

Editorial Overview

Public Science and Technology Scholars: Engaging Whom?

Erik Fisher

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Abstract Science policy mandates across the industrialized world insinuate more active roles for publics, their earlier participation in policy decisions, and expanded notions of science and technology governance. In response to these policies, engaged scholars in science studies have sought to design and conduct exercises aimed at better attuning science to its public contexts. As demand increases for innovative and potentially democratic forms of public engagement with science and technology, so also do the prospects for insights from science studies to contribute to policy agendas and institutional capabilities. This collection brings together an international set of scholars in science, technology and society who inquire into the meaning, efficacy and responsibility of engaged science studies scholarship as a public matter.

Keywords Public engagement · Responsible innovation · Integration · Engaged scholarship · Science and technology studies · Science and technology policy

A Doubly Transformative Agenda

As governments around the world invest in new and emerging forms of science and technology, often adorning their agendas with the language and imagery of profound social transformation, many are also recasting the means by which they publicly reckon with the social and ethical aspects of these policy decisions. Nestled alongside high-level program goals and routine funding procedures for nanotechnology, biotechnology and other arenas of strategic interest, sit provisions for enhancing the participation of publics and for broadening the practices of experts in both knowledge making and decision making. Unlike established policy models,

E. Fisher (✉)
Arizona State University, PO Box 875603, Tempe, AZ 85287-5603, USA
e-mail: efisher1@asu.edu

these bids for “public engagement” acknowledge—sometimes explicitly—that science and technology can be reframed, reshaped and redirected by numerous social factors that extend beyond the reach of technical expertise. Newly invigorated by such mandates, a groundswell of engaged scholarship (Van de Ven 2007), particularly in science and technology studies¹ (Sismondo 2008), has sought to design and conduct exercises that aim to better attune science to its public contexts. In both America and Europe, policies for public engagement suggest that the relations between science and society are undergoing crucial reconfigurations. Accordingly, they require renewed attentiveness to the meaning, efficacy and responsibility of attempts to more actively position science and technology studies within the public sphere.

To that end, this special issue of *Science and Engineering Ethics* gathers an international array of science and technology studies (STS) scholars to discuss newly experimental forms of publicly engaged STS scholarship. The collection of 18 articles and commentaries offers a survey of cutting-edge intervention-oriented research, which plays out in a diversity of cultural and institutional settings—from town halls and laboratories to shopping malls and bureaucracies. At the same time, it constitutes a forum for scrutinizing the assumptions and methods of STS-informed public engagement and the purposes to which it is put. Individually and as a whole, the pieces in this collection explore the roles of public engagement policies, publics and practitioners, offering a range of accounts that inspire, in various ways and degrees, a mix of caution and confidence.

Science Policies for Public Engagement

Across North America, Europe and elsewhere around the globe, policy language in the first decade or so of the twenty-first century suggests broader and more explicit roles for multiple public stakeholders—including everyday citizens and expert practitioners²—in the governance of science and innovation. Such language can take the form of calls for “upstream public engagement” in the United Kingdom (UK); “responsible innovation” and “responsible development” in the US, UK and the European Union; and “integrated research” in Canada and Norway, to name a few examples. The meanings of these and similar expressions, as used by government committees, agencies and even legislatures, are fluid, diverse and contested. Yet, compared to more established science and technology policymaking models, they can be striking in their suggestiveness of a greater range of participants within a broad range of decision processes (e.g., Barben et al. 2008; Bennett and Sarewitz 2006; de Melo-Martin 2009; Fisher 2007; Fisher and Mahajan 2006;

¹ Science and technology studies (STS: Hackett et al. 2008; Jasanoff et al. 1995) is an interdisciplinary research field that seeks to understand how science, technology and innovation shape and are shaped by society, culture and politics.

² Distinctions between citizens and experts are, if indispensable, notoriously difficult to maintain. Citizens do not make up a single public group, and experts are also citizens. Here, “expert practitioners” refers to formal advisors, professionals and specialists who are competent in recognized epistemic domains, including but not limited to the domains of natural science, social science and engineering.

Glimell 2004; Goorden et al. 2008; Guston 2008; Laurent 2010; Macnaughten et al. 2005; Owen and Goldberg 2010; Rip 2009; Rogers-Hayden et al. 2007; Shelley-Egan 2011; Stegmaier 2009).

Consider two conventional public policy models to understanding the social and ethical dimensions of emerging science and technology. The first pertains to how governments conceptualize citizen concerns in these areas and, in turn, the roles that they envision citizens play in the governance of science and technology. An influential model for public understanding of science, prevalent in the UK, assumes that public controversies over new technologies are due to a lack, or “deficit” in public knowledge (Irwin and Wynne 1996; Wynne 1995). In the US, a similar “deficit” may pertain more to public appreciation of science (Lewenstein 1992). Public Understanding of Science (PUS) deficit models have been criticized as being undemocratic, since they value public deference to experts above public dialogue and debate, and for being inaccurate, since they led to failures in risk communication, for instance, in cases of nuclear energy and genetically modified organisms.³ In contrast, espousals of responsible innovation and upstream public engagement in policy settings have been used to suggest that public deliberations should include more active roles for citizens and should take place at the earliest stages of research and policy planning (e.g., Wildson and Willis 2004) and that public views should be taken seriously by decision makers *even if they diverge from expert assessments* (e.g., Nordan 2006).

Another shift in the meaning of science and technology governance concerns the object of governance itself, which has expanded from risks, impacts, implications and dimensions to include science, technology and innovation as political issue areas in themselves. Consider Ethical, Legal and Social Implications (ELSI) research. ELSI approaches, in which early ethical and social research is conducted concomitantly to early stages of new science and technologies, have come to be standard science policy resources. As with Public Understanding of Science approaches, conventional means for understanding the social and ethical ramifications of emerging science and technology are unique within political cultures, even when they go by similar names. Thus, while the Human Genome Project’s ELSI program (1990–2003) is in some sense “a model for ELSI projects around the world,”⁴ the European Commission has signaled that it takes the approach of ELSA rather than ELSI (“aspects” having replaced “implications”). That said, recent programs in nanotechnology and synthetic biology that fund early social and ethical research into these areas also require integrating the results of this research into the science and engineering practices that they study. Rather than primarily conducting ELSI research as a parallel research exercise, such programs are “post-ELSI” (Rabinow and Bennett 2009) in that they seek to develop ELSI/ELSA assessments *in close proximity* to scientific and technical practices (Marris and Rose 2010) and to

³ For instance, Paul Slovic argues that US policy makers did not adequately take public concerns into account during the advent of the nuclear power industry, when “dramatic opposition” was “engendered in the face of expert assurances of its safety” (Slovic 1987).

⁴ Quoted from the Human Genome Project’s website: http://www.ornl.gov/sci/techresources/Human_Genome/elsi/elsi.shtml (accessed 1 April 2011).

integrate or feedback their assessments into these very practices (Fisher 2005; cf. Baird 2003; Winner 2003).

If taken at face value, and in concert with an intensification of discernable trends, this latest round of “new governance” discourse in science policy insinuates more active roles for publics, wider conceptions of who counts as public, earlier participation in policy decisions, and expanded notions of science and technology governance.

Observation and Engagement

Scholars and practitioners versed in science and technology studies are responding to government calls for greater and more explicit public engagement in a variety of ways, and with differing degrees of observation and engagement. Publicly engaged STS undertakings that range in size, scope, duration, purpose and orientation have increased together with their state sponsorship. Alongside the emergence of numerous individual public engagement projects has been the launching of relatively large, coordinated, national and regional “ensembles” that intensify the combination of multiple research methods, multiple modes of engagement, and multiple targeted social groups (Barben et al. 2008). While some of these projects and programs claim to pioneer novel techniques and approaches, others are distinct in the combination, recombination or expansion of existing approaches.

Thus, various types of Technology Assessment (TA) that have appeared are decidedly experimental in their reconceptualization and application of established approaches. As in the case of ELSI research, it is important to stress that numerous distinct forms of TA have emerged and developed around the world. TA may have formally arisen in the US in the form of the Office of Technology Assessment (1974–1995), but Europe, particularly on the continent, is home to a gamut of TA approaches and philosophies (Vig and Paschen 2000). Meanwhile the industrialized world continues to evolve new conceptions of TA (Rejeski 2005), including calls in Japan for a “third wave of TA” (Yoshizawa 2010).⁵ Still, a discernable turn towards multi-stakeholder, multi-level and multi-stage research and engagement programs with a focus on governing emerging technologies are to be found in several national and regional nanotechnology programs. These have endorsed programs in Constructive Technology Assessment (NanoNed and NanoNext in the Netherlands), Participatory Technology Assessment (NanoSoc in Flanders, Belgium) and Real Time Technology Assessment (Center for Nanotechnology in Society at Arizona State University in the United States).

In the areas of genomics and synthetic biology, a number of programs and centers both study and practice assorted forms of citizen and practitioner engagement, largely basing their approaches on decades of science studies work, including the Center for Society and Genomics (Radboud University, the Netherlands), the BIOS Centre for the Study of Bioscience, Biomedecine, Biotechnology, and Society

⁵ The Fukushima Daiichi nuclear disaster has brought renewed focus on TA in Japan, in the form of revised language that was added to Japan’s fourth Science and Technology Basic Plan (FY2011-15) after the accident (Go Yoshizawa, October 2, 2011, personal communication).

(London School of Economics, UK), Cesagen (Lancaster University, UK), the Genetics and Policy Forum (University of Edinburgh, UK) and—at least initially⁶—the Synthetic Biology Engineering Research Center (University of California at Berkeley, US).

Coordinated, multi-site engagement programs have also been conducted at the project level. These include Deepening Ethical Engagement and Participation in Emerging Nanotechnologies (DEEPEN), funded by the European Commission; Socio-Technical Integration Research (STIR), funded by the National Science Foundation; Synthetic Aesthetics, jointly funded by the National Science Foundation and the Engineering and Physical Sciences Research Council; and Technolife, funded by the European Commission, to name a few. Additionally, numerous events, festivals, installations, and discussion forums have sought to facilitate deliberative or interactive engagements with public citizens as such around new and emerging science and technologies. Several of these have been designed and implemented directly and independently by centers such as those noted above; others have been developed by municipal and regional governments, often facilitated by STS scholars or by consultants familiar with STS; still others are the work of informal science education networks and museums.

These and related projects, programs, events and frameworks have been described under various headings. For instance, Peter Stegmaier terms such endeavors “convergence work,” which he characterizes as joining

research with dialogue, analysis with advice, different academic disciplines with one another and with non-academic practices, and communication with critique, in order to realize and balance the interests of various stakeholders (Stegmaier 2009).

“Anticipatory governance” also seeks to characterize engaged STS research, and offers a taxonomy of its approaches. Accordingly, three forms of engaged research correspond to three “capacities” for society-wide deliberations on the governance of emerging technologies: *anticipation* refers to the use of foresight methods to support and deepen deliberations about future imaginaries, *engagement* refers to deliberations that take place in public forums among citizens broadly understood, and *integration* refers to the deliberative broadening and enhancement of expert and specialist practices with respect to public matters. Such modes, efforts and aspirations have also been criticized and met with skepticism and concern. Critical accounts of engaged STS activity, and assessments of their pitfalls⁷ and limitations, have been offered by several scholars, including those who have also endorsed,

⁶ Announced in 2006, the Synthetic Biology Engineering Research Center (SynBERC) initially included a component in Human Practices led by Anthropology Professor Paul Rabinow. Rabinow resigned in 2010 amidst friction between human and engineering scientists over biosafety practices (Gollan 2011).

⁷ For instance, Robin Williams (2008) critiques the approaches of science studies scholars towards emerging technology futures. Given the continually changing complex interrelationships among social groups, institutions, and technologies, Williams argues that attempts at prediction are not only mistaken but could lead to false hopes, unwarranted fears, and misinformed attempts to address incorrectly perceived problems. Even scholars and practitioners who attempt to avoid these pitfalls by developing several “possible” and “multiple” futures, rather than a single expected path, can be subject to Williams’ criticisms (cf. Williams 2008).

designed and participated in them (e.g., Delgado et al. 2010; Doubleday and Visue 2010; Fuller 2009; Johnson 2007; Joly and Kaufmann 2009; Nordmann 2010; Rogers-Hayden et al. 2007; Thorpe 2010; Williams 2008; Winner 2003).

As in the case with engagement policies, the potent if uneasy mix of critical scholarship and public affairs is hardly without historical precedents (e.g., Lippmann 1932). Engaged scholarship and intervention are familiar topics, if not central conditions, for STS (Bijker 2003; Jasanoff 1996; Sismondo 2008; Zuiderent-Jerak 2007). The coalescence of mandates for public engagement, concentrations of research funds towards this end, and the palpable presence of STS in the public field, warrants the present collection, which is focused on the roles of engaged STS and its relations to public policy.

The Collection

This collection of articles and commentary pieces looks not at the social and ethical issues *per se* that are associated with emerging science and technologies, but at efforts—nearly all of which are undertaken by engaged STS scholars and practitioners, working in academic, government, and civil society—to facilitate dialogue, debate and deliberation among diverse public stakeholders about such issues. As a whole, the contributions are a meditation on public engagement—among citizens, scientific experts, policy practitioners and other publics—as a site for science and technology governance. The contributors are nationally, institutionally and professionally diverse and their contributions present a range of methodological, epistemological and normative commitments. Some are more sensitive to power and critique, others to the challenges of providing value to their hosts. Some are more focused on the dilemmas of engagement, others on the nature of its direction. Nearly all convey a sense of experimentation regarding the approaches they describe. The pieces assembled here are, in large part, an outgrowth from a 2008 session at the annual meeting of the Society for the Social Studies of Science.⁸

The Contributions

This special issue of *Science and Engineering Ethics* is comprised of nine papers, each one followed by a dedicated commentary.⁹ The papers and their commentaries encompass several intertwined conversations, as evident by their ordering into two

⁸ The 2008 session was entitled “Engaging Whom: Intervention-Oriented Investigations into R&D and Policy.” It included Sheila Jasanoff as discussant and featured original papers by the following contributors to this collection: Haico te Kulve and Arie Rip, Ed Hackett and Diana Rhoten, Brice Laurent, and Cynthia Selin. Inma Immaculado de Melo-Martin also contributed a paper, which has since been published (de Melo-Martin 2009). The 2008 session was itself inspired by questions about engagement raised during a 2006 4S session, organized by David Guston and Vivian Weil, that was entitled “New ethnographies of nanotechnology.” Three of the presentations from that session have since been published (Doubleday 2007; Fisher 2007; Tuma 2012).

⁹ The distinction between “papers” and “commentaries,” while in part an artificial one, indicates that the former have been subject to peer review and that they constitute the principal focus of the editorial organization.

overlapping patterns of arrangement. By one design, the nine papers take the form of an opening reflection followed by four thematic pairs. Each pair of papers—and, largely, their commentaries—represents a particular mode of engagement. Specifically, the pairings correspond to the anticipatory governance “capacities” of *engagement*, *anticipation* and *integration*, and they add the theme of *expansion*. But there is more than one way to look at things. Layered upon this editorial design is another, which represents the papers’ orientations to the modes of engagement they describe. Thus, the collection is also organized into three divisions, each comprised of three papers and their commentaries, corresponding to the *observation*, *design* and *attestation* of engagement.¹⁰

Observing Engagement

The collection begins with Sheila Jasanoff’s “Constitutional Moments in Governing Science and Technology” (2011), which places contemporary policy calls for public engagement within the context of over half a century of participatory politics in the United States. In this opening piece, Jasanoff interprets changing trends concerning the participation of publics, universities and experts in US science and technology policy. Against this historical context, Jasanoff views present calls for engagement as marking a “constitutional moment” in which the terms of science and technology governance are renegotiated. Accordingly, she articulates three intertwined roles—instrumental, interpretive and normative—through which, taken together, engaged STS scholarship may be responsive to its own complex suite of responsibilities. Commentator Rinie van Est (2011) contends that a similar renegotiation of the terms of public participation in the governance of science and technology is conspicuous in European contexts as well, particularly in the UK and the Netherlands.

The next two papers, and their commentaries, comprise the first of four thematic pairs. They observe and interpret the facilitating roles of social scientists in terms of their witting and unwitting interventions into state-sponsored *public engagement* programs. Brice Laurent’s “Technologies of Democracy: Experiments and Demonstrations” (2011) analyzes the roles of scholars, consultants and activists who design and conduct national, regional and municipal engagement exercises around nanotechnology in France. Laurent relates the expectations for public involvement on the part of event sponsors to the particular forms of engagement employed by the orchestrators. He argues that such differing “technologies of democracy” produce differing types of publics and, by extension, contribute to particularized forms of political order. Commentator Alison Mohr (2011), drawing on experience with public engagements in Australia and the UK, characterizes distinct rationalities of public engagement mediation that, she observes, sometimes can be masked through the intercession of engaged researchers.

Michiel van Oudheusden (2011) examines the mediating role of researchers and participants in a government backed nanotechnology engagement program within

¹⁰ These categories cannot fully reflect the richness, complexity and variety of engagement modes and orientations that are evident in each author’s work. They are offered to accompany the reader in approaching the contributions as a whole—and they attest to my own values, commitments and interests, however limited.

the industrial region of Flanders, Belgium. In “Questioning ‘Participation’: A Critical Appraisal of its Conceptualization in a Flemish Participatory Technology Assessment,” van Oudheusden examines the arbitration of competing interests through the use and framing of notions such as “consensus,” “the public,” and “engagement.” From the vantage point of an embedded scholar in the program, he calls for greater reflexive awareness on the part of scholars and practitioners who participate in the production of such power-laden social arrangements. Commentator David Guston (2011) describes the learning evident among participants in the first US national public engagement exercise around nanotechnology, arguing that scholarly mediation and design of engagement can also be a source of confidence and a resource for deliberation. This confident case for the reflexive enactment of scholarly mediation in engagement sets the tone for the second division of papers.

Designing Engagement

The three middle papers, and to some extent their commentaries, are focused on the crafting of engagement tools, forums and programs. This division begins with a thematic pair of papers that exemplify the use of “foresight” methodologies or, more broadly, *anticipation* as a means of structuring and supporting engagement. In “Constructing Productive Engagement: Pre-Engagement Tools for Emerging Technologies,” Haico te Kulve and Arie Rip (2011) describe two engagement instruments that are meant to help stakeholders grapple deliberatively with a host of near- to mid-term social, technical and regulatory uncertainties. Te Kulve and Rip argue that multi-level analysis and socio-technical scenarios can be used both to structure and to enhance the quality of multi-stakeholder reflection during workshops. They illustrate the application of these tools using the case of emerging nanotechnology in the food packaging industry. The authors conclude by reflecting on the roles and responsibilities of engagement agents who, as organizers and facilitators, are also intervening participants. Commentator Shannon Conley (2011) compares the formation, if not design, of engagement agents through differing modes of engagement, drawing upon her experience with integrative laboratory engagements.

Cynthia Selin’s paper, “Negotiating Plausibility: Intervening in the Future of Nanotechnology” (2011), describes the purposes and processes behind the creation of an online forum for deliberating the social implications of emerging nanotechnologies. The forum provides a diversity of stakeholders with opportunities to discuss, critique and transform “naïve product scenes,” which were developed and vetted in collaboration with scientists and engineers into scenarios about the far-term future. Selin introduces the concept of plausibility, discussing and making transparent key methodological choices that pose dilemmas for the structuring of deliberative spaces. Commentator Rene von Schomberg (2011) argues that public policy making cannot always rely on public deliberation. He therefore calls for the integration of deliberations about plausibility into the process of policy making for science and technology.

This division concludes with the first of two thematically paired papers on laboratory engagements or, more broadly, *integration*. David Bjornstad and Amy

Wolfe (2011) discuss the constraints and objectives that structure their efforts to relate social, ethical and regulatory issues to the context of a US national laboratory. Their paper, “Adding to the Mix: Integrating ELSI into a National Nanoscale Science and Technology Center,” explains Bjornstad and Wolfe’s approach to selecting ELSI questions, research methodologies, and evaluative measures—including the possibility that laboratory participants may modify research and development agendas on the basis of supplied ELSI research products. Commentator Julio Tuma (2011), informed by his own laboratory engagement experience, further develops the notion of “successful” integration and offers an alternative framework for ELSI integration.

Attesting Engagements

The final three papers that round out the collection, along with their commentaries, comprise its third division. Here, “attestation” (cf. Haraway 1997) refers to the process of examining the outcomes of one’s own engagement efforts in light of the questions and commitments that motivated them, including prospects and limitations for personal, social and organizational learning. In the second of two paired papers on *integration*, Daan Schuurbiens (2011) discusses the results of two laboratory engagements in the US and the Netherlands. His paper, “What Happens in the Lab Does Not Stay in the Lab: Applying Midstream Modulation to Enhance Critical Reflection in the Laboratory,” offers ethnographic evidence for enhanced critical reflection among participating biotechnology researchers while working in academic laboratories. Distinguishing between first- and second-order reflective learning, Schuurbiens suggests that potentially transformative reflections by specialized practitioners on underlying social, ethical and institutional value systems are, as a public matter, both possible and desirable. Commentator Brian Wynne (2011), invoking the rich tradition of engaged STS work, calls for extending critically reflective exercises beyond the laboratory in order to more fully and effectively engage with science and innovation. Citing a UK science policy report that led to changes inside laboratories—including the recognition by labs of previously externalized stakeholder groups as “significant others”—Wynne specifically targets science policy and other sites of public science for productive STS disruptions of established routines.

Using distinctly different engagement methods, the final two papers and commentaries present and examine attempts to do just that, by *extending* STS insights into science communication and science policy bureaucratic contexts. Maja Horst’s paper, “Taking Our Own Medicine: On an Experiment in Science Communication” (2011), explains the design, rationale and learning outcomes associated with an interactive form of disseminating information about public discourse and debate around the regulation of emerging science and technology. Horst describes her collaboration with a designer in creating a spatial installation that was placed in a Copenhagen shopping center and that was meant to both illustrate and embody public engagement in science. Situating the installation within the science studies literature on knowledge production, Horst explains her own attempt to move science communication research into a more publicly engaged

mode, noting the tensions in this endeavor as well as the insights it generated. Commentator Bruce Lewenstein (2011), likening Horst's installation to a social scientific laboratory that produces reliable knowledge through experimentation, suggests that the public participants in this process were also co-creators of the social scientific knowledge. Yet, Lewenstein also raises questions about the goals of public engagement, if engaged participants neither comprehend nor instantiate the knowledge that they help to produce.

The collection's final paper, by Edward Hackett and Diane Rhoten (2011), and its accompanying commentary, relate the authors' experiences translating their engaged research into the organizational culture of a federal science agency, the US National Science Foundation (NSF). In "Engaged, Embedded, Enjoined: Science and Technology Studies in the National Science Foundation," Hackett and Rhoten articulate the basis for engaged STS scholarship, relating it to contemporary developments in US science and innovation policy and to the everyday context of administrative and bureaucratic science policy decisions. Explicating their often-frustrated efforts, Hackett and Rhoten argue that the terms of scholarly engagement need to be further renegotiated, beyond their historical modes, if a workable STS engaged agenda is to be realized. Their cautionary tale ruminates on the liminal status and complex value commitments of the engaged scholar. Commentator Michael Gorman (2011), providing reflections that were written before, during and after concluding his two-year NSF rotation, reflects upon his attempts to integrate the dual roles of an NSF program director and an engaged STS participant-observer.

Conclusion: Governance in the Making

Arguably, the broadening both of the content and focal points of science and technology policy processes, and of the participants and their purported roles, signifies an enlargement of what counts as the public sphere, in that it amounts to greater institutional recognition of science and technology as a plausible venue for political activity (Brown 2009; Guston and Bimber 1995). As demand increases for credible methods and skilled practitioners to carry out innovative and potentially democratic forms of public engagement with science and technology, so also do the prospects for STS to help frame and contribute to emerging agendas, institutional capabilities and consequential outcomes. Yet scholarly undertakings can both shape and be shaped by the occasions to which they respond—whether these are official policies, cultural and institutional structures, or entrenched and vested interests.

Such "public talk" (Irwin 2006)—by both scholars and policy makers—may fail to move beyond "out-dated forms of science communication" (Rogers-Hayden et al. 2007) or "fundamental defect[s]" that segregate social and ethical research from policy processes (Bennett and Sarewitz 2006). Meanwhile, the establishment in 2005 and renewal in 2010 of two major Centers for Nanotechnology in Society in the United States—much of whose combined \$25 million budgets is devoted explicitly towards intervention-oriented STS scholarship—coupled with the work of similarly oriented large-scale social scientific and humanistic efforts in the UK and Europe suggest that it is less a question of whether, and more one of how, engaged

scholarship will become instituted and embedded as a resource for science and technology governance and policy making.

Consequently, as science and technology policy processes continue to tap sophisticated forms of social and ethical expertise, scholars who offer their work have choices and responsibilities that can be elucidated and informed by continually renewed awareness of the complexities, tensions, dynamics and persistent questions that animate engaged inquiry into the governance of science and technology (e.g., Collingridge 1980; Rayner 2004). Recent policy discourses and the supportive role played by many science studies scholars raise the question of whom engaged scholars are engaging, to what ends, and with what implications for more explicitly deliberative and publicly attuned forms of science and technology governance. This special issue serves as a springboard for inquiry into the meaning, efficacy and responsibility of explicitly linking STS to the formal edicts and informal governance of *res publica*.¹¹

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¹¹ Latin for "public affairs," frequently translated as "the republic."

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