionalism as a basis. Throughout the talk, she highlighted the connection between the right to life and environmental jurisprudence within a framework of authority, emotion and power.

Matthew Sample and *Eric Racine* (Institut de recherches cliniques de Montréal), in their paper 'Neuroethics, Democracy, and the "Next Generation" of Bioethical Experts', introduced the model of a 'Reluctant Bioethical Expert' in order to criticize the politics of expertise and to point to an ideal of liberal democratic bioethics.

Basak Saraç-Lesavre and *Brice Laurent* (Mines ParisTech) reported on the case of 'Self-assessment and the European Self: The Contentious Harmonization of European Nuclear Safety'. In their talk they pointed out the difficulties the European institutions have to maintaining authority as the legitimate regulators of nuclear safety in Europe. By promoting nuclear stress tests on the national level of the member states, questions of who is supposed to conduct the stress tests are raised. This requires an examination of the underlying politics of nuclear self-assessments as a technology of regulation.

The talks of this session touched upon basic concepts such as identity from different perspectives and levels, ranging from the connection of a disease to race and culture to the visible effects of the absence of a European identity in the governance of nuclear safety. Another connecting factor in the discussions that followed was the role of expertise.

Session 3: Ordering Nuclearity

S.M. Amadae (University of Helsinki), in her talk on 'The Nuclear Leviathan: Revisiting the Nuclear Security Dilemma to Achieve Effective Common Action', discussed processes of decision-making in nuclear-armed states as well as the politics of civic engagement and access to knowledge about nuclear matters.

Monamie Bhadra (The Ohio State University), 'Jugaad Style Credibility Contests in Indian Anti-Nuclear Activism', addressed the difficulties of credibility and authenticity in the governance of nuclear power in postcolonial India. In doing this, she illustrated the underlying politics of expertise and the role of the public.

Reiko Hasegawa, *Christine Fassert*, *Maud Devès* and *Edouard Kaminski* (Sciences Po), gave a paper entitled 'The Politics of Zoning: Making Risks (In)visible and Manageable in Disaster'. First, they showed hazard mapping has been conducted after the Fukushima nuclear disaster in Japan has been conducted. By doing this, they drew attention to the roles of expert institutions and authorities in the transition from threats to risks in the politics of nuclear safety.

Sonja Schmid (Virginia Tech), in her paper 'Collecting Data, Producing Order', examined how scientific knowledge about the nuclear disasters of Hiroshima and Nagasaki was produced. One can observe that in this process a social order developed that implemented a separation of nuclear weapons on the one hand and 'peaceful' nuclear power on the other hand.

The speakers of the third session highlighted how the governance of nuclear safety is shaped by expertise, public participation and the politics of knowledge. In the following discussion it was stated that technologies such as nuclearity are beyond good or bad and that the question is rather about the rationalities we use for technologies of risk.

Session 4: Imaginaries – Environment

Zoe Nyssa (Purdue University) spoke on 'Failures of Imagination: Long-Term Changes in How We Don't Think About the Environment'. In her talk she drew attention to the fundamental question of how we use vocabulary and concepts; to illustrate this, she elaborated on the use of tipping points in the climate change discourse.

Celine Parotte and *Pierre Delvenne* (University of Liège), 'Co-producing Sociotechnical Solutions in Difficult Times: The Art of Governing Nuclear Wastes in France', discussed the role of the French Parliamentary office of Technology Assessment (PTA) in the process of Nuclear Waste Management (NWM) by combining a Foucauldian approach with the idiom of co-production.

Roopali Phadke (Macalester College) examined the case study of an earth metals mine in Minnesota, in her paper 'Striking the Green Energy Bargain: Responsible Mining in Minnesota'. She analyzed how the discourse on responsible mining is shaped by politics, the role of local communities, and the quest for global justice in the international mining industry.

Nina Witjes and *Sebastian Pfotenhauer* (Munich Center for Technology in Society, TU Munich), 'Seeing the Other, Imaging Thyself? Mutual Imagination in National Space Programs and Security Policies in India, Japan and South Korea', elaborated on the concept of sociotechnical imaginaries and showed how, within the frame of space programs, this concept can be expanded to mutual imaginaries of nations.

By drawing upon case studies from different fields the talks drew attention to knowledge practices, institutional frameworks and technocracy. In the discussion, questions of global justice and the distribution of power were addressed.

Session 5: Regulation and Quantification

Stefan Böschen (ITAS/KIT), 'Epistemic Regimes: The Case of Regulating Chemicals in the European Union', focused on knowledge dynamics in epistemic regimes; namely criteria, indicators and observables. Having looked at current indicator politics, he called for more transparency in decision-making in the regulation of chemicals in the European Union.

Charles de Souza (Virginia Tech), 'On the Ceremonial Uses of Cost-Benefit Analysis in Environmental Decision Making', suggested that cost-benefit analysis can be used as a ceremonial instrument for politics, and that the rationalized language leads to results that can, in fact, foster social consensus. He illustrated this with a case study on uranium mining in Virginia.

Tess Doezema (Arizona State University), 'Globalizing Technologies: Geopolitical Innovation in the U.S. Bioeconomy', discussed the narratives that shape biotechnology as well as the markets in the USA, with case studies of the 'AquAdvantage Salmon' and genetically modified crops.

Ritwick Ghosh (Cornell University) presented his paper on 'Missing the Bureaucrat for the Bureaucracy'. Through a case study of the largest private land conservation payment program he developed the concept of 'arenas of accountability'. These 'arenas of accountability' are socio-technical spaces framed by public rationalities, evidence and uncertainties.

The main focus of the fifth session and the following discussion was on the processes of decision-making. In areas of high uncertainty, in particular, we face the questions 'What can we know about the unknown?' and 'How can we handle the inquiries into accountability?'.

Session 6: New Modes of Citizenship

Carolina Cruz-Vinaccia and *Richard Janda* (McGill University, Myko Social Score Project), 'Responsive Democratic Social Networks', discussed the possibilities of new technologies, such as machine learning or Blockchain-technology, in participatory applications in a responsive environment.

Mascha Gugganig (Munich Center for Technology in Society, TUM) talked about 'Reconsidering Education in STS: The Case of Indigenous Sovereignty, Food Activism, and Agricultural Biotechnology in Hawaii'. Drawing on her ethnographic research in Hawaii she argued that within the political shift to a 'New Economy' education can be seen as a site for new civic epistemologies.

Amit Sheniak (Hebrew University of Jerusalem and Harvard STS Program), in his talk on 'The Spatial Metaphor as a Catalyst to the Development of Cybersecurity Policy', took a close look at the constitutive elements of cybersecurity institutions and thereby highlighted how cybersecurity has been framed by the politics of expertise.

Jack Stilgoe (University College London), 'Seeing Like a Tesla: Machine Learning, Social Learning and Driverless Cars', focused on different perspectives on self-driving cars; seeing like a car itself, like a state or like a city. From this, he argued that responsible research can be promoted depending on the chosen perspective.

This session highlighted the challenges we are facing from digitalization and the changes that emerging technologies such as biotechnology cause in society. While this widens the scope of action for individuals, it is common sense that these technologies must be developed and used in a responsible way. For this reason, it is crucial that the underlying politics are carefully chosen.

Session 7: Imaginaries – Futures of Life

Gabriel Dorthe (University of Lausanne & University Paris I Panthéon-Sorbonne), suggested in his talk entitled 'Reluctant Futures: A Study of Transhumanism in the Making' that transhumanism should be understood as a form of activism, and elaborated not only on what structures the discourse on transhumanism but also on what is not being talked about; he called this phenomenon 'absent objects'.

Emanuela Gambini (CCLS, Queen Mary University of London), drew attention to the 'Sociotechnical Imaginaries of Life. Metaphors and Analogies in the Coproduction of Biotech Intellectual Property'. By applying the concept of sociotechnical imaginaries to the analysis of metaphors and analogies in biotechnological inventions, she made visible the ways of ordering life.

Pierre-Benoit Joly (LISIS, INRA CNRS UPEM) concentrated his talk 'We have never lived in "truth societies"' on the current issues of fake news, post-truth politics, and the political economy of knowledge.

Sang-Hyun Kim (Research Institute of Comparative History and Culture, Hanyang University, Korea), in 'Old Futures: The Fourth Industrial Revolution and the Imaginaries of Innovation and Development in South Korea', discussed the ways in which the sociotechnical imaginary of Industry 4.0 is materialized in the specific setting of South Korea.

The last session cast a glance into the future; overall, the talks touched upon various themes of current interest like transhumanism, fake news and Industry 4.0. In the discussion the participants addressed the question of whether the challenges we are facing are actually new ones or whether we are just encountering them in new forms.

15th Anniversary Panel: STS and Climate Engineering

Panelists: *Gernot Wagner* (Harvard University), *Jack Stilgoe* (University College London), *Jane Flegal* (University of California at Berkeley), *Silke Beck* (Helmholtz Centre for Environmental Research – UFZ Leipzig), *Stefan Schaefer* (IASS Institute for Advanced Sustainability Studies) and *David Winickoff* (University of California at Berkeley)

The theme for the last panel was of current interest: climate engineering, which summarizes a collection of measures aimed at intervening in the earth's climatic system, and the role of STS in the discourse about this technology. First, the panelists reported on their perspectives on climate engineering. The discussion that followed focused on the opportunities as well as the challenges linked to the technological applications. In particular, the example of solar geoengineering, as a special variation of climate engineering, highlighted the general question of whether and how to involve civic participation in the process of decision-making about a technology that as yet does not even exist. In addition, the panelists addressed the moral hazard problem that climate engineering could undermine efforts to combat climate change. The panel ended with a general discussion on the importance of analyzing the underlying political theory in climate engineering and of ensuring that this technology is governed in a democratic and responsible way.

The Science and Democracy Annual Meeting ended as it began; full of vivid discussions and case studies from diverse disciplines and research subjects, ranging from nuclear energy, biomedicine and, cybersecurity to climate engineering, to name but a few. However, all the analyses circulated around the same fundamental questions: how science and society interact, which politics and rationalities are dominant and how decisions are made. With so much input from different perspectives, one could leave the conference with even more questions to think about.

Franziska Bereuter, July, 2017

