Program in Science, Technology, and Society

The Program in Science, Technology, and Society (STS) helps MIT offer an education that teaches scientists and engineers to engage the social and cultural dimensions of their work at the highest levels. This education sets MIT apart from the numerous engineering schools worldwide that turn out technical specialists. The STS program continues to distinguish itself as the leading department, and graduate program, of its kind in the United States.

Educational Activities

Undergraduate

The curriculum committee, led by associate professor Natasha Schüll, its work on revising the STS undergraduate curriculum, a process which started in the summer of 2008. As a result of the committee's work, students can now take one (or more) of nine introductory Tier I STS subjects as part of their concentration, minor or major; these subjects replace Humanities, Arts, and Social Sciences Distribution (HASS-D) classes in the requirements. All of these subjects have the Communication-intensive in the Humanities (CI-H) designation, and eight are also designated as HASS-D.

The committee clarified and simplified the degree requirements for all aspects of the STS program, and the new requirements will appear in the 2011–2012 *MIT Bulletin*. Based on committee recommendations, professor Rosalind Williams updated the syllabus, title, and description for STS.091 Critical Issues in STS, which is a requirement for STS majors and minors.

A new departmental undergraduate brochure was rolled out this fall, along with posters to publicize STS subjects. In the brochure and on the STS website, students can view STS subjects in five cluster areas in order to help them easily choose which classes are of most interest to them.

In AY2011, STS had seven undergraduate minors (four of whom graduated in AY2011) and 80 concentrators (38 graduating in the same period). Three undergraduates joined the program as majors through the 21S/21E Humanities and Science/Engineering bachelor of science degree program. Professor Sherry Turkle served as an advisor for these students in her role as STS undergraduate academic officer. Seven students worked on Undergraduate Research Opportunity Program projects, advised by professors John Durant, Vincent Lépinay, and David Mindell.

Subjects and Enrollment

STS offered 27 undergraduate subjects and 26 graduate subjects in AY2011, including seven undergraduate HASS-D subjects and seven CI-H subjects, six of which held both designations. One was a new subject, STS.009 Evolution and Society, taught by MIT Museum director and adjunct professor John Durant. Enrollment exceeded expectations, with 62 students enrolling in its first semester.

STS continues to emphasize collaboration with other areas of MIT. STS offered 23 subjects jointly with the following academic units: Aeronautics and Astronautics; Anthropology; Electrical Engineering and Computer Science; Engineering Systems; Harvard-MIT Division of Health Sciences and Technology; History; Linguistics and Philosophy, Media Arts and Sciences, Physics, Political Science; and Writing and Humanistic Studies.

Undergraduate enrollment totaled 657. Students included majors from 28 MIT departments, and Harvard University and Wellesley College. The two contingents with the largest numbers were from Course 6 and Course 2. Ninety-four freshmen were enrolled in STS classes. Graduate enrollment totaled 268 students from 23 programs, including Media Arts and Sciences and Architecture.

Five STS undergraduate subjects had enrollments of over 60 students; they were: STS.003 The Rise of Modern Science (professors David Jones and David Kaiser); STS.006J Bioethics (Professor Jones and professor Caspar Hare [Course 24]); STS.009 Evolution and Society (Professor Durant); STS.010 Neuroscience and Society (Dr. Slava Gerovitch); and STS.042J Einstein, Oppenheimer, Feynman: Physics in the 20th Century (Professor Kaiser). STS.003 and STS.042J had the highest enrollments, with 84 and 83 students, respectively.

Doctoral Program

The doctoral program in History, Anthropology, and Science, Technology, and Society (HASTS) is run by STS in collaboration with the History faculty and the Anthropology program. The program is administered by STS, which awards the degree. Professor Kaiser served his second year as HASTS director of graduate studies in AY2011. In addition to running the admissions process, chairing the HASTS steering committee, and working closely with students to encourage that they meet deadlines in a timely manner, Professor Kaiser convened a HASTS curriculum committee.

The curriculum committee reviewed subject requirements, the program's general exam format, milestones deadlines, and scheduling of subjects between three departments. The HASTS Common Exam List, used in general exams, was updated and given a new structure with input from the committee and HASTS faculty. The biggest initiative resulting from the committee's work is a new Program Seminar, which will launch in fall 2011. The seminar, which will meet weekly throughout the academic year, is intended to fill a number of pedagogical and community-building gaps in the current HASTS program and will provide new opportunities for HASTS students.

The HASTS program received 133 applications for admission in January 2011, and is looking forward to enrolling five new students from this pool in fall 2011. The incoming class includes one international student and is an all-women cohort. The group collectively holds degrees in anthropology, political science, history, industrial archeology, sociology, and Arabic, and four students have completed master's degrees. One student is entering with both a Soros Fellowship for New Americans and a National Science Foundation (NSF) Graduate Research Fellowship.

In AY2011, there were 34 students in the HASTS program. Six students completed their doctoral degrees during this period, and four have accepted tenure-track positions at the University of British Columbia, Harvard University, the University of Texas Medical Branch, and the Korea Advanced Institute of Science and Technology.

Projects, Grants, and Initiatives

Professor Jones continued his research exploring the history of cardiac revascularization techniques, and uncovering the range of factors that influence therapeutic practice and change in American medicine and their immediate relevance to health policy. His work is supported by the Robert Wood Johnson Foundation.

Professors Kaiser, Jones, and Lépinay received a two-year research grant from NSF for their project "Predictive Modeling of the Emergence and Development of Scientific Fields." The project research is scheduled for the period of July 1, 2010–June 30, 2012.

Professor Mindell, director of the Laboratory for Automation, Robotics, and Society Research, continued his research exploring human-machine systems, supported by a donation from an MIT alumnus.

The postdoctoral fellowship grant, under the direction of Professor Kaiser, completed its second term. The fellowship is designed to foster research in the history of modern physical sciences by a recent PhD graduate. The physical sciences encompass disciplines that include physics, astronomy, chemistry, mathematics, and earth sciences, as well as border fields between these disciplines. The selected fellow, Dr. Yoshiyuki Kikuchi, completed the second and final year of his fellowship. In addition to receiving a publishing contract for his book project, Dr. Kikuchi was also awarded a postdoctoral fellowship at Harvard University for 2011–2012.

Professor Theodore Postol, member of the Science, Technology, and Global Security Working Group, continued his work on "Promoting Global Security," funded by the Ploughshares Fund.

Ongoing Program Activities

Ongoing STS activities bring a wide variety of distinguished scholars to the MIT campus on a regular basis. The longest running of these activities is the STS Colloquia series. In AY2011, STS continued to host a joint colloquia series with Harvard University's Department of the History of Science, titled the Harvard/MIT Subway Lecture Series. Faculty hosts from STS and Harvard's Department of History included Professor Williams and professor Peter Galison (Harvard). The series had a total of 11 speakers and lectures and included: "The Art of Science Television," "Cecil Rhodes, Mine-Engineers, and Migrant Workers: Coproduction and Cognition in the Diamond Mines of Kimberley, South Africa," "Displaying MIT," "Tangible Things: Exhibiting Harvard Collections," and "War Poetry, Weapons, and Witness: The Bomber Poets of World War II."

Every year, STS also sponsors the Arthur Miller Lecture on Science and Ethics, which is promoted to the larger MIT and Boston-area communities. In fall 2010, Paul Farmer, MD, Kolokotrones University Professor at Harvard University, chair of the Department of

Global Health and Social Medicine at Harvard Medical School, and a founding director of Partners in Health, delivered the 2010 Miller Lecture, "Rebuilding Haiti."

The History faculty and STS continue to cosponsor the MIT Seminar on Environmental and Agricultural History (formerly the Modern Times, Rural Places: Seminar Series at MIT), which brought six speakers to campus to give talks on environmental and agricultural history.

The Benjamin Siegel Prize of $2,500 is awarded annually to the MIT student submitting the best written work on issues in science, technology, and society. The prize is open to undergraduate and graduate students from any school or department of the Institute. This year's prize committee (Professors Jones and Lépinay) awarded the 2010–2011 prize to HASTS graduate student Xaq Frohlich for his paper "Imagining Consumer, Constituting Subject: Making Sense of Consumer Confusion' and the History of US Nutrition Labeling."

Knight Science Journalism Fellowship Program

This past year was the 28th year of the Knight Science Journalism Fellowship Program at MIT, and the third year under the leadership of Philip Hilts. The program continues to attract science journalists from around the world seeking to learn more about the science and technology they cover. The 28th class of fellows included the individuals listed below.

Adrianne Appel is a freelance science and health journalist who has written extensively for the *New York Times*, *Nature*, nationalgeographic.com, the *Boston Globe*, and Inter Press Service, a global, non-profit wire service. She wrote a series of investigative stories about the chemical conglomerate W. R. Grace & Company's near-secret asbestos business that led to a review of Environmental Protection Agency actions by its inspector general, and investigations by several states of contamination by former Grace factories. She is the author of a book about the human immunodeficiency virus, HIV.

Mary Carmichael is a senior writer at *Newsweek* covering health and science, with specialties in human genetics, psychology, and global health. She has written 10 cover stories for the magazine and contributed to dozens more, including one that was a finalist for the National Magazine Award. She also reported from Ground Zero on 9/11. She has also worked at the public affairs television series *FRONTLINE*, and is coauthor of two books and contributor to several others. She graduated from Duke University with majors in biological anthropology and public policy.

Hanno Charisius started his career as a reporter in a rural region of northern Germany before enrolling in biology studies at the University of Bremen. He went on to cover stories adherent to the life sciences. After working as an editor at the German edition of MIT's *Technology Review* and the daily newspaper *Sueddeutsche Zeitung*, he contributes today as a freelance writer to several newspapers and magazines in Germany. He looks for dinosaur footprints in old quarries, explains the problems and opportunities in biomolecular medicine, and reports about carbon dioxide sequestration plants.

Leslie D'Monte is an editor working in New Delhi for *Business Standard*, and has in the past worked for the *Times of India*, the *Indian Express* and ZDNet India (a joint venture of US-based CNET and the Jasubhai Group). He has been a subeditor, reporter, and online editor and in 1997 launched a magazine on ecological issues called *ECOINDIA* (and a website by the same name), along with a nongovernmental organization—the Centre for Human Ecology. As an associate editor at *Business Standard*, he guided technology beat reporters, as well as wrote articles and editorials on a variety of subjects, including information technology, solar energy, climate change, and telecommunications.

Rafael Garcia is a reporter for the science section of *Folha de S.Paulo*, Brazil's leading daily newspaper. His stories cover topics ranging from theoretical physics to experimental biology, and he has reported from places as different as the Large Hadron Collider tunnel, near Geneva, Switzerland and research stations in the Amazon forest. He has worked as an assistant editor for *Scientific American's* Brazilian edition and as a reporter for *Galileu*, a monthly news magazine. With a particular interest in scientific ethics, he has uncovered misconduct cases and has written stories on academic controversies.

Eric Hand covers physics, astronomy, and planetary science in *Nature's* Washington, DC, bureau, and makes the occasional trip to Capitol Hill on policy stories. After early stints teaching at a London boys' school and programming car navigation software, he studied civil engineering and geology at Princeton University and later earned master's degrees in geography and geophysics from the University of Cambridge and Stanford University. He has written for the *Oregonian*, the *Arkansas Democrat-Gazette*, and the *St. Louis Post-Dispatch*, where his reporting ranged from the Scrabble subculture to crime in Ozark hills to biotechnology in East Africa.

Pagan Kennedy has published 10 books, working with such presses as Viking, Simon & Schuster, and Bloomsbury. She has won numerous literary prizes, including a Barnes & Noble Discover Award, a *New York Times* Notable, a Massachusetts Book Award Honor in Nonfiction, and was shortlisted for the international Orange Prize. She has contributed to the *New York Times Magazine*, the *New York Times Book Review*, the *Village Voice*, *Dwell*, *Details*, *Ms. Magazine*, *The Nation*, *Boston Magazine*, the *Boston Globe Magazine*, and others. During 2008, she was in residence at Dartmouth College, helping to launch a new program in literary nonfiction.

Andrew Mambondiyani is chief reporter with the *Manica Post*, a Zimbabwe-based weekly publication. He has reported on environmental, agricultural, and mining issues in Zimbabwe, from land reform to illegal gold and diamond mining in the country. His work has won numerous honors, including the Environment Africa Award for the first quarter of 2008 for reporting on the effects of global warming and climate change on rural communities in Zimbabwe, the 2009 British Council/United Nations Educational, Scientific, and Cultural Organization Climate Change Award, and the 2008 Zimpapers Environmental Reporter of the Year. His work has also appeared in other publications, including *Yale E360*, an online environmental magazine.

Matt McGrath is the science and environment reporter for the British Broadcasting Corporation (BBC) World Service radio, covering a wide range of topics for a large and

diverse global audience. Born and educated in Ireland, he earned degrees in history and classics, and a higher diploma in education from University College, Cork. He went on to earn a master's degree in broadcast journalism from Bournemouth University, and moved to the United Kingdom to work in the computer press before joining the BBC. In recent years, he has focused more closely on climate change, energy, and food, as these issues have become more contentious all over the world.

Wojciech "Voytek" Mikołuszko is a freelance science journalist from Poland. For 10 years, he has been writing about natural sciences, evolution, paleontology, ecology, and the environment for *Gazeta Wyborcza*, *National Geographic Poland*, *Przekrój*, *Focus*, and other Polish magazines and newspapers. He has published stories about the first Polish dinosaurs, the Białowieza Primeval Forest, and the wildlife of the Chernobyl zone, and has established a science blog for children, "A dlaczego?" (And why?), as well as a children's science book based on the blog, "Tato, a dlaczego?" (Dad, and why?).

Hillary Rosner is a freelance journalist specializing in environmental issues. Her work has appeared in *The New York Times*, *Mother Jones*, *Newsweek*, *Popular Science*, and many other publications. She has reported from the rainforests of Borneo and Costa Rica, the farmland of Ethiopia, the tundra of Iceland and Alaska, and the American West. She worked on vice president Al Gore's bestselling book *An Inconvenient Truth* and holds a master of science degree in environmental studies from the University of Colorado, where she received an NSF fellowship to study climate change. Previously, she was an editor at the *Village Voice*.

Jason Spingarn-Koff is a documentary filmmaker specializing in the intersection of science, technology, and society. His feature documentary *Life 2.0*, about a group of people whose lives are transformed by the virtual world *Second Life*, premiered at the 2010 Sundance Film Festival and will be featured on Oprah Winfrey's documentary film club in 2011. He served as producer of NOVA's *The Great Robot Race*, and as development producer for the Public Broadcasting Service's Emmy-winning *Rx for Survival*, as well as for documentaries for *FRONTLINE* and *TIME* magazine. He is a graduate of Brown University and the University of California's Berkeley Graduate School of Journalism.

Fellows spent most of their time attending classes at MIT and Harvard University, but also attended more than 40 seminars with faculty that were specially organized for them, as well as other seminars and workshops devoted to science and technology and their wider impacts. Fall term topics ranged from "The earth's energy draws from the sun: Is there good news from solar-in, solar-out?" (professor Daniel Nocera, Department of Chemistry) to "Watching brains work in real time: The difficulties of seeing behavior in scans, and the opportunities when done right" (professor Nancy Kanwisher, Department of Brain and Cognitive Sciences, and investigator at the McGovern Institute) to "Astrophysics: The hot heart of the universe" (professor Paul Schechter, Department of Physics). Spring term topics included "The silence of the genes" (Institute Professor Phillip Sharp, Department of Biology, and Nobel laureate); "Nanotechnology and drug delivery" (Institute Professor Robert Langer, Department of Chemical Engineering); "Robotics in the sea and in space" (David Mindell, professor of history of manufacturing and technology, Engineering Systems Division; director, STS); "The genome challenge:

New medicine" (Victor McElheny, visiting scholar, STS; founding director, Knight Science Journalism Fellowship Program); and "Brainbows: Glowing brain cells star in full-color movies—the answer to a century of dreaming" (Jeffrey Lichtman, professor of molecular and cellular biology, Harvard University). In addition, Knight Fellowships program director Philip Hilts arranged for the Knight Fellows to have tours of the MIT Museum, the new MIT Media Lab Complex (led by Mitchel Resnick, director of the Lifelong Kindergarten group), and the Chandra X-ray Observatory Center (with Claude Canizares, research scientist with MIT's Kavli Institute for Astrophysics and Space Research).

In collaboration with the MIT Museum, the fellowship program held a dinner for 200 people at the museum, and brought in journalists to discuss the state of the profession. This year, the panelists were science bloggers, discussing the new role blogging has taken on within journalism and within science as well.

The multimedia training continued for the second year. Fellows had a weeklong training session in September 2010 with writer, videographer, photographer, and multimedia consultant Duy Linh Tu (assistant professor of professional practice; coordinator, Digital Media Program, School of Journalism, Columbia University; and cofounder and creative director of Resolution Seven, a commercial, documentary, and DVD production studio). Professor Tu returned to MIT in May 2011 for an intensive weekend of advanced training in Final Cut Pro and Word Press website design. In addition, special new media seminars were arranged with speakers covering Sound Slides, camera and lighting, and voice recording techniques. The Knight Science Journalism Fellowship Program is committed to educating and training journalists during their nine-month fellowship appointment in order to competitively prepare them for the radical changes currently experienced in their field.

Philip Hilts organized three weeklong intensive seminars, referred to as boot camps or workshops, for current Knight Fellows and other science journalists. In December 2010, the Medical Evidence Boot Camp (now in its ninth year and still popular) brought together medical researchers from MIT, Harvard Medical School, Harvard School of Public Health, the National Institutes of Health, and the Food and Drug Administration to explain how clinical trials are designed and carried out; to explore the politics and ethics of how new drugs are tested; and to provide tools for journalists to understand and evaluate medical studies. In March 2011, the Food Boot Camp, offered for the third time, had more than 100 applicants, and 15 were selected to join the 12 Knight Fellows in this intensive course. Foodborne disease, obesity and malnutrition, and toxic imports were among the topics covered by researchers and leaders from universities, government, and industry. The Knight program sponsored Brain Science, the fifth Kavli Science Journalism Workshop, held on June 15–17, 2011. The subject of this annual workshop rotates among the universe, neuroscience, and nanotechnology. In this year's three-day intensive workshop for journalists, 11 top scientists from MIT and Harvard University explained the fundamentals of the cognitive sciences.

The fellows received up to $2,750 in support of a research trip during their fellowship year. Andrew Mambondiyani took his research trip in Limpopo Province, South Africa, to work on a documentary on African energy innovations, a project of STS assistant professor

Clapperton Mavhunga. Hanno Charisius took a research trip in the Owens Valley of California, and in the Nevada desert to study the geology and the water system of the region. Hillary Rosner went to Kenya to do research on a biogas project underway there to demonstrate effective ways of producing energy in rural villages. Rafael Garcia went to the Mauna Kea Observatory and the Center for the Study of Active Volcanoes. Voytek Mikoluszko travelled through the Everglades in Florida to study the problems of wetlands.

Knight Fellows spent two days in October 2010 at the Marine Biological Laboratory (MBL) and the Woods Hole Oceanographic Institute (WHOI). At MBL, fellows went out on a marine collecting trip on the research vessel *Gemma*, had a tour of the marine resources center, met with the project coordinator for the Biodiversity Informatics' Encyclopedia of Life project, learned about rapid climate warming and foodweb responses in the Antarctic marine ecosystem from the director of the MBL Ecosystems Center, and met with the MBL chief academic and scientific officer to learn about arsenic in ground water. At WHOI, fellows met with scientists and researchers to learn more about biofuels, tsunamis, the impact of a warming ocean on glaciers, and endangered right whales (which included a tour of the WHOI necropsy facility). Fellows were given another opportunity to talk with WHOI and MBL researchers and scientists at a dinner meeting at the National Academy of Science's Jonsson Center.

The Knight Fellowships are supported by an endowment from the John S. and James L. Knight Foundation of Miami, by MIT, and by alumni and foundation gifts.

Faculty Activities

Michael Fischer, professor of anthropology and science and technology studies, spent three months doing fieldwork in Singapore (including one month under the MIT-Singapore University of Technology and Design Collaboration); published two articles and a Portuguese translation of his book *Anthropological Futures*; drafted three articles and one review; taught five courses; chaired two dissertation committees to completion, and served on a third completed; chaired two continuing committees for two additional HASTS graduate students; and served on the Knight Fellowships admissions committee. He organized an MIT workshop on Iran (cosponsored with the Center for International Studies, Anthropology, History, Comparative Media Studies, and STS) on the occasion of the publication of an edited volume on the green movement. He was a panelist at three workshops at Harvard University (on intellectual property; medical anthropology; and trauma in Aceh, Indonesia); at a workshop in Chicago (in a knowledge/value series); and at two workshops, which he helped organize, at the University of California, Irvine, on the ethnography of Iran; and at UCLA on Iranian scientists). He presented talks at UCLA and the University of Massachusetts on psychiatry in Iran, and presented at the Society for Social Studies of Science, in Tokyo, and at the American Anthropological Association, in New Orleans. He participated in two workshops on Asian science, technology, and society, and Asian interconnections in Singapore; a Social Science Research Council meeting; and an international science, technology, and society cluster meeting at the National University of Singapore—as well as attended genomics and life science meetings in Dubai and Singapore. He continues to serve on the board of governors of the University of California Humanities Research Institute, and on the editorial boards of *Cultural Politics* and *East Asian Science, Technology and Society*, and has become an associate editor of the latter. He continues to coedit a book series at Duke University Press.

David Jones continued his work as associate professor of the history and culture of science and technology. His research exploring the history of cardiology and cardiac surgery (in an effort to understand decision making about cardiac revascularization, especially bypass surgery and angioplasty) is funded by an Investigator Award in Health Policy Research from the Robert Wood Johnson Foundation. The first book to result from this research, *Heart Attacks: Historical Reflections on Blind Spots in Cardiac Therapeutics*, is under contract with Johns Hopkins University Press, to be published in 2012. Professor Jones continues to work with colleagues in STS on an NSF-funded study of modeling the dynamics of scientific research; one article from this work was recently published, and two more are in preparation. He gave talks on his work at Boston University, State University of New York at Stony Brook, Harvard University, and the Association for the History of Medicine. In fall 2010, he taught an undergraduate subject, a HASS-D/CI course on the history of science (STS.003), and a graduate survey of science studies (STS.260). In spring 2011, he taught an undergraduate subject, a HASS-D/CI course on bioethics (24.06/STS.006), and a graduate seminar on the history and anthropology of the life sciences (STS.330). In addition to his work at MIT, he is a lecturer in the Department of Global Health and Social Medicine at Harvard Medical School, where he codirects two courses on social medicine required for all first-year medical students, one in the New Integrated Curriculum (SM.750), and one in Health Sciences and Technology (HST.934). In recognition of this work, he was promoted to associate professor with tenure and then to full professor.

David Kaiser, associate professor of the history of science, published an edited volume and a research monograph: *Becoming MIT: Moments of Decision* (MIT Press, 2010), and *How the Hippies Saved Physics: Science, Counterculture, and the Quantum Revival* (W. W. Norton, 2011). He coedited an anthology volume with Sally Gregory Kohlstedt that is currently under review—*Science and the American Century: Perspectives on Science, Technology, and Medicine* (University of Chicago Press). Professor Kaiser also published an essay review in the journal *Historical Studies in the Natural Sciences*; an invited editorial in *Nature*; a biographical essay of MIT physicist Francis Low, coauthored with school of science dean Marc Kastner and published in the Biographical Memoirs of the National Academy of Sciences; and two invited essays in the *London Review of Books*. He and a physicist collaborator, Luís Bettencourt (Los Alamos National Laboratory and Santa Fe Institute), completed a working paper for the US Department of Energy's Office of Scientific and Technical Information on percolation-like transitions in the collaboration networks of various scientific fields, and they are now preparing a version for publication. He also has an article in press, coauthored with historian Angela Creager (Princeton University), in *Scientific American*. Professor Kaiser was filmed for two NOVA documentary films about modern science, and was interviewed for Wisconsin Public Radio. He and his STS coprincipal investigators, Professors Jones and Lépinay, completed the first year of their two-year NSF project "Predictive Modeling of the Emergence and Development of Scientific Fields." The year also included an international workshop on the subject hosted at MIT. Professor Kaiser completed his second year as director of graduate studies for the HASTS doctoral program, participated in several MIT150 events, and continued his service as editorial board member for Historical Studies in the Natural Sciences and the MIT Press. In fall 2010, Professor Kaiser was elected a fellow of the American Physical Society.

Vincent Lépinay, assistant professor of science, technology, and society, completed his book *Codes of Finance*, forthcoming from Princeton University Press (PUP). He also worked on his second manuscript ("How to Be a Bad Trader: Lessons from Economics and Law," in discussion with PUP for publication) and completed three articles. Professor Lépinay presented papers from his new research program at two conferences, and continued working on the scientometrics initiative with Professors Kaiser and Jones.

Clapperton Mavhunga, assistant professor of science, technology, and society, completed the final revisions to his manuscript "The Mobile Workshop," which is narrowing down to "Traveling Technology and Local Innovation in Zimbabwe," and is now expected for submission to MIT Press by September 2011. With Gijs Mom (Eindhoven University of Technology), Professor Mavhunga is coediting *Inside Mobility: A Kaleidoscopic Overview* (MIT Press), a volume dedicated to a rethinking of mobility on a global scale. He also published the article "Vermin Beings: On Pestiferous Animals and Human Game" in *Social Text* and two chapters in edited volumes: "A Plundering Tiger with its Deadly Cubs? The USSR and China as Weapons in the Engineering of a 'Zimbabwean Nation,' 1945–2009" in Gabrielle Hecht, ed., *The Technopolitical Shape of Cold War Geographies* (MIT Press, 2011); and "The Colony in Us, the Colony as Us," in Sabelo Ndlovu and James Muzondidya, eds., *Redemptive or Grotesque Nationalism: Rethinking Contemporary Politics in Zimbabwe* (Peter Lang, 2011). Professor Mavhunga accompanied four MIT students to Makuleke during Independent Activities Period 2011 to shoot a film titled *African Energy Innovations*; editing of the film is continuing, while photos of the students' trip were shown at Rotch Library from May15–June 30, 2011, in the exhibition "Makuleke Project: A Different Africa." The film and exhibition project, with funds from the MIT International Science and Technology Initiatives Global Seed Funds, the MIT Energy Initiative, and Alumni Funds, has enabled Professor Mavhunga to add more practical, real-life examples to course STS.032 Energy, Environment, and Society. As a Poiesis Fellow, he is working with five fellows of different backgrounds in the project "Infrastructures of Citizenship," which involves thinking about "the city"—past, present, and future. Another group of Poiesis Fellows is looking at the subject of infrapolitics. Professor Mavhunga's group has selected Berlin, Los Angeles, and Mumbai as "synchronizing spaces," where each group member will converge with his/her own epistemological and cultural background and subvert selected phenomena simultaneously to collective enquiry. In this space, different registers are proposed by different fellows, leading to the birth of new registers that each fellow then takes back and rereads the city in his/her own fieldwork sites. At the end, fellows will be publishing one volume accessible to a non-academic audience, one volume for an academic audience, and a manifesto on future cities for practitioners. Poiesis Fellows work under the mentorship of senior fellows drawn from different laboratory and social science backgrounds, and meet twice every year to present their work and receive feedback and guidance.

David Mindell, professor of the history of engineering and manufacturing and of aeronautics and astronautics, served as chair of the MIT150 Steering Committee and oversaw MIT's 150th anniversary celebrations, including the Convocation, the symposium series, the open house, a series of documentary films, and other events. In February 2011, Professor Mindell organized for the 150th celebration an STS event

(with Professors Durant and Kaiser, professor Merritt Roe Smith, and research associate Debbie Douglas) where historians of science and technology shared their perspectives on MIT's history. He also conceptualized and participated in the documentary film *Moments of Vision*, on MIT's founding. He spoke on human and robotic space exploration at the MIT150 symposium The Future of Exploration, introduced each of the MIT150 symposia with some historical background, and spoke as one of the five faculty speakers at the MIT150 Convocation. Professor Mindell's research group, the Laboratory for Automation, Robotics, and Society, continued to grow, with initial funding from a gift by an MIT alumnus. This project examines a host of issues that arise with automated and robotic systems, with a comparative perspective across several domains, including human spaceflight, commercial aviation, general aviation, air force unmanned vehicles, undersea exploration, and surgery. Research continued apace in collaboration with Lufthansa, FedEx, the US Air Force, and the Woods Hole Oceanographic Institute, and is being extended to other institutions. A paper describing preliminary results was presented at the American Institute of Aeronautics and Astronautics Aerospace Sciences meeting in Orlando, in January 2011. Professor Mindell and his wife, Pamela Mindell, continue as housemasters of Edgerton House, where they organize a variety of activities for the student residents. He has two new editions of his books coming out in 2012: an updated edition of *War, Technology, and Experience Aboard the* USS Monitor, titled *Iron Coffin*, and a paperback edition of *Digital Apollo*.

Theodore Postol, professor of science, technology, and international security, continues his work on policy issues connected with missile defense systems in collaboration with the Science, Technology, and Global Security Working Group.

Natasha Schüll, associate professor of science, technology, and society, completed her work as leader of the committee on STS curricular reform, having overseen the development of five thematic tracks and a progressive Tier 1/Tier 2 format to structure undergraduate students' course of study. Professor Schüll's teaching included the undergraduate CI-H course STS.008 Technology and Experience, which she significantly revised from its former version to conform to STS's new curricular objectives; and STS.260 Introduction to Science, Technology, and Society, the proseminar for the HASTS graduate program, which she cotaught with Professor Jones. Professors Schüll and Jones, who worked together to revise the syllabus over summer 2010, were rewarded with excellent course reviews from students. During spring 2011, Professor Schüll was scheduled to teach STS.390, the HASTS graduate writing seminar, and the HASS-D, CI-H undergraduate course STS.010 Neuroscience and Society, in which 85 students enrolled. Although both courses were turned over to replacement instructors when she was unexpectedly placed on medical leave the second week of classes, she continued to compose biweekly lectures for STS.010, transmitting them to the new instructor from home. She also participated in the new HASTS graduate curriculum committee (chaired by Professor Kaiser). Prior to her leave, Professor Schüll travelled to Oxford University to present her work on the emerging field of neuroeconomics at an international conference addressing the social science of brain research; visited the Knight Fellows' weekly colloquium to present her forthcoming book research (*Addiction by Design: Machine Gambling in Las Vegas* [PUP]); and worked with a US senator to compose two amendments for inclusion in the Massachusetts gambling bill. In January 2011, Professor

Schüll's work was featured in "The Big Gamble," a CBS *60 Minutes* episode on new video slot machines and addiction. In March 2011, her article "The Shortsighted Brain: Neuroeconomics and the Governance of Choice in Time" was published in the *Journal for the Social Studies of Science*.

In AY2011, Hanna Rose Shell, assistant professor of science, technology, and society, was on professional leave from MIT and was at the Harvard Society of Fellows, where she was Junior Fellow (2007–2011). During the year, she completed her book *Hide and Seek: Camouflage, Photography, and the Media of Reconnaissance* (Zone Books, 2012), and commenced research and writing on her new book project. She gave keynote lectures for conferences at the University of Wisconsin at Madison, and the London Natural History Museum, cosponsored with University College London. Other publications forthcoming include a book chapter for a media studies volume from New York University Press, an article in the *Journal of Visual Culture*, and *Locomotion in Water* (Fabrik Films, 2011).

Merritt Roe Smith, professor of the history of technology, continued his appointments as distinguished lecturer for the Organization of American Historians (OAH) and honorary guest professor at the Kanazawa Institute of Technology (Japan). In addition to chairing the review committee on freshman orientation and serving on several other MIT committees (Committee on Academic Performance, Student Support Services Faculty Advisory Committee, Dean for Undergraduate Education Faculty Advisory Committee, and convener of the Housemaster's Council), Professor Smith is housemaster of the Burton-Conner undergraduate residence. He continues to edit the Johns Hopkins Studies in the History of Technology at the Johns Hopkins University Press, as well as serve on outside advisory committees at the American Precision Museum, WGBH's *American Experience* television series, the Thomas A. Edison Papers project at Rutgers University, the American Textile History Museum, and the Lincoln Prize at Gettysburg College. In addition to delivering keynote lectures at three National Endowment for the Humanities Landmarks of American History Teacher Workshops at the Tsongas Industrial History Center/UMass-Lowell (summer 2010), he also delivered a paper on the Civil War at Rutgers University (Department of History); spoke on "The Role of the State in Early Industrial America" at the annual meeting of OAH, in Houston; and chaired a session on the Industrial Revolution at the annual meeting of the Society for the History of Technology, in Spokane. He was a contributor to a coedited volume titled *Reconceptualizing the Industrial Revolution*, which was published by MIT Press in fall 2010, and he continues to work on his book about technology during the Civil War.

Sherry Turkle, professor of the social studies of science and technology, published *Alone Together: Why We Expect More of Technology and Less of Each Other*, in January 2011. The book reports on 15 years of work studying sociable robots and the networked life. Much of Professor Turkle's activity has been speaking on the educational, philosophical, and psychological implications of this work. She has given keynote presentations at a series of conferences that focused on education and technology, including Scratch@MIT, August 2010; Campus Technology, August 2010; Harvard University's Derek Bok Center for Teaching and Learning, April 2011; and University Professional and Continuing Education Association, April 2011. She has been keynote speaker at meetings of psychiatrists, psychologists, and psychoanalysts, including the William

Alanson White Conference "Where the Wired Things Are: Children and Technology in Therapy," October 2010; and the Psychotherapy Networker Conference, April 2011. She has lectured at a range of academic institutions, including the Georgia Institute of Technology, Dartmouth College, Williams College, Harvard University, the British Library, London School of Economics, and the Royal Society. Professor Turkle has also presented her work to audiences beyond the academy at forums such as the Milken Global Conference and TEDx, an independently organized event on technology, entertainment, and design. She has also been featured on a range of news programs on network and public television and radio, including National Public Radio's *Morning Edition*, *Here and Now*, *RadioLab*, *The Takeaway*, and *Science Friday*, and Comedy Central's *The Colbert Report*.

Rosalind Williams, professor of the history of science and technology, has completed a draft of her next book (with the working title *Beyond the End of the World*) and is now revising the draft in expectation of publication in 2012. She is completing a paper titled "The Financial Crisis of 2008 and Aftermath as Contemporary History" for the third and last gathering of the Lisbon Aftermath Network, a three-year research project organized by Manuel Castells (Universitat Oberta deCatalunya) and sponsored by the Gulbenkian Foundation. As part of a small editorial team, she brought to publication in four consecutive issues of *Technology and Culture* 14 papers from the NSF-sponsored workshop "Looking Back, Looking Beyond" at the 50th anniversary of the Society for the History of Technology. Professor Williams serves on the editorial board of *Engineering Studies*; participated in a review of the Lehigh University graduate history program; and serves on the advisory board and collections committee of the MIT Museum. She continues her involvements with European universities, and in fall 2010 gave a welcoming speech at the ceremony marking the opening of the academic year at the Eindhoven University of Technology (TU/e), The Netherlands. In spring 2011, she was awarded an honorary degree by TU/e and has agreed to return for regular visits as a distinguished visiting professor.

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