



# AWARDS AND FELLOWSHIPS 2021

**SHOT 2021 VIRTUAL ANNUAL MEETING – 18-21  
NOVEMBER 2021**

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## 2021 SHOT AWARDS AND FELLOWSHIPS

### Leonardo da Vinci Medal

*The highest recognition from the Society for the History of Technology is the Leonardo da Vinci Medal, presented to an individual who has made an outstanding contribution to the history of technology, through research, teaching, publication, and other activities. Andras Beck (formerly of the Hungarian Academy of Arts) 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.*

### Recipient 2021

**Suzanne Moon, University of Oklahoma**

Suzanne Moon richly deserves the 2021 Leonardo da Vinci Medal, the highest honor bestowed by the Society for the History of Technology. For ten years, she did pioneering work as Editor-in-Chief of *Technology and Culture*, our field's flagship journal. She has taken a leading role in deepening the Society's attention to Asia as a compelling research area and as home to a vast and vibrant community of researchers. In 2013 she led our community by launching *Technology's Stories*, an new online publication devoted to placing SHOT's scholarship in dialogue with efforts to "make sense of contemporary technological challenges and aspirations." Through a wide range of activities and demanding roles, Suzanne has been a central figure in encouraging SHOT to be an intellectually open, diverse thinking, globally aware scholarly community.

Suzanne became the first woman Editor-in-Chief of *Technology and Culture* in 2011. The journal had had just three prior editors since its creation in 1959, each presiding during key periods of change and challenge. Suzanne's special achievement as Editor-in-Chief has been to boldly extend the journal's research topics, perspectives, and audiences, including a variety of scholarly disciplines in dialogue with our field, while forthrightly maintaining the highest standards of rigor. Doing both successfully has entailed untold hours of intellectually demanding labor and required unusual diplomatic skills.

Moon's own scholarship has helped define history of technology in relation to development theory, STS, global history, and post-colonial studies. Her *Technology and Ethical Idealism: A History of Development in the Netherlands East Indies* (2007) draws attention to the moral concerns and debates that shaped late-colonial Indonesia's sociotechnical order. The book is widely cited in diverse fields. One of its most powerful and influential contributions lays in treating technology as "concrete ethics." Another major contribution challenges simple equations of state and scale. Dutch colonial officials resisted the appeal of high modernism, instead promoting small-scale interventions. Moon thus complicated previous portrayals of colonialism, showing how smaller-scale technopolitics became a colonial state strategy.

Shifting her attention to the politics and ethics of technology in the post-colonial world, and using Indonesia as a place to investigate themes such as high technology in Islamic imaginaries of state and society, or the transnational circulation of expertise, Suzanne has published major articles in *Osiris* and the *Journal of Southeast Asian Studies* as well as in *Technology & Culture* and *History and Technology*. These and other publications further contribute to globalizing the perspectives of history of technology and STS beyond the West — a

project that is actively ongoing. Finally, Moon is one of the general editors of the multi-volume *Bloomsbury Cultural History of Technology*, and has played a key role in formulating its expansive reach.

Along the way, Suzanne has also worked to build diverse scholarly communities, frequently with dizzying international scope. Her colleagues note untiring efforts in encouraging junior scholars, innovative teaching efforts, determined training of graduate students, and valued advisory roles to journals and foundations.

In 2019 the SHOT Executive Council made Suzanne a Life Member of the Society. Now SHOT is honored to award the 2021 Leonardo da Vinci Medal to Suzanne Moon for her sustained contributions as scholar, editor, intellectual, and diplomat in enlarging SHOT's perspectives on and engagement with the world of technology.

## **Recipients 2020**

**Maria Paula Diogo, *New University of Lisbon, Portugal***

Maria Paula Diogo is a scholar who has made outstanding contributions to the history of technology in every qualifying category for SHOT's Leonardo da Vinci medal, not only through research, teaching, publications and service to the society, but also through creating interdisciplinary bridges, astute networking, highly successful institution building, exceptional mentoring, and many other associated activities that have contributed to redefining the intellectual scope and geography of our field in Portugal.

Maria Paula pioneered the field of history of technology in Portugal, building it into one of the world's leading centers in the discipline. Throughout she been a key and loyal partner for SHOT, helping to establish its European presence and integrating southern European

and postcolonial perspectives into our research agendas. She has consistently enlarged history of technology as an intellectual field by actively engaging scholarship in history of science, STS, and engineering studies while embracing historical objects from the early modern period to the late 20th century. More recently she has placed history of technology at the center of debates around the Anthropocene.

Diogo has taught at the faculty of science and technology in the New University of Lisbon since 1986, training a formidable number of excellent historians of technology, who are active contributors to SHOT, and initiating an important number of research projects and programs. These include directing CIUHCT, the Inter-University Centre of History of Science and Technology in Lisbon; establishing STEP, the Science and Technology in the European Periphery network; and sustaining the open access journal *HOST: History of Science and Technology*. CIUHCT has supported the growing history of technology community in Portugal, attracting and recruiting scholars from abroad above all from Spain and Brazil. Under her leadership it has become a major success story of how to sustain a community of scholars outside the traditional centers of the discipline, and under demanding financial constraints. Thanks to Diogo and her colleagues, Portugal regularly hosts history of technology related meetings including SHOT in Lisbon in 2007, ICOHTEC, STEP and ESHS, consolidating a vibrant and innovative international history of technology community

Diogo is the author of numerous well received books, edited volumes, articles and chapters in Portuguese and English focusing on the history of technology and engineering of science in Portugal and its colonies from the 17th to the 20th centuries. She has also worked on the processes of globalisation of science and technology and taken a leading role in the expansive Tensions of Europe network including co-authoring the volume dedicated to globalisation and colonialism in the

network's flagship book series, *Making Europe*. More broadly Diogo's collegiality and her skills in catalysing innovative and productive dialogue are eloquently expressed in the unusually large number of collective writing projects she has engaged in, making her work exemplary of an alternative collective way of creating history of technology.

Maria Paula Diogo is awarded the 2020 Leonardo da Vinci medal of the Society for the History of Technology for her work as a pioneer in expanding the horizons of our field, an inspiring teacher and institution builder, and an outstanding scholar who has made enormous contributions to growing SHOT as an international society.

**Arthur P. Molella**, *Director Emeritus, Lemelson Center, National Museum of American History*

Dr. Arthur P. Molella is awarded the 2020 Leonardo da Vinci Medal in recognition of his sterling career achievements and long record of service to the profession. Art, as he is widely called by friends and colleagues, is the founding director (now director emeritus) of the Jerome and Dorothy Lemelson Center for the Study of Invention and Innovation at the Smithsonian's National Museum of American History and a senior lecturer in the Department of History of Science and Technology at Johns Hopkins University. Over the course of a 40-year career, he worked as an eminent public historian, curator, educator, and ambassador for the history of technology. He has an enviable scholarly record, with numerous books, edited volumes, and articles to his credit. However, Art's museum work—building collections, supporting fellowship programs, curating exhibitions, and leading educational and public programs—also had a tremendously important impact on his colleagues and the general public.

Molella earned his Ph.D. in the History of Science at Cornell University under the direction of L. Pearce Williams. His dissertation was entitled “Philosophy and 19th c. German Electrodynamics: The Problem of Atomic Action at a Distance.” In 1971, just prior to receiving his doctorate, Art accepted an offer to work at the Smithsonian Institution in Washington, DC, where he has been a valued colleague for nearly fifty years. In his first position, Art worked with Nathan Reingold as an associate editor of the multi-volume Papers of Joseph Henry (Smithsonian Institution Press, 1972-1981), which documented the career of the 19th century physicist and founding Secretary of the Smithsonian.

In 1981, Art accepted a full-time curatorial position at the National Museum of American History (NMAH), and began a career of research, exhibition, and publication projects. For example, in 1982, Art curated an exhibition and published a companion volume titled Franklin Delano Roosevelt: The Intimate Presidency (Smithsonian Institution Press, 1982), which marked the centenary of FDR’s birth. He focused on FDR’s mastery of radio during the Fireside Chats, and even exhibited FDR’s automobile, which had been modified with hand controls to accommodate his polio.

Over the next several years, Art Molella advanced through a series of leadership positions at NMAH, including chairing the museum’s History of Science and Technology department, before serving as chief of the entire History Division. With Robert Post, Art was part of the team that brought Technology and Culture’s editorial offices to NMAH in 1982. Art served as T&C’s book review editor from 1983 through 1987, and remained an advisory editor through 1993.

In the late 1980s, Art signed on as the project director and chief curator for an ambitious exhibition titled Science in American Life. It broke new ground by exploring the impact and meaning of science and

technology as integral to American history and culture. It also challenged visitors to critically examine the military-industrial complex, nuclear weapons, the birth control pill, Rachel Carson's Silent Spring, and concerns over depletion of atmospheric ozone.

Shortly before the exhibition opened in 1994, Art and other curators found themselves embroiled in the then-raging science / culture wars. Two major underwriters of the exhibition, the American Physical Society and the American Chemical Society, accused the exhibition team of politically correct interpretations and anti-scientific bias and called for content revisions. Art found himself embroiled in both the visible public controversy and difficult behind-the-scenes negotiations between the donors and Smithsonian's top leadership. Not widely known outside of the Smithsonian, Art's defense helped underscore the importance of internal curatorial control over exhibition content and the value of a scholarly voice in the museum setting.

In the midst of the Science in American Life controversy, Art published a series of articles, book chapters, and an edited volume on the history and contemporary concerns of science and technology museums. He also began to explore the historiographical legacy of the earliest philosophers of technology, including Lewis Mumford, Sigfried Giedeon, and Abbott Payson Usher. Along these lines, Art, Bob Post, and others facilitated the transfer of the Mel Kranzberg Papers and SHOT's institutional records to the NMAH Archives Center in 1988. Art's career trajectory shifted considerably after he met the inventor Jerome Lemelson. Lemelson and his wife Dorothy established the Lemelson Center for the Study of Invention and Innovation in 1995, with Art as its founding director. Art set a broad mission for the Lemelson Center aligned to public history goals for the history of technology field; recruited a team of like-minded historians, archivists, and educators; and then spent the next twenty years developing new

collections, publications, multimedia products, exhibitions, public programs, and educational initiatives.

Under Art's direction, the Center established the Modern Inventors Documentation (MIND) program to proactively identify, collect, and preserve inventors' artifacts, papers, and oral histories. For example, pioneering home-playable video game system. Art and the Lemelson Center team also have prioritized collecting from women and minority inventors, such as ophthalmologist-inventor Patricia Bath, who developed surgical instruments to correct cataracts. Overall, since 1995, the Lemelson Center has accessioned approximately 85 inventors' collections and oral histories.

From its founding under Art's guidance, the Lemelson Center also supported research by scholars, public historians, and film-makers through a competitive grants process. To honor Art's retirement in 2015, the Lemelson Foundation expanded the Center's fellowship offerings through the endowed Arthur Molella Distinguished Fellowship. To date, the Center has named four Molella Distinguished Fellows: Rayvon Fouché, Stephen Mihm, Patrick McCray, and Amy Sue Bix.

In the late 1990s and early 2000s, Art led the Lemelson Center in producing a series of educational videos for distribution to schools; topics included Thomas Edison, women inventors, African-American inventor Lewis Latimer, and the inventions of bicycles and of the electric guitar. Along with other public programs that brought school classes to the museum to meet invited inventors, Art established an educational approach that highlighted creativity and invention among a diverse variety of people and in fun and unexpected domains, thereby reinforcing the notion that everyone can be inventive. Under Art's leadership, the Lemelson Center established and maintained an active and award-winning exhibition program. In 2001,

Art cooperated with the Deutsches Museum and the Smithsonian's National Portrait Gallery to curate Nobel Voices. In 2002, Art and the Lemelson Center team broke new museological ground through the Invention at Play exhibition. With interactives and hands-on invention challenges at the front of the exhibition, visitors could explore how playful habits of mind—including curiosity, imagination, visual thinking, model building, and problem solving—are shared by successful inventors. Invention at Play was the first hands-on exhibition of its kind at the Smithsonian and set a new bar for interactivity. In 2003, the American Association of Museums awarded the travelling exhibition its Excellence in Exhibitions Award.

Under Art's direction the Lemelson Center established and pursued an active publication program. In the early 2000s, Art and Joyce Bedi approached MIT Press and established a new book series, the Lemelson Center Studies in Invention and Innovation. Art and Joyce published the first title in the series, *Inventing for the Environment* (MIT Press, 2003), an edited volume that emerged from a Lemelson Center symposium. Art also founded the International Eco-Cities Initiative.

In recognition of his work on the eco-cities initiative and his numerous career achievements, Westminster University presented Art with a doctorate of science, *honoris causa*, in 2005.

In 2014, Art curated *Making a Modern Museum*, which celebrated the fiftieth anniversary of NMAH (founded in 1964 as the National Museum of History and Technology).. The exhibition explored the NMHT's opening in the midst of the Cold War; the building's modernist architecture, and the museum's 1980 name change reflecting its inclusion of social and cultural history alongside the history of technology.

The eco-cities work Art initiated in the early 2000s evolved into a broader exploration of the role of spaces, places, and communities in fostering invention, leading to his final exhibition with the Center. Places of Invention examines why certain places, at certain times in American history, became hot spots of invention and innovation. The exhibition explores six high-tech communities—precision manufacturing in Hartford (1850s-1860s); Technicolor and movies in Hollywood (1930s); the medical device industry in central Minnesota (1940s-1950s); the computing industry in Silicon Valley (1970s-80s); the invention of hip-hop in the Bronx (1970s-80s); and green energy initiatives in Fort Collins, Colorado at present. The exhibition received SHOT's Dibner Award for Excellence in Museum Exhibitions in 2016 and the Smithsonian's inaugural Excellence in Exhibitions Award in 2017.

Molella retired to emeritus status immediately after Places of Invention opened in July 2015, but has remained active at the Smithsonian and in the field as a scholar, mentor, educator, and museum consultant. Over his nearly fifty-year career, he has published dozens of book reviews, served as a reader for hundreds of manuscripts, and mentored many students, interns, and junior scholars. Besides his long association with SHOT, Art has served on the boards of the National Academy of Inventors, the National Inventors Hall of Fame, and the MIT Museum. His outstanding achievements and service to the profession make Arthur Molella a worthy recipient of SHOT's Leonardo da Vinci Medal.

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## Melvin Kranzberg Dissertation Fellowship

*This award is in memory of the co-founder of the Society, 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 \$4000 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.*

### Recipient 2021

#### Michelle Spektor, MIT

For " From Documents to Data: The Emergence of National Biometric Identification Systems in the 20th and 21st Centuries

The Committee is pleased to award the 2021 Melvin Kranzberg Dissertation Fellowship to Michelle Spektor.

Spektor is a student in the Doctoral Program in History, Anthropology, and Science, Technology, and Society at MIT, working on a dissertation project titled, *From Documents to Data: The Emergence of National Biometric Identification Systems in the 20th and 21st Centuries*.

Spektor examines the shared history of national biometric identification systems in the UK and Israel to uncover how current systems, as well as recent proposals for digital versions, were influenced by past systems used in the UK, in the British Mandate of Palestine, and further implemented in Israel after 1948. The study takes a transregional and diachronic approach. It explores a series of cases between 1904 and 2017 to uncover how the intertwining of

technological systems and national political cultures created different relationships between the state and the citizen, or the criminal. This project aims to contribute to discussions of the relationships between technology and identity, and technology and modes of governance, as well as the historical underpinnings of the surveillance state.

Spektor will use the Fellowship to conduct archival research and oral history interviews in the UK and in Israel.

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## Brooke Hindle Post-doctoral Fellowship

*The Brooke Hindle Postdoctoral Fellowship in the History of Technology honors the contribution of Brooke Hindle to the work of the Society for the History of Technology. The Fellowship, made possible thanks to the great generosity of his family, is for \$10,000 and may be used for any purpose connected with research or writing in the history of technology for a period of not less than four months during the calendar year following the award.*

### Recipient 2021

**Hannah Zeavin, University of California, Berkeley**

For "Mother's Little Helpers: Technology in the American Family."

Dr. Hannah Zeavin's proposed research project traces the place of technology within the American home in the long twentieth century. Put this way, the project may be seen as an extension of the previous work on the history of domestic technologies such as Ruth Cowan, Ruth Oldenziel, and Karin Zachmann. Zeavin, however, breaks new path by focusing on the media technologies of childcare, a topic that provides an opportunity to interrogate the meaning of technology in

modern societies by juxtaposing mothering practices with novel technologies. This is a promising and important project that will contribute not only to history of technology, but also to media studies and feminist STS.

Zeavin's project goes well beyond the standard social and cultural history of technology. It promises to examine a wide array of professional fields as American debated over the appropriate mode of parenting in an age of rapid technological change, intertwining the perspectives of history of technology and medicine. Many recent parents will sympathize with the ambivalence as we hand "smart" devices to whining children. As Zeavin points out, this sentiment is based on the widespread urge to "preserve 'natural' parenting." By considering the panoply of fields from pediatrics and psychology to education and economics, she will bring the rich historical perspective to bear upon the contemporary debates over the "daily practices of techno-parenting."

The Hindle fellowship will allow Zeavin to concentrate on completing the book manuscript, which will be her second book, as well as a peer-reviewed journal article on a related topic. She has completed most of the archival research at a staggering number of repositories around the United States. Members of this year's Hindle fellowship committee believe that Dr. Zeavin is well poised to make an excellent use of the financial support to deliver a novel and meaningful monograph, and look forward to its successful completion.

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## AHA NASA Fellowship in the History of Space Technology

*Three Fellowships in Aerospace History are offered annually by the National Aeronautics and Space Administration (NASA) to support significant scholarly research projects in aerospace history. These fellowships grant the opportunity to engage in significant and sustained advanced research in all aspects of the history of aerospace from the earliest human interest in flight to the present, including cultural and intellectual history, economic history, history of law and public policy, and the history of science, engineering, and management. NASA provides funds to the American Historical Association and to the History of Science Society to allow both associations to award fellowships. Representatives from the AHA, HSS, and SHOT comprise the review committee.*

### Recipient 2021

**Benjamin Goossen, Harvard University**

For “The Year of the Earth (1957-58): Cold War Science and the Making of Planetary Consciousness”

Goossen seeks to use the 1957–58 International Geophysical Year as a way to explain a contemporary paradox: today’s environmental scientists know more than ever about Earth’s complex life-sustaining systems, yet the acceleration of ecological collapse continues.

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## **Bernard S. Finn IEEE History Prize**

*The Bernard S. Finn IEEE History Prize is supported by the IEEE Life Members' Fund and administered by the Society for the History of Technology. The prize is awarded annually to the best paper in the history of electrotechnology—power, electronics, telecommunications, and computer science—published during the preceding year. The prize consists of \$500 and a certificate.*

### **Recipient 2021**

#### **Amy Sue Bix (Iowa State University)**

For “‘Remember the Sabbath’: a history of technological decisions and innovation in Orthodox Jewish communities,” *History and Technology*, 36:2 (2020), 205-239, DOI: 10.1080/07341512.2020.1816339

In her paper, “‘Remember the Sabbath’: a history of technological decisions and innovation in Orthodox Jewish communities,” Amy Sue Bix addresses an understudied area, namely the response of religious communities to modern technology. In doing so she highlights the work of members of these communities whose identities as electrical engineers also connects them to the IEEE community. Bix did a great job of bringing in social, cultural, and religious factors without leaving out the technological side. The committee recognized her considerable original research as she weaved together numerous published resources, which is often a necessity for contemporary history where archival materials are not readily available. Additionally, what everyone on the committee liked about Bix's was that it was simply enjoyable to read.

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## Dibner Award for Excellence in Museum Exhibits

*The Dibner Award for Excellence in Museum Exhibits was established in 1985, through the generosity of Bern Dibner, to recognize excellence in museums and museum exhibits that interpret the history of technology, industry, and engineering to the general public. The award consists of a plaque and up to \$1,000 to cover expenses for a member of the design team to accept the award at the SHOT awards banquet.*

### Recipient 2021

#### Medical Museion, University of Copenhagen, Denmark

For online exhibition: "Life Support"

<https://www.museion.ku.dk/en/life-support/>

Medical Museion in Denmark responded to the first COVID-19 shutdown in spring 2020 by creating an online exhibition called Life Support. Beyond just providing digital access to some of the physical materials held by the museum, this online exhibition highlights the role of historical perspective as developed by museums in a period of tremendous uncertainty and anxiety, while at the same time providing insights into the history of diverse everyday aspects of the current pandemic.

An introductory film that opens the exhibition presents the idea of museums as anchors in difficult times, situating the present moment in its continuities. The exhibition is divided into five themes; Knowing, Breathing, Cleaning, Isolating and Dying; each making use of diverse digital materials and incorporating material artifacts from the museum's collections. Discussing the complexity of material practices and systems of knowing, the exhibition approaches the technologies of managing a global pandemic, thus

contributing to the history of technology. As a visitor you are made aware of the technology behind the different subjects. At the same time, the website showcases technology without placing technology in the spotlight; instead, the human stories and emotions are foregrounded.

Through its poetic style the exhibition invites visitors to contemplate on the temporalities and complexities of the policies, practicalities, and emotions the pandemic has introduced. In line with the idea of offering support in difficult times, the exhibition also invites its visitors behind the scenes of its own curating process, showing the museum staff in their zoom tiles as they discuss different ideas and shape the exhibition. Incorporating historical objects and information next to contemporary content adds to the experience.

The site is presented by a Danish museum but accessibility to an international audience is advanced through its English-language translations. The referees and the Committee were impressed, educated, and moved by this exhibit.

*In addition to the winner, the Dibner Award committee wishes to commend the following excellent online exhibition: "Constellations: Reimagining Celestial Histories in the Early Americas". The John Carter Brown Library, Providence, Rhode Island, USA. This exhibition breaks new ground in encouraging visitors to see connections among different historical texts while navigating an illuminating website.*

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## **Joan Cahalin Robinson Prize (2019)**

*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 Society's 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.*

In 2020 the Robinson Prize was not awarded. The 2021 Robinson Prize will be announced directly after the SHOT Virtual Annual Meeting.

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## **Samuel Eleazar and Rose Tartakow Levinson Prize**

*The Samuel Eleazar and Rose Tartakow Levinson Prize is awarded each year for a single-authored, unpublished essay in the history of technology that explicitly examines, in some detail, a technology or technological device or process within the framework of social or intellectual history. It is intended for younger scholars and new entrants into the profession. The award consists of a check and a certificate.*

## Recipient 2021

### Leah Samples (*University of Pennsylvania*)

For “Your Eyes Are Your Breadwinners So Protect Them! Goggles, Safety Work, and the Prevention of Industrial Blindness, 1900s-1940s”

This paper brings together the histories of disability, labor, and regulation through a case study in the history of goggles during the early twentieth century. The author argues that the adoption and popularization of goggles as an industrial safety technology “relied on and reinscribed rhetoric about the innate dependency of blind Americans.” The paper offers a new means of inquiring into the history of industrial safety that emphasizes the discursive and regulatory construction of “blindness” as bodily state incompatible with the ability to earn a living wage. This “deterministic relationship between eyes and remunerative employment” was developed and reinforced through industrial safety literature, and it ultimately contributed to the systematic exclusion of people with disabilities from the labor force. Clearly written and well-researched, this paper invites further inquiry into how histories of the senses can yield productive new ways of analyzing the history of technology.

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## 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.*

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## Recipient 2021

### Ainissa Ramirez,

For *The Alchemy of Us: How Humans and Matter Transformed One Another* (The MIT Press 2020)

In *The Alchemy of Us*, Dr. Ainissa Ramirez has produced an incisive and readable work history of technology that covers everything from the way we think about time to the political implications of instant photography. Ramirez, a Stanford PhD in materials science who worked at Bell Labs and taught engineering at Yale prior to becoming a science writer, centers this book around the best traditions of storytelling combined with the latest historiographical interventions in history of technology. As such, her book is both readable and a clarion call to our field about how to integrate people into key histories of technology who have too long been discarded or ignored. “When books about technology reflect readers, those readers come away with more than just stories but a sense that they can create too,” explains Ramirez.

By highlighting lesser-known inventors many of whom were people of color or white women, Ramirez ensures that this is a new history of familiar topics. She skillfully defamiliarizes common narratives of railway history, telecommunications history, and other histories of major technological systems to hook readers into a set of new stories and new agents of technological change. Ramirez focuses not only on technologies and how the patterns they produce shaped culture, but how the unintended consequences of these patterns form critical, often underdiscussed parts of these histories of technology.

Ramirez begins her book with Ruth Belleville a 19th and 20th century woman who was literally a timekeeper back in the days when clocks needed to be constantly updated to stay accurate. She ends her book

with a quote from Nobel laureate Toni Morrison, who talks about another type of accuracy check, that of checking that the books we read truly reflect our reality. In between, she takes on thorny questions—such as whether technologies like cameras can be racist, or how a white Southern housewife helped in the development of borosilicate glass. Each chapter brings into the story people who were considered too peripheral or unimportant to be included in earlier canonical accounts as legitimate and important actors, but whose presence in her narrative brings new richness, depth, and approachability to these histories.

One story in particular exemplifies this deft historical reorientation: Caroline Hunter, a Black woman who co-founded the Polaroid Revolutionary Workers Movement to help bring to light the uses of her employer's instant photographs in abetting the South African government's apartheid policies, and who lost her job for doing so. Ramirez explains that when Caroline Hunter went to work for Polaroid that company was synonymous with technological innovation and prestige, much like Apple or other high-tech companies are today.

Caroline, however, had grown up in a segregated U.S. and brought her understanding of the way the world worked to her job in chemical science, working on the product line for instant color photographs. When she found out, along with her boyfriend and PRWM co-founder Ken Williams, who was also a Black Polaroid employee, that Polaroid was selling instant camera film to the government of South Africa to create the passbooks that helped police limit and control the movement of Black South Africans, she began a years-long campaign which eventually led to Polaroid divesting from South Africa in 1977. Then as now, Polaroid's leaders initially claimed that selling their technology to people who would do something racist or destructive with it was not their intent or their responsibility, but then as now, they eventually had to accept the reality that it was.

“Technologies we make are not innocuous and their use is not always for the greater good. technologies such as photographic film also capture the issues and beliefs and values of their times,” Ramirez writes, with incisive clarity. And, “the bias built-in into past technologies echoes today.” One of the ways to combat it is to understand the intricacies of technological history that produced it in the first place so that those who design, deploy, and manufacture technologies that perpetuate these biases cannot have an endless free pass to profit off of them.

It’s fitting that Ramirez has written such a wonderful book that communicates the history of science and technology in new and more inclusive ways. In her introduction, Ramirez talks about how television shows that had to do with science were instrumental in cementing her desires to be a scientist. One of the repeating segments on the television show 3-2-1 Contact, she recalls, had a young African-American girl doing science, in whom Ramirez says she saw her reflection. Yet years later, in college, she found the wonder and the joy drained out of science by an educational culture that was focused on trying to gatekeep people out. When she found the field of materials science she finally felt at home. She notes that after making it through the hurdles put in front of her by science courses that were more interested in weeding people out and welcoming them in, she became determined to make sure no one else lost their love of science in that way, and this book is her attempt to keep that promise, she notes. The 2021 Hacker Prize committee congratulate her on the fulfillment of that promise and on the publication of a truly remarkable work of science communication and history of science and technology.

## Recipient 2020

**Morgan C. Ames,**

*For The Charisma Machine: The Life, Death and Legacy of One Laptop per Child* (The MIT Press 2019)

The Sally Hacker Prize for 2020 is awarded to *The Charisma Machine: The Life, Death and Legacy of One Laptop per Child* by Morgan C. Ames. Through the case study of the implementation of the One Laptop per Child (OLPC) project, this book reflects on the history, power and persistence of charismatic technologies--objects which conjure a broad, gripping vision for changing the world. These technologies offer rapid change in the form of a "quick fix" which of course they can never deliver, leading to a Catch-22 of shortfalls and calls for further funding. Charismatic technologies have a deep history; they are linked to notions of magic and transcendence and the sublime that have been associated with earlier technologies from the railroads and through the internet. They have amazing staying power because they enable the performance rather than the achievement of change. OLPC exemplifies these attention-grabbing projects that rely on deploying a specific object to circumvent the considerable social, infrastructural and ideological work it takes to accomplish even minimal social change. Centered in the scholarship of the history of technology and STS, *The Charisma Machine* demonstrates that there is no quick fix because technologies are inseparable from their social, cultural, economic and political contexts.

*The Charisma Machine* narrates what happened as the One Laptop per Child (OLPC) project was implemented in Paraguay in the early twenty-first century. OLPC was pioneered by Nicholas Negroponte, a professor at MIT heavily influenced by the values and assumptions of hacker culture. He believed that the inequities of the "digital divide" could be overcome by providing laptops to children across the Global South. Negroponte pitched this idea at Davos, TED and similar

gatherings using a prototype of a hand-cranked laptop that would be cheap, sturdy and easily repairable. OLPC caught the imagination of tech companies, the open access software community, educational reformers and policy makers as a technological fix, not only to problems of global poverty but to perceived problems of childhood, learning and education that often reflected the personal experience of Negroponte and others growing up as technically precocious boys in the United States.

The promise of OLPC was that all it took was a laptop for children to become individualistic, creative explorers of digital technologies. Ames follows the course of OLPC in Paraguay and the issues that mitigated and altered the ambitions of OLPC. Some of the issues were material and systemic—changes in design and manufacturing made the laptops less sturdy and repairable and the hand crank was abandoned, which meant that the laptops required electrical networks and internet access which limited where and how they could function in schools. Teachers and students struggled with both hardware and software. Some of the children only used the laptops at school, while those who continued to use them outside of school did so as a gateway into the English-centric world of the internet. Negroponte's goals altered from that of changing every child into creating a cadre of individualistic "agents of change" who would transform their countries society and economies through their entrepreneurship, and it ignored the critical role played by parents, teachers and cultural systems for the children who did fulfill his vision for OLPC. One of Ames' key points is that promoters of OLPC had a powerful social imaginary of the way childhood should be that focused on the image technically precocious boy—which many of them had been. Disregarding social and cultural contexts, they assumed that all it took to universalize that experience and make it applicable to the impoverished children of the Global South was the material artifact of the laptop.

*The Charisma Machine* fulfills the mandate of the Hacker Prize well. It is clearly written and accessible to a broad audience. A non-academic reader would not only learn about OLPC but would get an introduction to the history of technology and STS. Ames' introduction is a primer of the basic concepts and vocabulary of SHOT scholarship such as social imaginaries, non-human agency, ideology and charismatic technologies. The author's engagement with anthropology and cultural studies makes the book broadly interdisciplinary. This book maps the nature and function of charismatic technologies in the hopes of making what is familiar appear strange and enabling readers to become aware of their ideologies about technology and society.

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## **Sidney M. Edelstein 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 Award, 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, donated by Ruth Edelstein Barish and her family in memory of Sidney Edelstein and his commitment to excellence in scholarship in the history of technology, consists of \$3500 and a plaque.*

## Recipient 2021

### Gijs Mom, *Eindhoven University of Technology*

For *Globalizing Automobility: Exuberance and the Emergence of Layered Mobility, 1900-1980* (New York: Berghahn Books, 2020).

*Globalizing Automobility* is the kind of ambitious work that seeks to fundamentally alter our understanding of a historical phenomenon. In setting out to decenter automobile culture from the grip of its strictly West-centered narrative, Gijs Mom introduces the notion of “layered mobilities,” suggesting that the expansion of automobility globally in the twentieth century folded into hybrid forms of mobility that incorporated both the old and the new and sometimes the entirely unexpected. It invites us to rethink the long history of the automobile as not one in which the world converged upon an inevitable end point, but rather one that is a deeply contested and contingent history with unexpected detours across time and space.

In the introduction, Mom lays out a formidable set of goals for the book, to decenter the history of the practices, cultures, and networks produced by the proliferation of automobiles in the twentieth century at a global scale, but to do so with a deep sensitivity to an array of theoretical frameworks and empirical case studies. Conceptually the book is framed around a series of ideas, such as automotive perception, subaltern mobilities, consumption, and commodification which are themselves grounded in broader historical processes such as decolonization, industrialization, and the rise of an international order in the latter half of the century.

The main narrative of the book is organized around three lengthy chapters, each focusing on a different time and space, and each overturning the received history of mobility as manifested in cars, rickshaws, electric trams, horses, buses, and other forms of transportation. In focusing on the pre-World War II years, the first

chapter traverses over a vast and heterogenous range of sources such as travel writing, government reports, films, and economic data. We learn here about the emergence of new mobilities in places such as Singapore, Japan, China, Hong Kong, Vietnam, colonial India, Benin, Uganda, Tanzania, Ghana, Mozambique, Argentina, Chile, Brazil, and Mexico. Mom finds that regular people in their everyday lives committed to a kind of “layeredness” of multiple mobilities, often using, disusing, and reusing old and new forms of transport in consonance with each other—what Mom calls “synchronicity” of mobility.

In the second chapter, Mom moves his focus of enquiry to the post-World War II period, exploring the ways in which automobility begins to fragment into multiple and often countervailing trends, especially in the West. Covering a period of roughly three decades, the focus here is primarily on North America and Western Europe, and on expressions of automobile exuberance in cultural registers, including in postwar American literature, science fiction, the culture of the Beats, folk music, rock’n’roll, and cinema. Here, he explores the ways in which the modern automobile’s status as a mode of transport must be understood as part of a larger ‘attack’ on public transportation (especially in the U.S.), and the ways in which a generic middle-class stance on automobility was an elusive goal.

The final chapter once again takes us across the globe. In seeking to reconstruct the “transnational construction of a world mobility system,” Mom suggests that, especially beyond the West, the car “formed ... a part of a much broader ‘mobility network’ on which people walked, cycled, drove trucks, and buses, and used animal- and human-powered carts, barrows, and rickshaws.” He suggests that the exuberance that is normally associated with American and European culture in the postwar era represented a minority in the world of cultural responses to the automobile. In attempting to (re)write the

history of automobile culture “from below,” Mom creatively uses a diverse array of sources and moves the story across Asia, Africa, Latin America, and the Soviet Union from the 1950s to the 1970s.

As a whole, this book dispels some seductive myths about the use and proliferation of the automobile in the twentieth century that continue to persist both within and beyond scholarly communities. In connecting the vicissitudes of automobile culture on a global scale, where ideas and modes were constantly in motion and multiple meanings and mobilities were simultaneously at play, the book offers an innovative intervention into several different literatures, including the history of technology, mobility studies, and global history. Beyond incorporating a vast amount of empirical evidence, its innovative use of sources, from official government reports to the writings of radical writers in the late 20th century, make this an indispensable book for historians of technology.

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## **Abbott Payson Usher Prize**

*The Abbott Payson Usher Prize was established in 1961 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.*

## Recipient 2021

### Robyn d'Avignon, *New York University*

For “Spirited Geobodies: Producing Subterranean Property in Nineteenth-Century Bambuk, West Africa,” *Technology and Culture* 61:2 Supplement (2020), S20-S48

The Abbot Payson Usher Prize committee congratulates Robyn d'Avignon as the winner of the 2021 competition, with the essay “Spirited Geobodies: Producing Subterranean Property in Nineteenth-Century Bambuk, West Africa.” This essay is beautifully written and illuminates a set of techniques and technologies for locating gold and making land claims. Given the existing scholarly attention to the development of cartography and its ties to European imperialism, d'Avignon suggest we must also understand how pre-colonial African societies understood and represented minerals. She shows how gold miners cultivated relationships with *jinne* to create durable claims. The essay explores the interplay of religion with mining, and weaves together the history and archeology of West Africa with the global turn in science and technology studies. The essay simultaneously intervenes in several bodies of historical literature, positioning history of technology to engage closely with scholarship on ritual, religion, and secularism. Robyn d'Avignon's methodological dexterity allows the essay to bring together documentary evidence and oral history in a way that makes clear how sophisticated ethnography can enrich our histories of technology.

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## Eugene S. Ferguson Prize

*The Eugene S. Ferguson Prize is awarded biennially by SHOT for an outstanding and original reference work 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, 1977–1978; 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 plaque and a cash award.*

## **Recipient 2021**

### **Mary Beth Meehan and Fred Turner**

For *Seeing Silicon Valley: Life Inside a Fraying America* (University of Chicago Press), 2021

(First published in French as *Visages de Silicon Valley* (C&F Editions 2018)).

Meehan and Turner's *Seeing Silicon Valley* is an inventive combination of photojournalism and sociocultural analysis. It documents the diverse and often underrepresented communities of contemporary Silicon Valley, a prominent region in both the history and the present of technology. The book centers on twenty-six photographic portraits, with accompanying narratives about the lives and contexts of those portrayed. As a collaboration between an accomplished photojournalist (Meehan) and a noted analyst of Silicon Valley's history and culture (Turner), the book is able to document lives and facets of Silicon Valley that have eluded, or been ignored or erased, the previously existing photographic record of the region. The core thematic of the book is inequity, in visibility, income, and other dimensions. As Turner puts it in his introductory essay, "The Valley on the Hill":

In Silicon Valley, it has become particularly hard for us to notice anyone other than the region's elect. Elon Musk could not have built Tesla without the fleshy, sweaty labor of thousands of riveters, packagers, and drivers. The founders of Google could have done nothing without the legions of coders, cooks, janitors, and day-care workers. And none of those workers could have come together without the laborers who build and maintain the bridges across the bay, the highways across the valley, and the houses, shops, and factories on which life in the valley depends.

The result of Meehan and Turner's collaboration is a wonderful reference, visually powerful and curated with great insight, simultaneously historical documentation of the people that make up Silicon Valley and educational resource. An inspiring example of the power of "visual thinking" and nonverbal argumentation, *Seeing Silicon Valley* is a worthy recipient of the 2021 Eugene S. Ferguson Prize.

Mary Beth Meehan is a photographer known for her large-scale, community-based portraiture centered around questions of representation, visibility, and social equity in the United States.  
<https://www.marybethmeehan.com/>

Fred Turner is Harry and Norman Chandler Professor of Communications at Stanford University and is the author of *From Counterculture to Cyberculture* among other books.  
<https://fredturner.stanford.edu/>

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## Martha Trescott Prize

*The Martha Trescott Prize will be given annually for the best published essay in one of two areas. In even-numbered years, the prize will be awarded to an outstanding published historical essay in the area of women in technology. In odd-numbered years, the prize will be awarded to an outstanding published essay in the area of social responsibility of engineers in history. Martha Trescott was one of the pioneering spirits behind Women in Technological History (WITH). She wished to honor Frances McConnell Moore, Carroll Pursell, and Edwin T. Layton, Jr., with this prize.*

*The inaugural award will consist of a \$500 check and a certificate. The winner will be honored at the Society's awards banquet.*

### Recipient 2021

**Amy Sue Bix (IOWA State University)**

For "Mastering the Hard Stuff: The History of College Concrete-Canoe Races and the Growth of Engineering Competition Culture."  
*Engineering Studies*, July 2019, v. 11 (2): 109-134.

We selected "Mastering the Hard Stuff: The History of College Concrete-Canoe Races and the Growth of Engineering Competition Culture" by Amy Bix because it is an excellent work of critical scholarship, bringing forward important questions about social responsibility in engineering and using primary sources to answer them. As Dr. Bix explains, the impetus for the first concrete canoe race, held in Illinois in 1971, came jointly from the American Concrete Institute, the American Society of Civil Engineers, and college professors who wanted their engineering students to (quite literally) get their hands

dirty. From this seemingly improbable beginning, engineering competitions expanded across university campuses, into other industries, and eventually into K-12 education. Bix's study illustrates how an initiative that originated with conflicted intentions—serving industry's needs while broadening educational experiences—is today even more conflicted. “Underneath innovation-centered imagery, competitions often reflected conservative sides of the engineering/business alliance”: for example, a major automotive competition barred hybrid vehicles until environmentally conscious students pushed to create a new competition for them. Bix also demonstrates that as contests became more elaborate and wealthier schools lavished funds on their teams, schools with fewer resources were shut out, and the focus on cut-throat competitiveness reinforced the stereotype of engineering as a masculine domain. In these ways, “competitions created new paths to keep merit flowing to the favored.” Bix's critical examination of the cultural messages and power dynamics of engineering competitions compels us to consider the social responsibility of engineering educators, in the spirit of the Trescott Prize.

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## International Scholars

*Each year the Society for the History of Technology designates up to four International Scholars for a two-year term. The International Scholars program is administered by the Internationalization Committee*

### **2021-2022**

Lucas Erichsen

Sangwoon Yoo

Du Xinhao

Magdalena Zdrodowska

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## 2020-2021

Mónica Humeres

Patrick Mansujeto

Hsien-chun Wang

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### **Computer History Museum Book Prize (SIGCIS)**

Morgan G. Ames, *The Charisma Machine: The Life, Death, and Legacy of One Laptop per Child* (MIT Press)

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### **Mahoney Prize (SIGCIS)**

Colette Perold, "IBM's World Citizens: Valentim Bouças and the Politics of IT Expansion in Authoritarian Brazil," *IEEE Annals of the History of Computing* 42, no. 3 (July-September 2020): 38-52.

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### **Pamela Laird Research Grant (Mercurians)**

*To be announced.*