



Revolution, Regulation & Responsibilities

Technology & Democracy in the 21st Century

2010-2011 series

» **Revolution:**

The range, scope and magnitude of emerging technologies promise to transform society in ways that have previously been unimaginable. From nanomedicine and acute delivery of medicine in the human body to advances in biotech and the creation of new biological systems; from neuroscience increasing our understanding of brain function to IT helping us to map and imitate brain function, as well as posing fresh questions over privacy and surveillance, as these technologies evolve and converge it will without doubt transform our understanding of what it means to be human.

» **Regulation:**

But with this transformation comes scientific uncertainty and regulatory disruption. Fear and risk have to be mitigated against a backdrop of advancement in science and technology which currently cannot be fully explained or predicted. Existing regulatory systems are disrupted by the pace of new technologies resulting in legislative frameworks becoming redundant and to regulatory “disconnection”. A vast new landscape is opening up before us but there are no well worn templates to help us frame the future. As Justice Michael Kirby notes ‘We are experts without a great deal of expertise’.

» **Responsibilities:**

Therefore the need is great for a diverse range of stakeholders and representatives to gather together to engage with each in order to craft new models of policy making, governance and regulation which will connect as well as hopefully evolve with technology. Models which offer enough protection to manage the risks involved without being too excessive and stifling innovation and the potential social and economic benefits.

*In response to this, BioCentre invites you to its 2010-11 series of symposia, **Revolution, Regulation and Responsibilities: Technology and democracy in the 21st Century**. The series will seek to initiate dialogue on questions pertaining to technology and democracy and the ethical, legal and social implications which arise as a result.*

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Products, Privacy & People: Regulating on the Nanoscale

Monday 28th February 2011, 14:00, House of Lords, Committee Room 3

The manipulation of matter at the nanoscale represents a 'rebound revolution' reframing our understanding and engagement with science and technology. As nanotechnologies continue to evolve the promised nano structures which offer novel and new properties currently present unknown hazards. Nanoparticles have been found to pass through the skin, offering exciting possibilities of targeted drug delivery. Conversely, given their size nanoparticles could also interfere with the functioning of proteins on the surface of cells, or be taken up into cells and bind to intercellular proteins. How crucial is public awareness of these issues? Should there be a mandatory labelling system for nano products? This becomes all the more important as nanomaterials are adopted commercially and taken up into global supply chains.

Nanotechnology will present new possibilities for collecting new data and intensifying debate and discussion surrounding ongoing questions of privacy. There is the potential for tiny sensors to be embedded in clothes, products or even bodies which could record and collect a multitude of data, including the movement of people, products, health and financial details.

Increasingly, it appears that the distinction between human and machine could become blurred through the convergence of biology, nanotechnology, information technology and even neuroscience. If some of the grander ideas which nanotechnology would seemingly promise are believed to be true, then fusion between people and technology could occur like never before. Yet public and civil society debate remains limited despite dramatic efforts to frame the significance of such developments ranging from Eric Drexler's 'grey goo' scenario, to technology guru Bill Joy's *Why the Future Doesn't Need Us*, to Ray Kurzweil's imminent expectation of the sci-fi "singularity".

As attempts are made to develop effective and proportional regulation in response there is also the inevitable tension between divergent approaches to risk management on the national, regional and global level. One thing is for certain, transdisciplinary discussion, fresh thinking and understanding is essential if we are to avoid a repeat of the GM foods debacle and re-emergence of the 'yuck' factor.

Through short expert presentations, panel and Q&A discussions you are invited to join us as we discuss and examine the regulatory issues at the nanoscale.

A *drinks reception* will follow the symposium during which the work of **Julie Freeman**, Artist-in-residence at Microsystems and Nanotechnology Centre, Cranfield University, will be on display.

Confirmed speakers:

- **Dr. Steffi Friedrichs**, Director of Nanotechnology Industries Association.
- **Dr. Chris Groves**, ESRC Centre for Business Relationships, Accountability, Sustainability and Society, Cardiff University.
- **Dr. Peter Hatto**, Chairman of International Organisation for Standardisation (ISO)/TC229, Nanotechnologies and Director of Research, IonBond Ltd.
- **Prof. Geoff Hunt**, Director, Centre for Bioethics & Emerging Technologies, St Mary's University and partner in several EU funded projects on nanotech and labelling of nano products.
- **Trevor Maynard**, Deputy Head of Exposure Management, Lloyd's of London.
- **Prof. Terry Wilkins**, CEO NanoManufacturing Institute, University of Leeds and Chair of the EU Programme Expert Advisory Group on Nano Materials and Production Technologies .



All symposia are free to attend **but RSVPs are required.**

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