SCIENCE STUDIES NETWORK AND COLLOQUIUM

Proposal for a Cross-disciplinary Research Network and Colloquium
Walter Chapin Simpson Center for the Humanities
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PROJECT DESCRIPTION

Our central aim is to catalyze an inclusive University of Washington-based network of faculty and graduate students who share an interest in science studies. In doing this we have two further goals: to foster topic-specific collaborative research projects, and to explore the potential for developing an interdisciplinary curriculum in science studies that integrates dispersed course offerings and builds on the success of the existing major in History and Philosophy of Science. We propose a two-year program of colloquium meetings and consultation, with renewal for the second year contingent on an assessment, at the end of the first year, of the progress we have made in incubating research clusters and planning for curriculum development. In this way, we hope to build on the interest and momentum generated by the Science Studies Speaker Series funded by the Simpson Center and convened by Simon Werrett, Monica Azzolini, and Arthur Fine in 2003-2005, and to bring together colleagues who have played an active role in developing science studies initiatives in diverse contexts at UW.

Rationale and Context

The University of Washington has a well-deserved reputation for its nationally ranked strength in a range of sciences, including the social, medical, and applied sciences as well as core disciplines in the natural and biological sciences. But, by contrast with peer institutions of similar profile, it has no comparably ambitious interdisciplinary program in science studies. This is not for want of accomplished science studies scholars who hold appointments in a number of fields, many of whom have developed science studies initiatives in their home departments and faculties: reading groups, speaker series, and work-in-progress colloquia; topic-specific research clusters; interdisciplinary courses and curricular tracks at the graduate and undergraduate level. Our aim is to create a forum in which those who have been involved in these initiatives can explore common interests in a sustained way, and can assess the potential for joining forces in developing science studies at the University of Washington.

We identify three broad, overlapping constituencies at the University of Washington whose complementary interests represent most of the major subfields and areas of active research interest in science studies: History and Philosophy of Science, Cultural Studies of Science, and Ethics, Equity, and Science Policy.

History and Philosophy of Science

This group of historians and philosophers founded the undergraduate major in History and Philosophy of Science in 2000, and have jointly sustained a number of reading and work-in-progress discussion groups over many years. The Science Studies Speakers Series (2003-2005) was an initiative of HPS faculty and was intended to showcase the range of work that characterizes contemporary science studies. Active participants include Arthur Fine, Lynn Hankinson Nelson, Andrea Woody, and Alison Wylie in the Department of Philosophy; Bruce Hevly and Simon Werrett in the Department of History; and Woody Sullivan in the Department of Astronomy, among other interested scientists who regularly attended the

Speaker Series. Their fields of interest range widely, from the history of Arctic exploration to that the pyrotechnic arts in the Scientific Revolution. It is a signal strength of this group of faculty that everyone involved is committed to grounding their analysis of science in a detailed technical understanding of the sciences they study. It is also significant that members of this group share an interest in questions about the role of social values in science. The historians seek an understanding of how science has been conditioned by and has, in turn, shaped the various social and cultural contexts in which it has developed, revealing the contingency and situatedness of key scientific concepts, practices, and communities. This is an undertaking that not is only historically illuminating but also bears on contemporary debate, in the humanities and in the sciences themselves, about the nature and status of science. The philosophers also engage with social and cultural studies of science, both as a basis for contextualizing their analyses of key theoretical concepts and epistemic ideals, and in connection with a range of normative issues—public accountability, research ethics, the role of science in policy decisions—that are matters of active concern for ethicists, political theorists, and policy analysts, as well as for practicing scientists.

Cultural Studies of Science

A network of scholars with roots in Anthropology, CHID, Communication, English, History, and Medical History and Ethics share a commitment to analyze science and technology as forms of cultural practice, a combination of matter and symbol embedded in society as well as in nature. The University of Washington boasts a number of research clusters whose members study the cultural practices, institutions, and rhetorics of fields as diverse as genomics, conservation biology, environmental engineering, medicine, reproductive technologies and cell phone technologies. Their work is transnational in scope; it includes studies based in the Philippines, China, South Asia, Indonesia, South America, Europe, and now cyberspace. And it cross-cuts conventional disciplinary divides drawing, for example, on the resources of ethnographic analysis, communication studies, literary theory, postcolonial studies, and feminist theory.

A cluster of faculty working in this vein organized around a common interest in Feminist Science Studies in 2002-2004; they included Linda Nash (History), Janelle Taylor and Celia Lowe (Anthropology), Alys Weinbaum (English), Nayna Jhaveri (Geography), and Andrea Woody (Philosophy). Three additional research clusters are currently active. The first is a dynamic group of scholars committed to understanding the relationship of science to powers of rule. Celia Lowe and Ann Anagnost (Anthropology), Vicente Rafael and Adam Warren (History), and Thomas Foster (English) focus on questions about how scientific knowledge and technological access help shape political and economic power. A second well-established research cluster is associated with the Critical Study of the Medical Humanities. This interdisciplinary network brings together scholars from the North and South Campuses who share an interest in critical and interdisciplinary studies of health, medicine, and the etiology of illness that integrates cultural and medical approaches. Especially active members of this group include Janelle Taylor and Lorna Rhodes (Anthropology), Linda Nash (History), Alys Weinbaum (English), Sara Goering (Philosophy), and Helene Starks and Kelly Fryer-Edwards (Medical History and Ethics). A final cluster of scholars study the complex relationship of science and technology, communication, and the arts: Leah Ceccarelli (Communication) is a nationally recognized scholar of the rhetorical practices of molecular biologists; Shawn Brixey and Stephanie Andrews (Digital and Experimental Arts), utilize digital and biotechnology in artistic practice; and Phillip Thurtle (CHID and History) studies modes of information processing in relation to conceptions of vitality and life. Examples of cultural studies research in this tradition can be found in a book series that Thurtle edits for the University of Washington Press, *In Vivo: The Cultural Mediations of Biomedicine*.

Ethics, Equity, and Science Policy

In addition, many faculty at the University of Washington work on questions of public accountability, science policy, and research ethics in the sciences conceived in terms of the rights and responsibilities of investigators to research subjects and affected populations, as well as in a broader framework of concern with the ways in which the ideals and practices of science shape public culture and civic deliberation. Strong and emerging research clusters exist in a number of contexts. For example, the Center for Genomics and Healthcare Equality (CGHE), an NIH-sponsored Center of Excellence for Ethical, Legal,

and Social Implications of Research, hosts a wide array of interdisciplinary research focused on understanding the likely impact of emerging genetic technologies on the medically underserved. A particular focus of the Center is the pursuit of community-based participatory (or "action") research with Northwest Native American and Alaska Native communities. Leaders of the CGHE include faculty from the Department of Medical History and Ethics: Wylie Burke (PI), Kelly Fryer-Edwards, Malia Fullerton, and Helene Starks. A related cluster of faculty based in Philosophy, many of them associated with Program on Values in Society, address questions about the ethical and political implications of global climate change, environmental degredation, the control of intellectual property and privacy ethics, as well as ethics issues in medicine; they include Steve Gardiner, Sara Goering, Adam Moore, and Andrew Light as well as science faculty who teach research ethics within their home departments, and public policy analysts and specialists in legal issues raised by the sciences. Finally, research in this broad area that is of particular importance to the University has been undertaken by faculty who focus on social justice issues raised by the persistent barriers that women and underrepresented minorities face in gaining access to scientific training, employment, and by inequities in the distribution of the risks and benefits of scientific inquiry; Angela Ginorio in Women's Studies and those involved in the UW ADVANCE project have been active on these issues.

Practicing scientists are involved, to varying degrees and in different ways, in each of these existing and emerging research clusters. These area descriptions focus chiefly on the faculty whose primary specialization is science studies, but it will be a priority in developing the Science Studies Network to build connections with colleagues in the sciences who share these interests in the history, the philosophical underpinnings, the institutional dynamics, as well as the ethical and political dimensions of their fields.

As this appraisal of emerging and established strengths in science studies suggests, the University of Washington already has in place considerable breadth and depth of expertise in each of the main constitutive fields of science studies: history and philosophy of science, social and cultural studies of science, and normative issues in the sciences (e.g., of ethics, policy, equity). Perhaps most important, preliminary discussions indicate that there is considerable overlap of interest between these clusters, and that a promising shift in the broader pattern of interaction among the cognate fields of science studies is evident at the University of Washington. In the last decade there has been a move away from sharply contentious debate between science studies practitioners who foreground the social, historical contingencies of scientific practice, and the more conservative advocates of HPS approaches who aim at reconstructing canons of scientific rationality. The extremes on this continuum were articulated, in their starkest terms, in the "science wars" of the 1990s, a public debate that made clear, for most science studies practitioners, the untenable nature the caricatures that had come to stand for their distinct disciplinary and subfield formations. The process of working through the implications of these divergent research programs—philosophical, historical, and socio-cultural—has thrown into relief the need for active cross-fertilization. In the process, connections have been drawn between these more academic studies of science and the normative questions addressed by ethicists, science policy analysts, and equity researcher/activists. An effective response to pressing normative issues—about accountability, access, fair distribution of the benefits and burdens of science—requires an empirically well grounded and conceptually sophisticated understanding of how the sciences have taken shape: their intellectual formation as well as the dominant institutional forms and cultural dynamics that structure scientific practice today, in specific disciplinary contexts.

In short, this is a juncture at which an exciting synergy between distinct (and, in the past, often dissonant) fields of science studies is taking shape, and the University of Washington is an especially promising context in which to realize this potential, given its existing (if dispersed) strengths in all the cognate fields of sciences studies.

Proposed Activities and Projects

I. Network building – the Science Studies colloquium

To capitalize on these strengths we propose a bi-weekly in-house colloquium as a forum in which faculty and graduate students can present current research in all the identified areas of science studies to an interdisciplinary audience of science studies colleagues. As indicated, the impetus for this colloquium comes from the Science Studies Speaker Series that was supported by the Simpson Center in 2003-2005. But rather than extend this highly successful program of public lectures, our goal now is to bring science studies scholars at the UW into contact with one another so that we can learn about one another's research, identify areas of common interest, and enrich our own projects.

In addition to these in-house meetings, we propose to bring in one external visitor a quarter to give a public lecture and to consult with the Colloquium group about models for developing a broad interdisciplinary curriculum and a sustainable program in science studies. We will be selecting speakers whose research illustrates how diverse fields of science studies can be effectively integrated, and who have experience directing, developing, or teaching in existing science studies programs. We also expect to enlist University of Washington colleagues who do not work specifically on science but whose expertise—as social scientists, political theorists, ethicists—is relevant to emerging science studies research clusters and to the curriculum planning process.

The colloquium is meant to be inclusive and exploratory so, for meetings in the Fall Quarter (and possibly through the first year of the project), we will invite science studies colleagues who can give work-in-progress presentations on the state of play in each of the areas identified above as well as an introduction to their own current research. In the course of these sessions we expect to identify focal themes that can provide the basis for sustained cross-field discussion, as well as more sharply formulated topics that could serve as the point of departure for new research clusters. One cross-cutting theme that emerged in the discussions leading to this proposal is "democratizing science"; others are "science in transnational context," and "biosecurity" studies. We briefly sketch these to illustrate some of the directions the Colloquium could take, and the kinds of input we would seek from external visitors and colleagues in complementary fields.

Democratizing Science
Questions about the role of science in democratic institutions and about the salience of democratic ideals for the practice of science arise in a number of science studies contexts; these themes are potentially a point of connection between all the areas of science studies identified above. In the context of science policy and research ethics, the call for "democratizing" science signals a commitment to hold scientific disciplines and practitioners accountable to public interests. This raises complex questions about when and how external interests should bear on scientific practice, and about how technical expertise can best be deployed and most effectively adjudicated in contexts of public decision making. And in the context of sociologically reflective philosophy of science, models of democratic deliberation have been identified as a key regulative ideal for the practice of science. Philosophers interested in the role of values in science, and in developing a broadly pragmatist account of "well functioning" science, argue that ideals of objectivity and epistemic credibility should be reframed in procedural terms; research communities will be justified in ratifying beliefs as knowledge if they arise from a well-functioning process of critical scrutiny. The challenge is to specify these conditions of best practice. This is a point at which epistemic questions converge on the practical concerns of equity activist/researchers and the jointly normative and methodological questions addressed by the advocates of community based, participatory forms of research. For example, when (and why) is research enriched by epistemic diversity—by different disciplinary backgrounds, "angles of vision," orienting values and interests, forms of situated knowledge? And what institutional and methodological mechanisms will best ensure that those who offer distinctive perspectives and insights—those who are marginal to, or within, the sciences—will get access to, and uptake from scientific communities? It is also useful to know how such issues have been solved in the past. Historians reveal the historical consequences for knowledge of including or excluding different communities in scientific labors, and they bring to light the malleability of shifting definitions of scientific

identity, expertise, and community in ways that can encourage and inform the reassessment of participatory dynamics of natural knowledge-making.

This cluster of cross-cutting concerns has inspired the proposal for an interdisciplinary conference on community based collaborative research, "Expanding Interdisciplinarity from Campus to Communities: Exploring Innovation in Collaborative Research" (May/June 2008), that one of the Science Studies Network organizers (Wylie) has participated in developing; Kelly Fryer-Edwards (Medical History and Ethics) is the lead on this project which is being proposing for Simpson Center funding as a separate initiative. If supported, it will be a culminating event in the first year of the Colloquium. In addition, a Walker-Ames University lectureship has been secured for Nancy Cartwright (LSE and UC-San Diego), one of the most high-profile advocates for refocusing philosophical analysis on pragmatist questions about the goals of science and what constitutes "well-functioning" science practice in relation to these goals. She will visit UW in early March 2008 when, in addition to her Walker-Ames lecture, she will serve as the keynote speaker for the 10th annual meeting of the Philosophy of Science Roundtable (also described below). Finally, "democratizing science" is a theme that not only cuts across a range of science studies interests represented at UW, but also provides a point of contact with colleagues who are knowledgeable about models of deliberative democracy—philosophers, political theorists—and with social scientists and equity activist/researchers in a range of fields who study the institutional and social, cultural barriers to effective participation in science.

Science in Transnational Context
One widely recognized limitation of (some) established traditions of scholarship on science and technology is that the focus of study has often been quite narrowly European and North American; it is assumed that science belongs to the West and to developed countries. Post-colonial science and technology scholars make it clear that science is global and that an adequate understanding of its historical trajectories, the form it has taken and its impact requires that it be studied comparatively, across a range of contexts. Post-colonial science studies scholars examine the role played by various sciences in the colonial enterprise, the status of post-colonial scientists in global networks, and the ways in which scientific ideas, practices, and "materiel" travels across uneven social and political, as well as geographical, boundaries. Another framework for this work has been developed by anthropologists who study "reason," addressing questions about how logics and rationalities are produced in social contexts. Post-colonial science studies and the anthropology of reason are two fields of inquiry that expand our understanding of who can be a knower and of the multiple sites at which knowledge is produced; in this they are another facet of the cluster of interests described above in connection with the theme "democratizing science."

Biosecurity
In the context of the "global war on terror" and the rise of the security state after September 11th, securitization and fear have become organizing principles for many new cultural forms. There are several groups of faculty on campus with an interest in biosecurity including a research cluster led by Priti Ramamurthy on securitization in South Asia, and another group led by Vince Raphael, Area Studies in the Age of Preemptive War. Celia Lowe in Anthropology is also working on a study of avian influenza from the perspective of syndromic surveillance in Indonesia. These scholars examine the shift from "public health" to "biosecurity" in the study of emerging infectious disease, the new security approach to natural disaster and environmental degradation, and connections between biotechnology and bioterror.

II. Collaborative research project development

One of our primary goals in organizing the Science Studies Colloquium is to incubate new collaborative research projects that could be developed for external funding. Indeed, as indicated above, in the process of drafting this proposal a number of such projects have begun to take shape, and we learned of others that we will certainly want to include in the roster of colloquium presentations and as nodes in the Science Studies Network. The following are examples of such projects in formation or in progress. For several of these we are seeking initial seed-funding from University of Washington sources, but we expect to use the Science Studies colloquium itself, and the conferences and workshops linked to it, as the basis for

developing grant proposals for projects that would be competitive for funding from sources such as the NSF (the Science and Society Division or the IGERT Program), and, potentially from Wenner Gren, the Rockefeller Foundation, the Sloan Foundation, and NIH (NHGRI, Office of Research Integrity, and similar sources).

Social Science Approaches to the Participation of Ethnic Minorities in STEM Fields: a project under development by Angela Ginorio, in collaboration with Evelynn Hammonds (History, Harvard University) and Willie Pearson, Jr. (History, Technology, and Society, Georgia Institute of Technology)

This is a study (in prospect) of ways in which disciplinary conventions in the social sciences contribute to the difficulty of documenting the presence (and absence) of underrepresented minorities in various fields in the sciences, technology, engineering and medicine.

Science and Technology Studies: A Focus on Transnational Biology: a proposal submitted to the Institute for Transnational Studies by Ann Anagnost and Phillip Thurtle.

A request has been made for funds to support visiting speakers who can address the issues described (above) in connection with "Science in Transnational Context" and the "Biosecurity" themes.

Expanding Interdisciplinarity from Campus to Communities: Exploring Innovation in Collaborative Research: a conference organized by Kelly Fryer-Edwards and Alison Wylie.

A two day working conference, projected for May/June 2008, that will bring together CBPR practitioners from a selection of fields in which such research has flourished (chiefly community forestry, collaborative research in archaeology and cultural resource management more generally, community health, feminist participatory action research). The aim of this conference is to compare models of CBPR research—a best practices approach for identifying effective research strategies—and to address questions about the epistemic pay-off of such research. Specifically, how does participatory practice change the questions asked, and enrich the range and quality of what researchers learn in attempting to answer them?

Philosophy of Social Science Roundtable: the 10th annual meeting of the Roundtable is to be hosted at the University of Washington, March 7-9, 2008; organized by Alison Wylie (UW), James Bohman (Saint Louis University), and Paul Roth (UC-Santa Cruz)

This is an annual workshop/conference that brings together an intellectually diverse and international group of philosophers and social scientists interested in theoretical, epistemic, methodological, and normative questions that arise in, and about, the social sciences. Participants are drawn from a pool of submissions received in response to an open call for papers (a dozen are selected from a pool of submissions that is typically 35-40 strong), and two keynote speakers are invited. A selection of the conference papers are published in a Roundtable Special Issue of the journal *Philosophy of the Social Sciences*. The Department of Philosophy has agreed to sponsor one keynote speaker, and Walker-Ames funding has been secured for a second, Nancy Cartwright (LSE and UC-San Diego); details follow in the section on external speakers below.

III. Science Studies Curriculum and Program Development

The Science Studies Colloquium will also provide a context in which to explore the potential for developing an interdisciplinary science studies program at the University of Washington that could bring together the separate initiatives of those already teaching science studies at the undergraduate and graduate at UW and build on, or complement, the existing undergraduate Major in History and Philosophy of Science. We envision a planning process that would proceed in several stages.

1. *Internal review:* the first step will be to develop a comprehensive catalog of existing programs and courses on science studies topics that are already established at the University of Washington, and to identify the faculty interested in teaching, or in developing curriculum in these areas.
   - we request funding for a Graduate Research Assistant to work with a core group of faculty in developing this data base of curricular resources

- we would like to see this phase of the curriculum development project completed by the end of the Fall Quarter, 2007.

2. *External models*: in conjunction with this review of existing UW courses and programs, we will also assemble background on various models for science studies programs and curricula that have been established at other institutions.
   - this is a second component of the curriculum planning process with which the GRA would assist; it would involve, initially, a review of internet resources, and subsequently interviews with founders, directors, and key participants in select programs that are especially promising models for a UW science studies program.
   - we expect the internet search to be completed by the end of the Fall Quarter 2007; a review of the results will be the basis for determining where to concentrate our efforts in learning in more detail how a promising subset of established programs work.
3. *Local Advisory and Planning process*: at the beginning of the Winter Quarter 2008 we anticipate committing at least one meeting of the Colloquium group to preliminary discussion of the background research on local resources and external models, with the aim of charting a planning process that can unfold through the Winter and Spring Quarters. Whether the Colloquium as a whole should be involved, or a distinct planning group should be constituted, is something to be decided at this stage in the process.
   - this is the stage at which members of the planning group, assisted by the GRA, will investigate in more detail a selection of Science Studies Programs at other institutions; we request support for limited conference and site visit travel that will allow representatives of the planning group learn first hand what the diverse models of existing Science Studies programs have to offer UW;
   - it will also be crucial to consult systematically with colleagues who have experience with interdisciplinary programs and centers at UW. These local advisors will include directors of successful centers and programs like John Toews (CHID), Richard Carpin (CXArts), Melissa Austin (Institute for Public Health Genetics), Mike McCann (Law, Society and Justice), as well as key members of the senior administration who fund and oversee such programs.
4. *Retreat*: we propose to convene a retreat of the curricular planning group and representatives of the relevant constituencies in the early Fall of 2008, possibly at the Whitely Center.
   - the purpose of this retreat will be to take stock of what has been learned through the academic year 2007-2008 about local resources and external models, and to collectively formulate a plan for moving forward.
5. *Pilot Graduate Seminar*: depending on how the Colloquium and the curriculum planning process develops, we would hope to mount an interdisciplinary science studies graduate seminar in the second year of the Science Studies Network project.

Diversity In and Through Science Studies

We are committed to making it a guiding principle, for the Colloquium and the curriculum planning process, that we value and encourage diversity among the participants and contributors to our group. This is an essential dimension of the expanded and expansive understanding of science and technology studies that frames this project, and one that makes Science Studies a promising site at which foster diversity in the sciences and on the campus as a whole. A robust understanding of the historical traditions, the institutional structures, and the disciplinary cultures of the sciences is crucial if we are to be effective in counteracting traditional barriers to the participation of women and underrepresented minorities in the STEM disciplines. We plan to make these issues an integral part of the work of the colloquium and the curriculum planning group, in our choice of speakers and focal topics, and in our efforts at outreach in the University community and beyond. We anticipate that this will put us in a position to develop the concept for a diversity cluster hire in Science Studies. There are a number of conceptual fields of study in Science Studies that particularly attract the attention of underrepresented minority scholars. In the process of cataloguing resources on campus and promising external models of science studies programs we will make it a priority to identify promising areas in which diverse faculty could be recruited and use this as the basis for developing a proposal for hiring a cluster of underrepresented minority scholars working in these fields.

Science Studies On-line

In order to establish a strong presence for Science Studies at the University of Washington we would like to develop a website that makes accessible to faculty, and to current and prospective students, the range of research projects and activities in which Colloquium members are involved, and that can serve as a gateway to science studies resources on campus more generally. To develop this virtual presence we propose an iterative process of web development, beginning with a site that documents the proceedings of the Colloquium itself and expanding its scope as the Graduate Research Assistant identifies science studies resources on campus and as a network of research clusters takes shape. As part of this proposal we are requesting support for a web design assistant who can work with the Colloquium group throughout the period of the project.

External Speaker/Consultants

To support all three aspects of the Science Studies Network, we propose to invite one external visitor a quarter whose research interests provide a focal point for colloquium discussion, and whose experience with science studies teaching and program development puts them in a position to serve as consultants in the curriculum planning process. What follows are some examples of the kinds of speaker/consultant visitors we are considering, in most cases identified as a list of several faculty associated with key Science Studies programs from among whom we might choose. We have already secured funding for one of these (Nancy Cartwright, who will visit campus in March 2008 as a Walker-Ames lecturer), and a proposal for support for a second has been submitted to the Institute for Transnational Studies.

Nancy Cartwright, Chair of the Center for Philosophy of Natural and Social Science, LSE; Visiting Professor of Philosophy and Science Studies at the UC-San Diego: originally prominent as a philosopher of physics, Cartwright has turned her attention to economics and the social history of Vienna Circle philosophy of science. She is a key advocate for work on the normative dimensions of science, on concepts of 'well ordered science' and scientific accountability. As an active participant in two of the most prominent and well established interdisciplinary science studies programs (at LSE and at UC-San Diego), she is an ideal consultant for the curriculum planning aspect of this project.

Sandra Mitchell, Department of History and Philosophy of Science, University of Pittsburgh: an influential philosopher of biology who currently chairs the HPS Department, and has played an active role in the Center for Philosophy of Science and in developing the Archive for Scientific Philosophy and the PhilSci Pre-print Archive at the University of Pittsburgh. HPS at Pittsburgh is one of a very few free-standing departments of history and philosophy of science that were established in the 1960s, and has long been the preeminent graduate program in the field.

Paula Findlen, *Michael Friedman, Helen Longino, Londa Schiebinger, Robert Proctor,* Stanford University (History, and Philosophy): Findlen and Friedman currently co-chair the Program in History and Philosophy of Science and Technology. HPST at Stanford offers an interdisciplinary major and a cluster of associated "thematic concentrations" in a range of cognate disciplines, as well graduate degrees (M.A. and Ph.D) in HPST which are pursued through participating departments.

Evenlynn Hammonds, Peter Galison, Steven Shapin, Department of History of Science, Harvard University: a long established and enormously influential center for research and graduate training in the history of science, known for its breadth and its interdisciplinarity. Hammonds would be an especially valuable contributor to our Colloquium and curriculum development initiative given the groundbreaking research she has done on theories of race and racist institutions in science and medicine, and her work on equity issues in the sciences and academia as the Senior Vice Provost for Faculty Diversity at Harvard since the position was created in 2005.

Timothy Lenoir, Kimberly Jenkins Chair for New Technologies and Society, Duke University: until recently the chair of Stanford's History and Philosophy of Science and Technology Program, Lenoir now manages the innovative Duke Collaboratory. He is charged with researching developing technologies

in contemporary science, biomedicine, and engineering with an eye to developing more creative solutions to university-based research, the development of cultural products, and more sustained civic engagement on scientific and technological issues.

Gerry Doppelt, *Steve Epstein, Naomi Oreskes,* Science Studies, UC-San Diego (Philosophy, Sociology, and History, respectively): a resolutely interdisciplinary graduate program in science studies established in 1989, run on a consortium model with students admitted through participating departments but completing the coursework and internships required by the Science Studies Program. Doppelt, Epstein, and Oreskes have all served as directors of this program.

Geoffrey Bowker, Executive Director, Regis and Dianne McKenna Professor, Center for Science, Technology, and Society, Santa Clara University: a leader in the sociology of science and a pioneer in the study of memory practices in the biomedical sciences, Dr. Bowker directs the Center for Science, Technology, and Society at Santa Clara University. Located in the heart of Silicon Valley, this Center is known for its emphasis on the enrichment of scientific and technological practice as well as an innovative program to engage students and a general public.

Kenneth Waters, Director of the Center for Philosophy of Science, University of Minnesota; the oldest Center for History and Philosophy of Science in the U.S., affiliated with a well established graduate Program in the History of Science, Technology and Medicine, and with an undergraduate minor in Studies of Science and Technology. This is a cluster of programs that may offer a particularly useful model for Science Studies at UW, as a peer institution and given their topical breadth.

Nancy Tuana, Director of the Rock Ethics Institute, Pennsylvania State University: a philosopher of science who has developed a strong program of conferences, summer institutes, and a curriculum that connects philosophical science studies closely to research ethics and policy research, with particular emphasis on environmental justice issues and global climate change. Tuana is also a member of the Science and Technology Studies program which includes Susan Squier (English), Richard Doyle (English), Wenda Bauchipies (STS), and Jonathan Marks (STS).

Massimo Mazzoti, *Staffan Mueller-Wille*, and *Barry Barnes,* University of Exeter (Sociology and Philosophy): their influential research includes a range of topics in the sociology of scientific knowledge, technology and the human sciences, and in the cultural history of heredity. They support a program in Science and Technology Studies that offers undergraduate courses and masters degrees in *Philosophy and Sociology of Science*; and in *Critical and Philosophical Studies of Biology*.

Trevor Pinch, Michael Lynch, *Peter Dear*, *Stephen Hilgartner*, Cornell University:all are pioneers in the Sociology of Scientific Knowledge and ethnomethodological approaches to science studies and, since 1991, Pinch and Lynch have developed a strong Department of Science and Technology Studies at Cornell, working in association with the well-known historians Margaret Rossiter, Peter Dear and others. Integrating sociological, philosophical, and historical teaching and research, the department has become a leader in the field with one of the largest graduate STS programs in the U.S..

David Bloor, Director of the Science Studies Unit, Edinburgh University: Bloor trained in philosophy and mathematics, and carried out research at Cambridge in the philosophy of science before taking a degree there in Pychology. He has written widely on the Kuhn/Popper debate, the cognitive functions of metaphor, and on the sociology of scientific knowledge and the implications for this field of Wittgenstein's philosophy. The Science Studies Unit that he directs was founded in 1964, and was the first department of its kind.

David Gooding, Director of the Science Studies Center, University of Bath (Psychology): this Center has been the home of a pioneering Science and Technology Studies program since 1974 which offers a 1-year MSc in Science, Culture and Communication with units in history and philosophy of science and technology, science communication, and practice-based media and communications placements. Gooding's research explores the work of Michael Faraday and has been critical in focusing historical attention on practice and material culture in the history of science.