### Who owns and governs the future?

"The Old is dying, and the New cannot be born"

#### Keywords: Uncertainty, Complexity, Ethics, Interdisciplinary, Health,

A multi-disciplinary and multi-perspective session on the governance of the future, curated by the Centre for the Study of the Sciences and the Humanities (SVT) of the University of Bergen (Norway).

The session will be mediated by Andrea Saltelli and Silvio Funtowicz, who will introduce it by concentrating on the challenges to anticipation and governance in a time of crisis, which Gramsci aptly described as consisting "precisely in the fact that the old is dying and the new cannot be born; in this interregnum a great variety of morbid symptoms appear."

The subject will be articulated through brief presentations, as follows:

#### Precision Countdown (Roger Strand, Anne Blanchard and Caroline Engen)

In the promised era of Personalized Medicine, how will humans live in time? Beyond hopes of living forever and fears of excessive medicalization and risk management, we wish to discuss: How may the promises, expectations and postulated realities of personalised medicine affect the temporal dimension of the human condition, the certainty of dying, and the uncertainty of when? Do, and should, the imaginaries and underlying political economies of personalised medicine indicate the long-term future of human kind, or are they indeed part of the morbid symptoms of a late modern crisis?

**Roger Strand** is professor in the philosophy of science and associated researcher at the Centre for Cancer Biomarkers at the University of Bergen

**Anne Blanchard** is a post-doctoral researcher at the Centre for the Study of the Sciences and the Humanities and the Centre for Cancer Biomarkers, University of Bergen.

#### **Anticipation in disaster management (Bruna De Marchi)**

In the practice of disaster management, anticipation is key to plan for effective prevention, preparedness and response. Nowadays great expectations are created by the development of innovative and powerful technological instruments for environmental monitoring and hazard identification. However, their effectiveness requires that the complex interactions between physical and human systems are taken into account and that issues of trust are given proper consideration. Without inputs from different disciplines and types expertise, and without citizens' involvement in the design and application of the new instruments and devices, anticipation may be narrowly conceived and mistaken for prediction. In the age of Internet and declining trust in expertise, leaving out the possibility for surprise would impair the possibility of creating consistent and shared narratives useful for environmental monitoring and disaster management.

**Bruna De Marchi** is guest researcher at the Centre for the Study of the Sciences and the Humanities (SVT) of the University of Bergen

#### Anticipating patterns of contested evidence in emerging risks (Jeroen P. van der Sluijs)

Science—governance interfaces around horizon scanning and emerging risks are characterized by scientific controversies that employ different forms of evidence and stem from the uncertainty and plurality typical of the scientific enterprise and a plurality of institutionalized practices at the science-governance interface which the present crises of trust, of evidence and of science itself renders problematic. Increased controversies are closely interwoven with conflicting interests, values, stakes, and practices of evidence appraisal in institutions. For instance, societal conflicts co-shape the ways in which evidence is produced, communicated and used, and how uncertainty is dealt with, while institutional settings and regulatory frameworks co-define whose evidence counts, e.g. in risk analysis, and under which conditions. This paper proposes a novel suite of analytical tools to simultaneously map deep uncertainty, conflicts of interests, institutional practices and their interactions. An analytical framework is developed that can help to anticipate patterns of controversy around contested evidence. A suite of three analytical methods is at its core: institutional analysis, argumentative and critical discourse analysis, and evidence characterization (knowledge quality assessment and uncertainty mapping). The framework aims to identify and explain patterns in the dynamics of scientific controversies over emerging risks, and patterns of interwovenness of their epistemic, societal and institutional dimensions.

**Jeroen P. van der Sluijs** is Professor at the Centre for the Study of the Sciences and the Humanities (SVT) of the University of Bergen, and Associate Professor at the Faculty of Geosciences, Dept. of Innovation, Environmental & Energy Sciences, Utrecht University, Netherlands.

# Responsible and smart energy futures? Articulating the costs of smartness (Kjetil Rommetveit, Giacomo Poderi and Ingrid Foss Ballo)

Imaginations of a zero-emissions society through smart energy systems and cities aim to connect and coordinate action across societal, sectorial, disciplinary and national boundaries. This is reflected in visionary statements of energy futures which include a virtual smorgasbord of desirable and allegedly attainable goals and aims (cf. Jasanoff and Kim 2013). In such visions and imaginations, any goal seems to be within reach, from consumer empowerment and the promotion of local energy communities, over increased efficiency and cost-savings and greenhouse reductions, to job creation and enhanced innovation. A sociological view on the implementation of smart energy imaginaries would hold that these lofty promises of potential benefits are not depictions of futures in any real sense; rather, they are complex boundary objects created to entice (certain) actors with a range of differing and partly contradictory interests into innovation and collaborations aimed at large-scale infrastructural developments. This sociological reduction renders 'smart futures' more comprehensible objects for investigation, since it then becomes a matter of observing the actual relations and collaborations of the variously involved networks. A view on

'responsible innovation' similarly holds that it is exactly the quality of such collaborations, and the capacity of the involved actors to become mutually 'responsive', that render them 'responsible' (and not just 'innovations'). However, a crucial factor not commonly factored into such prescripts for collaboration pertain to their political economy, or what we could call the costs of collaboration. Through examples from smart energy projects in which we ourselves have participated as well as accounts form the relevant literature we illustrate how costs and available resources and capacities have major impacts on cross-sectorial and interdisciplinary collaborations. In accordance with a broad view on 'value', such costs are not merely monetary but include everything from privacy to energy pricing mechanisms to local belonging and increased vulnerability of interconnected systems. Such a view could have implications for how to think about 'responsibility' in innovation that opens up towards the political economies of smart innovations.

**Giacomo Poderi**, PhD in Sociology and Social Research, is post-doc research fellow at the Centre for the Study of the Sciences and the Humanities, University of Bergen.

**Ingrid Foss Ballo** is a PhD candidate in Geography and the Centre for the Study of the Sciences and the Humanities at the University of Bergen, and Research Fellow in the Science, Technology and Society (STS) Program at Harvard University.

**Kjetil Rommetveit** is associate professor at the Centre for the study of the sciences and humanities, University of Bergen.

## Alternative narratives and images for European aquaculture development (Mimi E. Lam and Matthias Kaiser)

Increasingly we hear from sociologists - and now even from the economist – that narrative

are keys to our perception of the desirability of different courses of action and policies. This is also the case for transition to more sustainable modes of consumptions.

This talk identifies the bottleneck in European aquaculture development as being the existing paucity of development narratives and governance images. Even in fisheries management one has slowly started to realize the importance of alternative narratives and images. Narratives that include the wide range of activities and ecosystems, and images that include more stakeholders than the powerful few. If aquaculture is to develop further in Europe, a much wider range of narratives and images is needed. What we currently witness is that all "old" narratives fail in the markets and in policy formation, while no new and powerful narratives are on the horizon yet. Behind the scenes there are power games who is to tell and develop the narrative for the future development, industry, science, and NGOs all claim special insights. Yet, a precondition for developing new guiding narratives is the ability to listen and

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discuss with those who are the ultimate arbiter of acceptance: the people.

**Mimi E. Lam** is a Research Associate at the University of British Colombia Institute for the Oceans and Fisheries, Policy and Ecosystem Restoration in Fisheries Research Unit and the UBC Department of Earth, Ocean and Atmospheric Sciences Plankton Ecosystems Lab.

#### **About the session coordinators**

Silvio Funtowicz and Andrea Saltelli are associate professors at the Centre for the study of the sciences and humanities (SVT), university of Bergen. Roger Strand, Silvio Funtowicz and Andrea Saltelli are also fellows of the European Centre for Governance in Complexity, a joint undertaking of the SVT - Bergen, and of the Institut de Ciència i Tecnologia Ambientals (ICTA) - Universitat Autonoma de Barcelona (UAB).