

STS in Action

A workshop at Pomona College
Claremont, California
March 28 – 30, 2008

Co-sponsors: Loka Institute; Politics Department, Program in Public Policy Analysis, Pomona College; Science, Technology and Society Program of the Claremont Colleges; Chemical Heritage Foundation

Contact: Khan Rahi, ksrahi@sympatico.ca
Rick Worthington, rworthington@pomona.edu

Workshop Overview and Abstracts

I. Overview

- **Workshop goal:** explore how STS is, could, and should be involved in politically engaged scholarship.
- **Questions we are asking going in:**
 - What does the term “politically engaged scholarship” mean?
 - What unique qualities do STSers (and the ideas that travel with them) bring to university-civil society collaborations?
 - What changes in organization, policies and culture would make these efforts more beneficial for the parties involved in them, and for society in general?
- **Projected medium and long term outcomes:**
 - Produce a compilation of papers on STS and engagement that will be available for the August 2008 Society for Social Studies of Science meetings in Rotterdam.
 - Recruit additional contributors to an expanded, peer-reviewed work (reader, special journal issue, etc.).
 - Help create a stable and recognized segment of STS scholars who are engaged with various societal constituencies for collaborative research and learning.

II. Abstracts

Erik Fisher, Ph.D

Assistant Research Professor
Center for Nanotechnology in Society
Consortium for Science, Policy & Outcomes
Arizona State University
E-Mail: efisher1@asu.edu

Midstream Modulation and the Politics of Engagement

Governments worldwide are simultaneously investing in emerging technologies and creating engagement programs to address societal concerns associated with these technologies. Science studies scholars have reacted in mixed ways to these programs, which some see as opportunities to encourage more reflexivity in science-society relationships, but which others see as giving rise to entanglements that only serve to advance uncritical promotion and adoption. Programs such as the Center for Nanotechnology in Society at Arizona State University seek to work with actors across multiple stages of innovation, including the laboratory. In this talk, I discuss some of the opportunities and challenges of midstream engagement. Whereas some approaches attempt to disorient scientists by removing them from the shelter of laboratory life, mine has been to employ observation as a form of ethnographic intervention. In particular, midstream modulation seeks to enhance the reflexive awareness of practitioners by feeding back observations into the research environment. Such recursive exchanges can bring about subtle yet immediate changes in project methodology, problem selection, and other research practices. While the proximity to innovation practices thus allows greater insight into effective strategies for enhancing reflexivity than previous self-critical research programs, it is also limited by the uncertain outcomes and institutional contexts that characterize existing scientific practices. Still, shifts in awareness and practice on the part of individuals and—over time— institutions can, we hope, lead to a greater capacity for anticipatory governance in the face of ongoing socio-technical change.

Wyatt Galusky, PhD
Assistant Professor, Humanities
Co-Coordinator, Science, Technology & Society Program
Morrisville State College, Morrisville, NY
E-Mail: galuskwj@morrisville.edu

The Mutual Configuration of Expertise and Audience

The question of engaged scholarship can take multiple forms. Today, I'd like to discuss ways of enacting STS that I have employed that articulate different relationships to audience than more traditional modes. These involve interactive theatrical performance and a modified photo-voice technique accompanying a symposium. The modes highlight the roles and competencies that all academic performances prescribe onto their presumed audiences. In seeking to engage and transform audiences, STS scholars must then be willing both to modulate the ways in which STS work is done and to seek ways to activate or simply not diminish the contributions of non-academics in the production of knowledge about the world. I would like to discuss these issues and methods.

Michael Heiman, Ph.D
Professor Environmental Studies & Geography
Environmental Studies Dept.
Dickinson College, Carlisle, PA
E-Mail: heiman@dickinson.edu

Science by the People: Grassroots Environmental Monitoring and the Debate Over Scientific Expertise*

Over the past two decades, planning and regulatory agencies have come to rely upon science, often in the form of risk assessment, to set policy. While the quest has been to depoliticize the decision-making process, the effect has often been to the contrary. Many residents remain suspicious of both the methods employed and the intent served. One of their responses to dissatisfaction with agency-sponsored science is to engage in the scientific enterprise themselves. Today thousands of grassroots activists are involved in measuring and interpreting environmental parameters through water quality assessments and health surveys. Initially dismissed by technical experts, this science by the people has invigorated the grassroots

environmental movement sufficiently to allow it to question politics masquerading as science while also providing a sound basis for collaborative work with sponsoring agencies.

*Original In: Journal of Planning Education and Research, 16(4) 1997: 291-299 and revised in Ron Eglash, et al. (eds.). Appropriating Technology: Vernacular Science and Social Power. Minneapolis, MN: The University of Minnesota Press, 2004. Modified 3/08 for Loka Conference, Pomona College.

Dr. Jane L. Lehr

Ethnic Studies Department (38-140)
Women's & Gender Studies Department
California Polytechnic State University
San Luis Obispo, CA 93407-0662
E-Mail: jlehrcalpoly@gmail.com

Program Co-Authors:

Saul Halfon, Sharon Ruff, and Ann Kilkelly
Virginia Polytechnic Institute & State University

Theatre Workshop in Science, Technology & Society (TWISTS)

TWISTS uses original performance-based workshops and full performances to facilitate dialogue on scientific and technical controversies among student-age, public, and professional audiences. Performance and workshop materials are developed by creating interactions among experts on the social and technical dimensions of science and technology and theatre arts practitioners. Staff expertise includes social and ethical dimensions of science and technology, public engagement practice and research, ISE, and community-based and devised theater.

Intellectual Merit

TWISTS creates opportunities for individual and community-based learning for diverse public and professional audiences:

- **content development workshops:** content development by social, technical, and theatre experts creates nuanced understandings of scientific and technical controversies amongst diverse professional audiences;

- **workshops:** mobile performance-based workshops for student-age, public, and professional communities combine existing scripted content with generated, audience-driven content (via dialogic and movement-based theatrical techniques), facilitating didactic and participatory learning;
- **performances:** full-scale performances followed by facilitated community dialogues allow for exploration of diverse socioscientific positions;
- **support materials:** supplemental materials prepare and extend existing performance-based learning opportunities.

Broader Impacts

- **public engagement:** extension of emerging ISE facilitation of public engagement/dialogue to underserved populations in southwest Virginia, upstate New York, and central California;
- **scale-up materials:** online access to scripts and usage/development guides extends our unique ISE model to national and international levels;
- **research/evaluation:** ongoing research/evaluation efforts contribute to ISE literatures examining efforts to facilitate public engagement with science and technology, as well as dialogue between expert and public audiences.

Project Team

- PI: Saul Halfon, STS, Virginia Tech.
- Co-PIs: Jane Lehr, Ethnic Studies, Cal Poly; Ann Kilkelly, Interdisciplinary Studies (Theatre Arts and Women's Studies), VT; Doris Zallen, STS, VT; Carol Brandt, Teaching and Learning, VT.
- Key collaborators: Drew Dowdy, Independent Artist; Donna Augustine, STEP Coordinator, Monroe Community College (Rochester, NY); Wyatt Galusky, Social Sciences, SUNY Morrisville; Sharon Elber, STS, VT.

Cindy Lopez-Elwell, Ph.D.

Board of Directors, Center for Community Action and Environmental Justice

E-Mail: larncin@yahoo.com

Rick Worthington

Professor of Politics, Pomona College

Engaging Technology: A Dynamic Challenge for Environmental Justice Advocates

In the past 20 years, environmental justice organizations have been at the forefront of innovative knowledge-making practices that establish

community members as legitimate voices alongside and in opposition to traditional experts. The Center for Community Action and Environmental Justice recently celebrated the 30th anniversary since its formation as Concerned Neighbors in Action, which emerged to fight the notorious Stringfellow Acid Pits in Glen Avon, California. In addition to landmark accomplishments in community protection, personal injury litigation, toxic remediation, and public policy change in the Stringfellow case, CCAEJ has mounted grassroots campaigns focused on environmental health, environmental justice, and sustainable communities throughout the Inland Valleys of Southern California. In the process, community members have actively produced new knowledge and used technological artifacts in ways that challenge traditional distinctions between experts and lay persons. In this presentation, we will review examples of innovative engagements with science and technology at CCAEJ, current challenges connected to technoscience that the organization is encountering, and the relevance of STS concepts and practitioners to these challenges. Our basic argument is that the inventions in CCAEJ's past were born of necessity and the passion/commitment of activists. In social movement language, these changes were the product of a political opportunity structure and effective movement leadership. Future success in pursuing the goals of environmental justice may be enhanced by a wider vision of technoscience as a critical variable in the organization's environment and a key element in its strategic plans.

Gwen Ottinger, Ph.D

Department of Science, Technology, and Society
University of Virginia

E-Mail: ottinger@creativelement.com

Anne Rolfes, Ph.D

Founding Director
Louisiana Bucket Brigade

E-Mail: annerolfes@hotmail.com

**Supporting the Supporters:
A Role for STS Engagement in Environmental Justice Activism**

What role can science and technology studies (STS) scholars play in the work of environmental justice (EJ) organizations? What makes their contributions most valuable to EJ groups, and what are the obstacles to maximizing their impact? This paper takes up these issues by reflecting on a six year-long collaboration between the co-authors, Louisiana Bucket Brigade (LABB) founder and director Anne Rolfes, and engineer-turned-STS

scholar Gwen Ottinger—a collaboration which has recently come to include Ottinger's undergraduate engineering students at the University of Virginia. It is argued that the efforts of Ottinger and her students occupy a particular niche within the activities of LABB: rather than responding directly to the immediate needs of specific community campaigns—the work that LABB organizers are focused on daily—they supply information important to pursuing longer-term issues common to the many communities that LABB supports. Within that niche, the key contribution of Ottinger and her students has been to manipulate, interpret, and present technical data in a way that reflects a solid understanding of community contexts. The challenges of this kind of engagement, the authors suggest, stem from the unique niche occupied by the STS scholar. Although academic collaborators support organizers and not communities directly, they must find ways to connect with communities in order to understand—and draw inspiration from—the problems that they face. For their part, organizations must make sure to integrate information offered by collaborators into their activities, even though it may not be immediately relevant.

Khan Rahi
Programs Manager, Loka Institute
Rick Worthington
Pomona College

**Third Sector Knowledge Production and Social Change:
A Cross-Atlantic Grass Roots Action Plan**

In the past three decades, mainstream policies and practices in science and technology have been increasingly contested by diverse groups around the globe. In the process, there has been an uneven development in opening this most insular yet significant domain of contemporary society. A parallel development is the dramatic growth of critical inquiry by civil society organizations, particularly at the grassroots level, into the interactions of science, technology and society, at the same time that similar inquiry has been securely institutionalized and controlled by the academy.

This presentation is concerned with the degree and nature of this participation, and ways of enhancing its effectiveness. Our general questions are: 1) what are the contours of citizen-driven challenges directed to R&D aspects of key industrial sectors in North America and

Europe? 2) What accounts for the successes and failures of these challenges? 3) How is success defined?

At present, governments in North America and Europe are increasing research budgets for participation in science and technology decisions, but the intent and outcome of these programs could be construed as promoting research as an alternative to meaningful participation. While remaining open about this claim, we have used it as a heuristic to argue that a rebalancing of participation toward action by civil society organizations can yield more change in research policy. To explore this possibility we will review the work of four grassroots organizations (two each in North America and Europe) that have engaged research policy issues in the course of their activities (e.g., in areas such as access to digital technology, or the health and environmental concerns raised by nanotechnology development). Can an approach driven by the concrete goals of civil society organizations and grounded in action influence the research system?

Jody A. Roberts, Ph.D

Program Manager, Environmental History and Policy
Center for Contemporary History and Policy
Chemical Heritage Foundation, Philadelphia PA
E-Mail: jroberts@chemheritage.org

**Towards a Project of Ontological Reconstruction:
Convergent Pasts, Conditional Presents, and Alternative Futures**

In this short presentation I hope to explore some thoughts on three questions. First, what can STS scholars add to public dialogues relating to technoscience? Second, why should we be doing this? Third, what are the dangers of engagement? Drawing from personal experiences, I want to argue (with myself if no one else) that we have an opportunity to provide “historically grounded social science perspectives on issues of contemporary importance” – a phrase I’ve begun to use in order to frame my own work and which requires significant definition, unpacking, and retooling to understand what it means or could be made to mean. I use this phrase as a way of introducing what I call a project in ontological reconstruction, or using our ability to understand the emergence of the present in order to engage in a politics of creating new conditions of possibility. But why engage in this politics, rather than leaving our investigations firmly entrenched in

the past? In the simplest of terms it's because my lives as 'citizen', 'scholar', and 'activist' bleed into one another making it impossible to distinguish them from one another. And so the moral impulse that asks me to act on behalf of the one requires mobilization of them all. But engagement is a risky proposition, and the dangers – personal, professional, and political – are real and so require careful negotiation. The risks of non-action must also be evaluated, however, and so a careful investigation of the stakes is in order.