Awards

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NASA Fellowship

The NASA Fellowship in the History of Space Technology, offered by SHOT and supported by the National Aeronautics and Space Administration (NASA) History Division, funds either a predoctoral or postdoctoral fellow for up to one academic year to undertake a research project related to the history of space technology. The fellowship supports advanced research related to all aspects of space history that leads to publications on the history of space technology broadly considered, including cultural and intellectual history, institutional history, economic history, history of law and public policy, and history of engineering and management. The 2013 fellowship was awarded to Margaret A. Rosenburg of the California Institute of Technology for “Impact Under Observation: Technology and the Interpretation of Lunar and Terrestrial Craters, 1890–1965,” with the following citation:

By elucidating the role technological change plays in the evolution of the impact hypothesis for the origin of lunar and terrestrial craters, Margaret Rosenburg’s project promises to show the mechanisms through which the once controversial notion that craters were formed by impacts (rather than volcanic activity) gained broad acceptance. Particularly exciting are the ways Rosenburg plans to apply her technical and scientific expertise to her investigation of the history of the impact hypothesis. She is presently completing a Ph.D. in planetary surface processes alongside her doctoral dissertation work in history of science, all at Caltech. This interdisciplinary background puts her in a unique position to, as she puts it, “examine the disciplinary, institutional, and conceptual shifts that accommodated significant developments in understanding impact cratering, particularly as they relate to the introduction of scientific and wartime technologies that made it possible to observe new aspects of the impact process.”
Kranzberg Dissertation Fellowship

This award is given in memory of the cofounder of the Society for the History of Technology and honors Melvin Kranzberg’s many contributions to developing the history of technology as a field of scholarly endeavor and SHOT as a professional organization. The $4,000 award is given to a doctoral student engaged in the preparation of a dissertation on the history of technology, broadly defined, and may be used in any way chosen by the winner to advance the research and writing of that dissertation. The 2013 fellowship was awarded to Elizabeth Reddy of the University of California at Irvine for “Seismic Politics: The Scientific Development of an Early Alert System Infrastructure in Mexico,” with the following citation:

Beth Reddy’s project is original not merely for its attention to a little-known technical system but for its sophisticated analysis of “the production of technical infrastructure as a political force in Mexico.” With support from the Kranzberg fellowship, Reddy will investigate how the Seismic Alert System (SAS) has been assembled over the past thirty years from components such as geophysical sensors, telecommunications networks, data-processing systems, and predictive models. Her examination of a complex technological system that was repurposed from scientific research to public safety will explain how political forces and technocratic goals and ideologies interacted to shape a dual-use technology. By focusing on an infrastructure for seismic detection that is simultaneously a scientific instrument and a policy tool, she is able to link the construction and uses of technology to the production of knowledge, the power of the state, and the construction of “the at-risk subject”—the Mexican citizen.

As Reddy notes, both Mexican science and the history of the geosciences have been underexplored by SHOT scholars. While Reddy’s work is based in cultural anthropology, she addresses questions that are important to the history of technology, including infrastructure, the politics of scientific knowledge, and risk. Her project represents a productive merger of envirotech and history of information technology concerns. Reddy’s level of preparation for this daunting project is very impressive, combining technical and linguistic skills with a network of local collaborators. In addition to conducting archival research at three institutes in Mexico, she will build a collection of reports related to SAS that she and her Mexican colleagues will make publicly available through various media, bringing the history of technology to a wider audience.
Joan Cahalin Robinson Prize (2012)

Established in 1980 by Dr. Eric Robinson in memory of his wife, the prize is awarded annually for the best-delivered paper by an individual who is making his or her first appearance at the SHOT annual meeting. Candidates for the award are judged not only on the quality of the historical research and scholarship of their paper but also on the effectiveness of the oral presentation. The Robinson Prize consists of a check and a certificate.

The 2012 prize was awarded to Rachel Rothschild of Yale University for “Detente from the Air: Monitoring Pollution and European Integration in the Cold War.” The citation follows:

The committee congratulates Rachel Rothschild for her outstanding talk delivered at the 2012 SHOT meeting in Copenhagen, Denmark. Rothschild addressed the difficult issue of the interplay between technology, scientific knowledge, and international policy. The particular subject Rothschild chose, Norway’s role in working with parties on both sides of the Iron Curtain to create international regulation of air pollution, was especially difficult since it required strong knowledge of the works of the relevant bureaucratic organizational structures as well as the Norwegian language. Rothschild skillfully used a carefully prepared script along with carefully prepared slides to elucidate a fairly esoteric subject, Norwegian reactions to invisible Soviet pollution during the cold war, and, more importantly, to convey its importance to a wide, scholarly audience in just twenty minutes.

Her decision to show Norwegian primary documents (along with English translations) demonstrated that her arguments had a strong evidential basis as well as her willingness to make her work transparent—the committee was advised that her translations from Norwegian were highly accurate and that the documents she shared were helpful to speakers of Scandinavian languages in the audience in Copenhagen. Finally, by taking a major step toward clarifying the early years of international efforts to regulate technology for the purpose of protecting the environment, Rothschild’s paper goes a long way toward establishing the mutual relevance of history of technology and environmental history.

IEEE Life Members’ Prize in Electrical History

The IEEE Life Members’ Prize in Electrical History was established by the IEEE Life Members, who fund the prize, and is administered by SHOT. The prize recognizes the best paper in electrical history published during the previous year. Electrotechnology encompasses power, electronics, tele-
communications, and computer science. The prize consists of $500 and a certificate. This year’s prize went to Rachel Plotnick of Northwestern University for “At the Interface: The Case of the Electric Push Button, 1880–1923,” Technology and Culture 53 (2012): 815–45. The citation follows:

What kinds of meanings and practices are organized, contested, and conveyed with the push of a button? In this impressive article, Rachel Plotnick draws on sources in the history of technology, cultural theory, and visual culture to reconstruct early users’ and producers’ relationship to the electrical push button. The very familiarity and ubiquity of push buttons in present-day culture renders them almost invisible to cultural and historical analysis; through intricate analysis, Plotnick unearths the layers of cultural history masked by the everydayness of this technology. She shows that the electrical push button was introduced as a model of simplicity that promised the wonders of electricity with a single, user-friendly click. This aspiration for simplicity simultaneously revealed, however, the growing complexity of devices as well as users’ and producers’ mixed sentiments about that complexity. The interaction between humans and electricity, and the struggle to manage it through technological innovation, was thus situated within competing and complementary notions about technology and cultural change.

The strength of Plotnick’s analysis rests in part on her gift for demonstrating how the materialities of everyday objects—and their interface, in particular—construct cultural practices and interpretations. Beyond her immediate contribution to the history of this neglected device, Plotnick furnishes a convincing case for the importance of expanding and complicating the methods and sources of interactivity and the mutual construction of users and devices.

Her contributions to historiographical understanding, as well as the exciting possibilities it suggests for the future, are joined with well-written and entertaining narrative. We congratulate her on this excellent achievement and are pleased to recognize her work with the IEEE Life Members’ Prize.

Abbott Payson Usher Prize

The Abbott Payson Usher Prize was established in 1968 to honor the scholarly contributions of the late Dr. Usher and to encourage the publication of original research of the highest standard. It is awarded annually to the author of the best scholarly work published during the preceding three years under the auspices of the Society for the History of Technology. The prize consists of a check and a certificate. This year’s prize was awarded to

Thomas Mullaney’s research into the changing placement of characters on the keyboards of Chinese typewriters over the course of the twentieth century—with implications for understanding the meanings of modernity, the dislocations of Maoism, and even the development of predictive text algorithms—demonstrates well how a careful, multifaceted analysis of not only individual artifacts, but also knowledge systems and labor practices, can produce new insights into the history of technology and society. Beginning in the nineteenth century, as China found itself challenged by a new global modernity, both the Chinese language and Chinese script were often cast by social reformers, state authorities, and nascent information professionals as impediments to the society’s intellectual and technological progress. However, through his careful uncovering of documentary evidence, Mullaney reveals that the successful transformation of Chinese language practices into a new technological regime, especially through the postwar Maoist period, was largely due to a widespread cadre of anonymous “everyday users and tinkerers” who produced, reproduced, and circulated information artifacts through the print culture of Chinese society. Understanding this “decentralized and largely invisible” transition meant investigating not only material tools and technologies, but also the human bodily practices and systems of thought that were developed along with them, by “tens of thousands of typists and typesetters . . . who interacted with their character racks and tray beds in deeply corporeal, nonverbal ways.” By the 1980s, the innovations that were institutionalized through these labor and training practices were finally appropriated by the typewriter manufacturers themselves—just in time for the advent of the microcomputer revolution. Throughout his narrative, Mullaney maintains a superb clarity of explanation, especially considering that his research subject is likely unfamiliar cultural background for many readers. The result is a piece that productively plays with the notion of “technology” in a variety of different ways: language as technology; mechanism as technology; algorithm/interface as technology; and even human typists themselves as technology. With his substantive original research, his novel interpretive approach, and his utterly enduring findings, Mullaney has crafted a study of information labor that deserves wide readership and recognition, not only within the histories of technology and Chinese culture, but also across the related disciplines of social history, print culture studies, and information science.
Eugene S. Ferguson Prize for Outstanding Reference Work

Established in 2005, the Eugene S. Ferguson Prize honors outstanding and original reference works that will support future scholarship in the history of technology. The Ferguson Prize recognizes work that is in the tradition of scholarly excellence established by Eugene S. Ferguson (1916–2004), SHOT’s pioneering bibliographer, a founding member of the society (president, 1977–78; da Vinci medalist, 1977), museum curator and exhibit catalog author, editor, annotator, university professor, and scholar of the history of engineering and technology. The prize consists of a check and a plaque and is presented every other year. This year’s prize went to David C. Brock, Chemical Heritage Foundation, and Christophe Lécuyer, Université Pierre et Marie Curie, for *Makers of the Microchip: A Documentary History of Fairchild Semiconductor* (MIT Press and the Chemical Heritage Foundation, 2010), with the following citation:

This dense, rich, beautifully designed and produced volume offers readers a unique entry into the history of the integrated circuit and the crucial years around 1960, when physics, chemistry, materials, design, engineering, markets, and many other factors came together with similarly coalescing actors and spawned the digital electronics revolution. The story of the silicon transistor’s role in transforming electronics of the 1950s, followed by an even more dramatic move to integrated circuits in the 1960s, is well known in its outlines and in many details. The “digital electronics revolution” has been the subject of much scholarship as well as a steady stream of memoirs, popular written accounts, documentaries, exhibitions, and even whole historical institutions.

Because much of the story of digital electronics concerned government-sponsored research and innovation going back to the scientific and technical mobilization of the Second World War and continuing through historical accounts (with some gaps due to security classification), oral history and other documentation projects by some universities, relevant history centers, and museums further enriched the record. But the sites of invention, final design, fabrication, and marketing being largely in private firms (themselves in flux and their principals and networks in seeming constant evolution), this crucial segment of the record was only partially accessible, and its context perhaps least understood.

*Makers of the Microchip* is a tantalizing glimpse into this least understood world, via a selection of reproduced documents kept by one of the principals at one of the companies. Typescripts, photographs, autograph notes and logs, and especially excerpts from company laboratory notebooks are reproduced with accompanying com-
Commentary by Jay Last and historical explication and context by Christophe Lécuyer and David Brock. Last is a historical actor, rescuer of documents, and thoughtful commentator. Lécuyer and Brock, each the author of other important works in the field, provide context and, as it were, integration. Many pieces of the puzzle had origins elsewhere, and similar efforts were ongoing at other firms, but Fairchild Semiconductor at the turn of the 1960s makes an excellent case study.

For scholars, a documentary history’s value hangs on how the documents and other items are reproduced and presented and on the all-important surrounding apparatus. This work excels in both these areas. The printing is crisp, the page size and format well matched to the documents, and the paper stock heavy enough to do justice to the photographs, sketches, and other visual materials. The reproduction is so good, and the notebook entries so attractive in appearance and engaging in content, they are used as endpapers. Even what appear to be faded thermal copies or perhaps onion-skin second sheets are reproduced in readable form. An appendix on semiconductor technology of the period, extensive endnotes, a lengthy bibliography, and a thorough and well-constructed index complete the book.

In its brief history, the Eugene S. Ferguson Prize has honored a range of works that exemplify the qualities, broad interests, and competence of Ferguson himself. *Makers of the Microchip* is as compact and succinct in its scope as in its physical presentation, but it leaves out nothing. One is eager to learn more but not in any way unsatisfied. It leads beyond itself but repays each successive visit. And, importantly, in the hectic, impatient, project- and future-oriented world of high-technology business of the day, preservation of records suffered, and proprietary considerations keep whatever is left mostly inaccessible. The personal and institutional collaboration that produced this book is just the kind of diverse and cooperative scholarship the award was intended to acknowledge. It is perhaps ironic that the origins of the digital revolution currently nudging us out of sole reliance on print culture should be so ably and attractively illuminated by a volume that is itself a superb exemplar of that venerable form.

**Sally Hacker Prize**

The Sally Hacker Prize was established in 1999 to recognize the best popular book written in the history of technology in the three years preceding the award. The prize, consisting of a check and a certificate, recognizes books in the history of technology that are directed to a broad audience of readers, including students and the interested public. Books worthy of this prize assume that the reader has no prior knowledge of the subject.
or its method of treatment and provide an elucidating explanation of technological change in history, with a minimum of technical or academic prose. This year’s prize went to Regina Lee Blaszczyk, University of Leeds, for *The Color Revolution* (MIT Press, 2012), with the following citation:

This extraordinary work, which effortlessly spans a century and a half, traces the historical origins of color’s intriguing and omnipresent power in our modern lives. To do that, the book fearlessly dives into the history of chemical engineering, product design practices, shrewd marketing strategies, and consumer behavior, bringing stories from each field together in a novel, fascinating piece of synthetic scholarship. At the core of the story we find a set of heroes rarely encountered in history of technology writing—color stylists, color forecasters, and color engineers—who nevertheless have shaped the modern world in decisive and often shocking ways. Blaszczyk’s beautifully, thoughtfully designed book is bound to become a standard academic reference—for historians of technology as well as for a range of other scholars—but that’s only the beginning; her work is of great importance because of the exemplary way in which it reaches out to a broader audience. It does so not merely through its writing style but also through the seamless weaving together of text and an immensely rich variety of, needless to say, colorful illustrations. In short, *The Color Revolution* is a worthy winner of the SHOT Hacker Prize.

**Sidney M. Edelstein Prize (formerly the Dexter Prize)**

Established in 1968 through the generosity of the late Dr. Sidney Edelstein, a noted expert on the history of dyes, founder of a successful specialty chemical manufacturing firm, and 1988 recipient of SHOT’s Leonardo da Vinci Medal, the Edelstein Prize is awarded by SHOT to the author of an outstanding scholarly book in the history of technology published during any of the three years preceding the award. The prize, supported by a gift from the Sidney and Mildred Edelstein Foundation, consists of $3,500 and a plaque. This year’s prize went to Aileen Fyfe of the University of St Andrews for *Steam-Powered Knowledge: William Chambers and the Business of Publishing, 1820–1860* (University of Chicago Press, 2012), with the following citation:

Aileen Fyfe’s *Steam-Powered Knowledge: William Chambers and the Business of Publishing, 1820–1860*, is an impeccably organized, well-written, and illuminating book about both the mutual shaping of cheap printing as the new nineteenth-century medium and the emergence of working-class literacy and knowledge. The title brilliantly conveys the contemporary definition of technology in our field: the
intricate connections among artifacts, knowledge, and people. Fyfe is in total command of her subject, wedding analytical skills with ease of communication about an earlier social media that once was new.

The book consists of nineteen short, focused chapters (ten to twelve pages each), which help the reader move quickly from one to the next while building seamlessly on where the previous chapter left off. But Fyfe does much more. Her choice of treating three different technologies in three main sections makes for clarity in her argument: first introducing us to the techniques of steam-printing, publishing, and retail; then moving on to how steam-powered railroad commuting and travel with their accompanying bookshops offered a new market for cheap literature; then finally to steam-powered shipping in relation to developments in transatlantic markets (where there was little copyright protection) and a comparative look at educational literature on both sides of the Atlantic.

Fyfe gives us great insights. The opening epithet of William Chambers making his own hand-printed books during his apprenticeship, as a comparison to the time, cost, and output of the materials and production once he shifted to steam-power, wonderfully exemplifies Fyfe’s ability to integrate the personalities of the people featured in her study alongside her social, technological, and business history. Befitting a treatise on publishing, the book is also illustrated with care, offering visual insight into the social dynamics of the workplace such as class, gender, and hierarchical organization; into the travelers’ accommodations and habits; and into the adoption of steam engines for printing, rail, and water travel.

Beyond this, Fyfe contributes to both social history and to the history of design. We see how William and Robert Chambers felt the pulse of working-class readers and their voracious appetite for knowledge. Her study also offers a new perspective on the debates over printing and publishing put forward by William Morris in the 1860s and 1870s. Morris rejected steam-powered cheap printing, seeking to return to handcraft. His rejection of cheap printing thus highlights the ironic elitism inherent in Morris’s resolve, in complete contrast with his presumed socialist bent. It is one way in which the book suggests the social context of the history of design in mid- to late-nineteenth-century Britain.

Steam-Powered Knowledge covers subjects that are familiar in the history of technology—from steam-driven presses to railroads and ocean liners. Yet it connects the history of printing to broader political themes. The book provides a nondeterministic interpretation of the history of technology by showing that mechanization was not a driving force of social change, but rather the outcome of mutual
shaping between social, business, and user preferences on the one hand and technical innovations on the other.

The study thus exemplifies a socially contextualized history of a relatively but not entirely new technology. Fyfe calls this the “second wave” adoption of steam-power and skillfully embeds her story of innovation in a business history. She shows how printers and publishers managed to overcome various hurdles in order to transform working-class access to knowledge in the form of affordable reading material, while still making a profit. Fyfe’s book details a key facet as to why and how greater literacy and general education accompanied the rise of industrialization in the West. Her close focus on the W & R Chambers publishing business offers a clear frame for a study that is at once local, regional, national, and transnational in its scope.

Leonardo da Vinci Medal

The Leonardo da Vinci Medal is the highest recognition from the Society for the History of Technology, presented annually to an individual who has made an outstanding lifelong contribution to the history of technology through research, teaching, publication, and other activities. Hungarian sculptor András Beck designed the medal, the face of which shows Leonardo’s head modeled after the artist’s self-portrait. The reverse design shows (in the words of the sculptor) “the basic sources of energy: water, wind, and fire.” A certificate accompanies the medal. Previous recipients of the award include R. J. Forbes, Abbott Payson Usher, Lynn T. White jr., Maurice Daumas, Cyril Stanley Smith, Melvin Kranzberg, Joseph Needham, Lewis Mumford, Bertrand Gille, A. G. Drachmann, Ladislao Reti, Carl Condit, Bern Dibner, Friedrich Klemm, Derek J. de Solla Price, Eugene S. Ferguson, Torsten Althlin, John U. Nef, John B. Rae, Donald S. L. Cardwell, Louis C. Hunter, Brooke Hindle, Thomas P. Hughes, Hugh G. J. Aitken, Robert P. Multhauf, Sidney M. Edelstein, R. Angus Buchanan, Edwin Layton jr., Carroll W. Pursell, Otto Mayr, W. David Lewis, Merritt Roe Smith, Bruce Sinclair, Nathan Rosenberg, Ruth Schwartz Cowan, Walter G. Vincenti, Silvio A. Bedini, Robert C. Post, Leo Marx, Barton C. Hacker, David Landes, David E. Nye, Eric H. Robinson, David Hounshell, Joel A. Tarr, Susan J. Douglas, Svante Lindqvist, John Staudemaier, and Wiebe Bijker. The recipient for 2013 is Rosalind H. Williams, the Bern Dibner Professor of the History of Science and Technology at the Massachusetts Institute of Technology.

An influential scholar and educator, Professor Williams has lifted the cultural history of technology to new vistas by explicating the complex interrelationships among imaginative literature, consumer culture, engineering, and the built environment—the material and
cultural worlds that technologists and consumers have created in Europe and the United States from the nineteenth century to the present. Her distinguished career is marked by a productive relationship between the highest levels of scholarship and many years of service to SHOT and MIT. She is a worthy successor to Lewis Mumford and Leo Marx.

Rosalind Williams was educated at Harvard University, the University of California, Berkeley, and the University of Massachusetts Amherst. She received her Ph.D. in history from the latter institution in 1978 for a dissertation that formed the basis for her first book, *Dream Worlds: Mass Consumption in Late-Nineteenth-Century France* (University of California Press, 1982). Williams completed the book while working as a Research Fellow at MIT’s Science, Technology, and Society Program, where she embarked on a fruitful collegial relationship with Leo Marx. *Dream Worlds* is a pioneering book. It is cited widely in fields such as literature, material culture, cultural studies, consumer research, European history, and the history of technology. As Williams argues, while Britain was the center of the Industrial Revolution, France was the center of the Consumer Revolution—a historic event marked by the development of technological expositions, department stores, movies, and spectacular electrical lighting, by the transformation of courtly consumption into mass consumption, and by commentary from novelists, journalists, and social scientists, especially regarding the morality of the new consumer culture.

Her second book, *Notes on the Underground: An Essay on Technology, Society, and the Imagination* (MIT Press, 1990), has become a classic in the history of technology. Written while she was an assistant professor in MIT’s Writing Program, the book grew out of a paper she had given at a SHOT annual meeting on “imaginary underworlds.” It makes the memorable argument that we can better understand the artificial environments created by modern technology—today’s overwhelmingly technological environment—by studying the creation, use, and symbolism of underground environments in fact and fiction. Drawing inspiration from the work of Lewis Mumford, Williams undertook this task in a deeply insightful and skillful manner by contrasting the material and cultural construction of mines, tunnels, canals, railway cuts, and urban infrastructures in Europe and the United States in the late nineteenth century, with the themes of the sublime, fantasy, degeneration, and defiance expressed in a wide range of literature dealing with subterranean worlds, written by such authors as Edward Bulwer-Lytton, Jules Verne, and E. M. Forster.

After being promoted to the Robert Metcalf Professorship of Writing at MIT in 1993, Williams was asked to consider accepting
the post of dean of students and undergraduate education at MIT. When she hesitated, the chair of the search committee replied, as she remembers, “Anyway, it probably wouldn’t make sense to have a humanist be dean of undergraduate education at MIT,’ or words to that effect.” That drew her deeply into the academic fray, and she was dean from 1995 to 2000. It was a challenge to work effectively in this capacity as a woman and a humanist, a member of “two minority groups at MIT,” as Williams puts it. But she took the post, hoping to write a book about her experiences from the point of view of a historian. The result was her third book, Retooling: A Historian Confronts Technological Change (MIT Press, 2002). It critiques the widely held belief she encountered as an MIT dean that the “ideology of technological change has become the dominant, if not explicit, theory of history in our time.” Her essays in Technology and Culture, one of which is an early version of Retooling, have tackled such big questions as the meaning of history in the history of technology, the subject of her SHOT presidential address.

Williams got involved with SHOT at an early date. She began in 1987 by serving on the committee for the best book prize, the Dexter Prize (now the Edelstein Prize), and worked on committees for two decades thereafter. She served on the editorial committee (1989–92), the executive council (1992–95), and the finance committee (2001–04) before being elected vice president in 2003 and serving as president of SHOT from 2005 to 2007. Later she served on a special editorial committee, “Looking Back, Looking Beyond: SHOT’s Fiftieth Anniversary,” for Technology and Culture in 2009–10. She has been a member of review panels for several history of technology programs in the United States and Europe and was director of the STS Program at MIT from 2002 to 2006.

Her latest book, The Triumph of Human Empire (University of Chicago Press, 2013), continues her scholarly quest of explaining large techno-cultural changes by examining the confluence of technology and literary imagination, in this case in the writings of Jules Verne, William Morris, and Robert Louis Stevenson. Her scholarship and service to SHOT over the past three decades have greatly contributed to the transformation of the history of technology into the multifaceted discipline that exists today. For all these reasons, we are proud to award the 2013 Leonardo da Vinci Medal to Rosalind Williams.