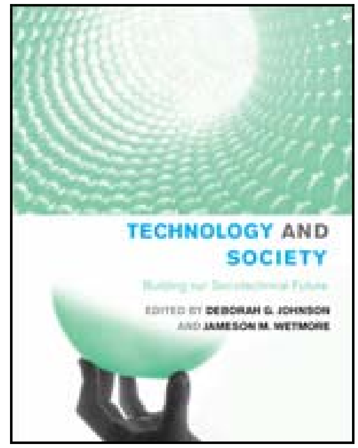
Technology and Society: Building Our Sociotechnical Future



Technological change does not happen in a vacuum; decisions about which technologies to develop, fund, market, and use involve ideas about values as well as calculations of costs and benefits. *Technology and Society: Building our Sociotechnical Future*, a new book edited by Deborah Johnson and CSPO Assistant Professor **Jameson Wetmore** focuses on the interconnections of technology, society, and values. It offers writings by authorities as varied as Freeman Dyson, Lawrence Lessig, Bruno Latour, and Judy Wajcman that will introduce readers to recent thinking about technology and provide them with conceptual tools, a theoretical framework, and knowledge to help understand how technology shapes society and how society shapes technology. It provides readers a new perspective on such current issues as globalization, the balance between security and privacy, environmental justice, and poverty in the developing world. For more information, see http://mitpress.mit.edu/catalog/item/default.asp?ttype=2&tid=11608.

Final Report on National Citizens' Technology Forum: Nanotechnologies and Human Enhancement

The Center for Nanotechnology in Society at Arizona State University has released the final report of the National Citizens' Technology Forum on Nanotechnologies and Human Enhancement. Many observers believe that the "converging technologies" of nanotechnology, biotechnology, information technologies, and cognitive science could lead to radical and pervasive enhancements of human abilities. Both supporters and critics of these technologies acknowledge that their continued development and deployment portend dramatic social and cultural challenges. Stakeholders see a need for *informed citizen input* early in the process of developing such technologies. This report discusses the results of one major effort at public input, the March 2008, National Citizens' Technology Forum convened by CNS-ASU and its collaborators at North Carolina State University. Selected findings from the report include:

- A unanimous support among the six sites regarding concern over the effectiveness of regulations for these technologies, and the need to provide public information, including more public deliberative activities and K-12 education, about these technologies; and
- Near-unanimous support regarding concern about the equitable distribution of new enhancement technologies, the greater importance of therapeutic over enhancement research and the important role that stakeholders might play in setting that research agenda.

The report concludes that average citizens want to be involved in the technological decisions that might end up shaping their lives. Citizens remain strongly supportive of research that might lead even to transformational technologies, provided that reliable information about and attentive and trustworthy oversight of their development exists. Such information and oversight should not be restricted to environmental health and safety but should include social risks such as equity, access, and civil rights. With the appropriate information and access to experts, citizens are capable of generating thoughtful, informed, and deliberative analyses that deserve the attention of decision makers. The report is available at http://cns.asu.edu/files/NCTFSummaryReportFinalFormat08.pdf

Energy Innovation Systems from the Bottom Up:
Climate Technology RD&D for Climate Stabilization

Much of what is known about technological innovation and progress has yet to be captured in discussions of climate change mitigation. Successful mitigation of climate change is not about finding "a solution," but developing an appropriate institutional and policy architecture for technological innovation, one that allows experimentation and progress on multiple fronts, tolerates risk, accepts that there will be both successes and failures, and focuses on creating the initial conditions for progress, rather than stipulating specific innovation paths and outcomes. CSPO Co-Director **Dan Sarewitz** and the CSPO-DC office, in partnership with the Clean Air Task Force (http://www.catf.us/), received a grant from the Bipartisan Policy Center's National Commission on Energy Policy to develop: 1) a compelling intellectual structure for talking about climate change mitigation from an innovation-system perspective; 2) a bottom-up, integrated policy inventory that lays out both well-tested and new policies and arrangements necessary for creating an energy innovation system that could lead toward climate stabilization; 3) application of that inventory to three specific areas of energy technology that are likely to be relevant to climate stabilization; and 4) generalization from those example areas to produce specific recommendations for the US climate-related research, development and deployment effort over the next two decades. This eight month project will include several expert workshops and lead to recommendations for both Congress and the new Administration that directly apply to energy R&D policy making.

Civic Epistemologies: Constituting Knowledge and Order in Political Communities

How do we know things? In this article in Sociology Compass, CSPO Associate Professor **Clark Miller** notes that the question of epistemology is crucial for political sociology. Knowledge is essential to even the most basic and foundational of political processes and institutions; yet, sociologists and political scientists know relatively little about how knowledge gets made in political communities, nor how it is tied to other key aspects of political life. See the abstract at http://www3.interscience.wiley.com/journal/121502370/abstract or contact Clark.Miller@asu.edu to request a reprint.

The Sociology of the Future: Tracing Stories of Technology and Time

The sociology of the future is an emerging field of inquiry that works to understand future consciousness drawing from a mix of science & technology studies and the practice of foresight. Through an exploration of the theories, methodologies, and quagmires of anticipation employed in the study of nanotechnology, this article in Sociology Compass by CSPO Assistant Research Professor **Cynthia Selin** introduces the sociology of the future and suggests some ways the field is taking definition. See the abstract at http://www3.interscience.wiley.com/journal/121413093/abstract or contact Cynthia.Selin@asu.edu to request a reprint.

Workshop on Science, Technology & Sustainability: Building a Research Agenda

Sustainability has emerged as the signal policy challenge of the 21st century. CSPO co-organized with the National Science Foundation a workshop on "Science, Technology and Sustainability: Building a Research Agenda" to explore and develop an agenda for research in science and technology studies in the field of sustainability. At the core of this research agenda lay five fundamental areas of research and inquiry into:

- The historical and contemporary dynamics of human-nature relationships, including beliefs and ideas that shape how people understand and value nature, as well as the tightly coupled social and technological systems that order human-nature relationships.
- The social practices and processes of human decisionmaking, especially arrangements for producing, validating, deliberating, and applying knowledge and ideas in decisionmaking.
- The inextricable human dimensions of the large-scale socio-technical systems at the heart of the current global economy – energy production and consumption, transportation, agriculture, resource extraction, manufacturing – and that must undergo fundamental change to meet the challenge of sustainability.

- The social practices and possibilities of novel approaches to design and deliberation that could make possible the fashioning of new kinds of more sustainable socio-technical systems.
- The value systems that define sustainability, assign accountability and responsibility, and structure scientific, moral and political discussion.

Participants also described the kinds of research infrastructure necessary to make possible not only the pursuit of a research agenda but also the capacity to translate its findings into concrete action to enhance sustainability in human societies. For more information, contact Clark.Miller@asu.edu.

CSPO Affiliate Brad Allenby Named One of Top Teachers of the Year

Two of the most prominent organizations supporting higher education in the nation have selected Arizona State University engineering professor and CSPO affiliate faculty member **Brad Allenby** as one the winners of its 2008 U.S. Professors of the Year Awards. The Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Higher Education bestows the awards to recognize professors "for their influence on teaching and their commitment to undergraduates." Allenby is a professor in the Department of Civil, Environmental and Sustainable Engineering in ASU's Ira A. Fulton School of Engineering, as well as a Professor of Law and a Professor of Engineering and Ethics in affiliation with the Joan and David Lincoln Center for Applied Ethics at ASU. For more information, see http://www.fulton.asu.edu/fulton/news/page.php?sid=543.

CSPO Professor Named to National Academy of Engineering Advisory Group

CSPO Associate Professor **Clark Miller** has been invited to join the Advisory Group to the Center for Engineering, Ethics, and Society of the National Academy of Engineering. The overarching mission of Center is to bring ethical and societal challenges of engineering to the attention of the engineering profession and to promote discussion and understanding of these issues in the engineering community.

CSPO/CNS Intern Receives Two Awards

CSPO/CNS intern **Tobie Milford** has been awarded the Kelly Maxwell "Outstanding Graduate Student" Award from the Intergroup Relations Center and the Religious Studies Award for "Outstanding Concurrent Major." Tobie's internship with CSPO/CNS and his honors thesis focused on increasing dialogue regarding nanotechnology and religion.

Science and Public Policy

Science and Public Policy is a leading refereed, international journal on public policies for science, technology and innovation, and on their implications for other public policies. CSPO Co-Director **David Guston** serves as the North American Editor and CSPO Associate Research Professor **Daniel Barben** serves as the North American Managing Editor. The most recent issue includes:

- From ivory tower to factory floor? How universities are changing to meet the needs of industry – *Will Geoghegan and Dimitrios Pontikakis*;
- 'Governing' nanotechnology without government? – *Diana M. Bowman and Graeme A. Hodge*;
- The bottom-up meanings of the concept of public participation in science and technology – *Ulrike Felt and Maximilian Fochler*;

- Virtues and limits of competitive funds to finance research and innovation: the case of Mexican agriculture – *Alexandre O. Vera-Cruz*, *Gabriela Dutrénit, Javier Ekboir, Griselda Martínez and Arturo Torres-Vargas*;
- Research and development in the services sector of an emerging economy: the Case of South Africa – *Michael Kahn and Lidwine Hounwanou*; and
- Scientists who engage with society perform better academically – *Pablo Jensen, Jean-Baptiste Rouquier, Pablo Kreimer, and Yves Croissant.*

Abstracts are available at http://www.ingentaconnect.com/content/beech/spp.

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