

## 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 their work's social and cultural dimensions 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

In 2023–2024, 111 MIT undergraduates were working on a concentration in STS (78 of whom completed). We have also been administering the Computing and Society concentration which had two students that completed this year. Five students worked on or completed a minor in STS and their primary majors were in Chemistry and Biology; Biological Engineering (two students); Biology; and Physics. One student added STS as her second major this year and graduated in May 2024; her thesis was titled *Seeing the South African Brain: Global Health Technology Translation and Visuality*.

In terms of outreach, for the third consecutive year we have planned an STS undergraduate student lunch every semester for STS majors, minors, and interested students to meet with the STS Undergraduate Officer and one other faculty members outside of the classroom. These lunches engage undergraduate students and have yielded interest in our program as well as created a sense of community. Additionally, STS has maintained a presence at SHASS programming and events and at the two annual academic fairs, one for admitted undergraduate students (Campus Preview Weekend Academic Expo) and one incoming first years (Orientation Expo).

## Subjects and Enrollment

### Undergraduate

STS offered 20 undergraduate subjects and nine graduate subjects in AY2024, including two Communication Intensive in the Humanities, Arts, and Social Sciences (CI-H) subjects. Undergraduate enrollment totaled 427 students and graduate totaled 135.

We continue to emphasize collaboration with other areas of MIT and five of our classes were co-taught with one STS faculty member and one outside of STS in the following units:

- STS.041 Exercise is Medicine: From Ancient Civilization to Modern Healthcare Systems [with the Director of Physical Education and Wellness]
- STS.055J Living Dangerously: Environmental Problems from 1900 to Today [with Earth, Atmospheric, & Planetary Sciences]
- STS.432 Narrating the Anthropocene: Understanding a Multi-Species Universe [with History]
- STS.471J Engineering Apollo: The Moon Project as a Complex System [with AeroAstro]
- STS.S92 What is a Better Future? [with Media Arts and Sciences]

Four subjects were offered for the first time this year:

- STS.432J/ 21H.990 Narrating the Anthropocene: Understanding a Multi-Species Universe (Professor Kate Brown and Professor Megan Black, History) which had high enrollments and generated really interesting final projects from students.
- STS.041 Exercise is Medicine: From Ancient Civilization to Modern Healthcare Systems (Professor Jennifer S. Light and Carrie Sampson Moore) which allows students to earn PE points along with HASS credit.
- STS.055J/ 12.384J Living Dangerously: Environment Problems from 1900 to Today (Professor Kate Brown and Professor Susan Solomon) which is also a new CI-H.
- STS.S21 The History of Native Science (Professor Eli Nelson) which will be a permanent subject going forward.

## Doctoral Program

The doctoral program in History, Anthropology, and Science, Technology, and Society (HASTS) is run by STS with collaboration from the History faculty and the Anthropology Program. The program is administered by STS, which awards the degrees. Professor Eden Medina (STS) completed her second year in the role of the Director of Graduate Studies during this academic year. She held the unique perspective of also being an alumna of our program ('05).

From Summer 2023–Spring 2024, 30 students were enrolled in the graduate program including three who graduated in September 2023 and one who was on our May 2024 degree list. They currently hold the following positions:

- Academy Scholar at the Harvard Academy for International and Area Studies
- Associate Director of Development, Kapi‘olani Community College
- Postdoctoral Fellow in the Critical Approaches in Science, Technology, and Medicine program at Johns Hopkins University
- Postdoctoral Researcher with the Fixing Futures Research Training Group at Goethe University (Germany)

In the 2024 admissions cycle, we received 343 applications, which surpassed our previous highest number of 287 in the 2022 cycle, and more than 200% higher than our average applicant pool for the 10 years preceding 2022. We had an admit rate of 1.75%—the lowest admit rate of all MIT graduate programs this cycle—and a yield of 83.33%. We are looking forward to a cohort of five students joining us in the fall.

In AY2022-2023, the program introduced a Professional Perspective Requirement as part of the larger HASTS program review, and the first student completed it this year. Also, as a result of the review process, the program added the option to earn a Master’s degree in HASTS enroute to the PhD. Eight students have earned the Masters as of September 2023.

MIT has started to transition graduate programs from the home-grown MIT admissions system (GradApply) to a commercial product (Slate) and HASTS joined the transition this year. It was a rocky start with some coding issues that created extra work for some of our first-round readers and administrative staff, but the STs academic staff are hopeful that things will improve next year as they work closely with the central MIT Slate support team.

The first Graduate Student Union (GSU) contract was ratified and implemented in Fall 2023 so department administration and faculty members learned about and began working with the new processes and procedures that went along with it.

## Projects, Grants, and Initiatives

With the Christopher Voigt Lab, Kate Brown initiated the JWAFS and MISTI-funded program, “Protecting Drinking Water From Widespread Organic Contaminants Using Engineered Soil Bacteria.” The project involves an MIT-Estonian interdisciplinary team that is exploring the clean up of phenol-contaminated water in Estonia in 1989 with human-engineered molecules, the first and only known application of genetically-modified microbes in a natural environment.

With colleagues in Mechanical Engineering and Mechatronics at Dedan Kimathi University of Technology, Kenya, Chakanetsa Mavhunga designed and launched the Practical Field Lab pilot in Nyeri, Kenya, which will serve as the field follow-up to STS.053 Multi-disciplinary Learning through Problem-solving.

Eden Medina also collaborated with MIT professors Sarah Williams and Sara Beery on the grant, “Generative AI for Cities: A Civic Engagement Playbook.” The grant was awarded by MIT for new research on the impacts and applications of generative AI and resulted in a whitepaper written with the City of Boston that will be released later this year.

With support from the National Science Foundation, Robin Scheffler supervised research assistants compiling datasets corresponding to the spatial, social, and business history of biotechnology in Kendall Square as part of his book project, *Genetown: Boston and the Rise of the Modern Biotechnology Industry*.

Sherry Turkle was awarded a grant from MIT President’s office to work on a project called “Thinking About Generative AI and Artificial Intimacy, the New AI.”

Professor David Kaiser served as the principal investigator for a Marie Skoldowska-Curie Global Fellowship Award for Postdoctoral Fellow Katrin Kish Bar-On. The project is entitled, *TOKMAT: Truth, Objectivity, and Knowledge: rethinking the social construction of MAThematics* for the period of September 1, 2023, until August 31, 2024. Hebrew University of Jerusalem is the sponsor.

Professor Robin Scheffler completed the third year of his project, *Genetown: Tracing the History of the Biotechnology Industry in the Greater Boston Area, 1973-2000*, sponsored by the National Science Foundation. The grant ended as of June 30, 2024.

## Ongoing Activities

In AY2023, the MIT STS Program hosted an impressive range of prestigious scholars. In September, STS held in collaboration with Harvard's Department of History of Science a conference on "Thinking After Latour" with a cast of leading scholars in science and technology studies. The roster included Projit Mukharji, Isabelle Stengers, Steven Shapin, Antoine Picon, Hélène Mialet, Amit Prasad, Leah Aronowsky, Deborah Coen, Frédérique Aït-Touati, Paul Edwards, Anna Tsing, Naomi Oreskes, Michèle Lamont, Stefan Helmreich, Caroline Jones, and Joseph Koerner.

STS continued its more than 20-year colloquia series, "Seminar on Agricultural and Environmental History," a collaboration with the History Department and created by Professors Deborah Fitzgerald and Harriet Ritvo. Currently Professor Kate Brown, Assistant Professor Tristan Brown, and Associate Professor Megan Black run the series. In AY 23-24, lecturers included Abby Spinak, Harvard, J.T. Roane, Rutgers, Whitney Barlow Robles, Dartmouth, Samuel Dolbee, Vanderbilt University, Linda Kaljundi, Estonian Academy of Arts, Mae Ngai, Columbia University, and Elizabeth Chatterjee, University of Chicago. Together with History and Anthropology, STS hosted colloquia inviting Sherine Farouk Hamdy, UC Irvine, Asli Zengin, Rutgers, Alden Young, UCLA, Juan Pablo Guerra, UC/San Diego, Colette Perold, University of Colorado/Boulder, Christopher Heaney, Penn State. STS and the Living Climate Futures Group hosted the screening of "Hollow Tree" with three of the film's subjects, the director and producer. The film follows three teenagers coming of age in their sinking homeland of Louisiana. Geoffrey Hinton, Godfather of Artificial Intelligence, co-founder of deep learning and cognitive scientist formerly with Google, gave the endowed Arthur Miller lecture on the topic "Will Digital Intelligence Replace Biological Intelligence?" (Unfortunately, his answer was in the affirmative.)

In June, Deborah Fitzgerald and Merritt Roe Smith hosted a Symposium on the History of Technology: Past, Present, and Future. Speakers included Ruth Schwartz Cowan, U Penn, Daniel J. Kevles, Yale, Alex Roland, Duke, Rosalind Williams, MIT, Edmund Russell, Carnegie Mellon, Ken Alder, Northwestern, Colleen Dunlavy, University of Wisconsin, Debbie Douglas, MIT, Jamie Pietruska, Rutgers, David Lucsko, Auburn University, Steven Usselman, Georgia Tech, George Clancey, National University of Singapore, Peter C. Perdue, Yale, Greg Galer, Rebecca Perry, Timothy Wolters and Dave Unger with STS faculty members, Eden Medina, and David Mindell serving as moderators.

The annual Benjamin Siegel Prize, awarded to the best scholarly paper on the history and anthropology of science and technology by an MIT student, was awarded to HASTS student, Alex Nicholas Rewegan, for the essay "Carceral Pharmacology: Historicizing the Sciences of Cannabis and Pregnancy."

## Knights Science Journalism Fellowship Program

The [Knights Science Journalism Program at MIT](#) seeks to advance science journalism in the public interest by nurturing and enhancing the ability of journalists to accurately and thoughtfully illuminate science and its intersection with human culture.

The 2023-2024 program year began on a high note after the return to in-person fellowships during the prior academic year, from two years previously of remote project fellowships due to the Covid-19 Pandemic. Five fellows, originally selected in 2020, were joined by two Sharon Begley Science Reporting Fellows for 2022-2023. The other recent high point was the program's remarkable [40<sup>th</sup> anniversary](#) celebration and symposium April 21-23, 2023, attended by more than 250 former fellows, guests and MIT community members.

At the symposium at MIT's Samberg Center, Director Deborah Blum reflected on the value of KSJ:

“For 40 years, the Knight Science Journalism Program at MIT has stood for science journalism with integrity, has publicly supported it and many journalists, and reminds the world on a daily basis that science journalism makes a difference in our understanding of the world around us and the impact of that cannot be understated.”

In addition to nurturing the careers of some 400 science journalists from more than 40 countries who have been fellows at MIT, KSJ supports a wider network of journalists and aspiring journalists, though its alumni news, subject interest bootcamps, online resources and training programs, outreach, partnerships and publications, including translations for non-English readers.

The world-renowned fellowship program remains at the core of KSJ's mission. Five of the ten journalists originally selected in 2020 before Covid-19, deferred their start date to August 2023. The five remaining open slots for 2023-2024 were selected from more than 100 applicants and this past year's complete cohort was comprised of award-winning print, audio, and multimedia journalists hailing from seven countries and five continents. Partners and spouses usually accompanying the fellows to Cambridge, but of note for 2023-2024: there were 10 young children, which inspired KSJ to improve the kids play corner in the program headquarters.

Joining the KSJ, was journalist Deborah Balthazar, the recipient of the [2023-2024 Sharon Begley Science Reporting Fellowship](#). The fellowship prepares early-career U.S. journalists from racial and ethnic groups underrepresented in the profession for a successful career in science journalism. It combines a paid reporting position at Boston-based STAT magazine with an educational component provided through the KSJ program. The Chan-Zuckerberg Initiative has provided funding for the program since its start in 2021.

A list of the KSJ fellows is at the end of this report.

Each fellowship year program is designed to meet the fellows' interests, but also expose them to scholars and research that can only be found in the Boston-Cambridge area. Similarly current events provide opportunities for unique experiences. The total solar eclipse on April 8 was just one amazing example. With the initiative and planning by Learning and Event Coordinator Claire Sadar, KSJ gathered staff, fellows, and their families for a trip to the part of Vermont that was in the path to best see the eclipse. Lucky to have clear skies, the [group of 30+](#) watched the eclipse from Sugar Bush Ski Resort in the Mad River Valley. As they hailed from around the world—Boston, Washington D.C., New Jersey, Canada, England, Germany, Nigeria, Australia, and Indonesia—most of the

fellows would have been far from the path of totality if it weren't for their fellowship at KSJ.

In January 2024, KSJ announced a new one-semester fellowship—the [Fellowship for Advancing Science Journalism in Africa and the Middle East](#)—which will start in mid-August 2024. The fellowship, developed through a generous gift from the global publishing company, Springer Nature, was created in honor of the pioneering Egyptian science journalist, Mohammed Yahia, who died in 2023 at the age of 41.

More than 160 applications, which were reviewed by a panel of judges made up of three award-winning science journalists: Diran Onifade, Editor-in-Chief of AfricaSTI; Aliaa Hamed, Executive Editor for Nature Research in MENA; and Pallab Ghosh, Science Correspondent for BBC News. Judges worked with KSJ director Deborah Blum to make the final decision.

In April, [Sharon Muzaki](#), an environmental journalist from Uganda, was named the first recipient of the fellowship. Muzaki will join the regular KSJ class of journalists for the fall 2024 semester in a program of study at MIT and other Cambridge/Boston area universities and in the program's seminars, training workshops, and field trips throughout the semester.

Also in the spring, KSJ announced another new fellowship program that will initially provide 10 students from Historically Black Colleges and Universities (HBCUs) with training, mentorship, and early career support to report on science, health, and environmental issues. Directed by KSJ Associate Director Ashley Smart, the [HBCU Science Journalism Fellowship](#) launched June 9-15 with a week-long science journalism summer camp at MIT, where fellows learned from award-winning science journalists, met editors from leading science publications, and developed their skills in hands-on workshops. Over the following year, each fellow will be mentored by a professional science journalist, who will work with them to pitch stories to national and regional science publications.

Named to the inaugural [HBCU Science Journalism Fellowship](#) class were: Mykal Bailey (Howard University), Jonathan Charles (Florida A&M University), Christén Davis (North Carolina A&T State University), Zoe Earle (Morgan State University), Jordyn Isaacs (Hampton University), Steven Matthews Jr. (North Carolina A&T State University), Sabrina McCrear (Howard University), Trinity Polk (Hampton University), Skylar Rowley (Florida A&M University), and Utrurah Whitley (Morgan State University). The fellows' varied reporting interests range from astronomy and artificial intelligence to women's health and environmental justice.

“The Air We Breathe,” published by the Cicero Independiente and MuckRock, was chosen as the 2024 winner of the [Victor K. McElheny Award](#) for local and regional journalism. The winning team received a \$10,000 prize. The winners will be honored at a ceremony held at MIT on September 6, 2024. During this yearlong investigation, the two nonprofit newsrooms installed air quality monitors in volunteers' homes in Cicero, Illinois. They found that Cicero, next to a 101-year-old Koppers coal tar plant, had air quality consistently worse than surrounding areas, and worse than government regulators reported. The team also found Koppers, still a permitted polluter in the area, had a 50-year record of violating state and federal environmental regulations. Communicating with the community in English and Spanish, collecting their stories, and sharing their findings about the air quality, this team of 14 – composed of editors, reporters, and data and visual journalists – conducted a thorough investigation in the public interest.

Throughout the year, KSJ continued its partnership with MIT's Graduate Program in Science Writing (GPSW) with Ashley Smart teaching in the program and overseeing the profiles of KSJ

fellows written by GPSW students. In addition, a few GPSW students took on extra paid writing assignments for KSJ. Lily Stewart, GPSW Class of 2024 was a paid editorial intern for Undark magazine during the summer of 2024.

Deborah Blum continued to serve on the review committee for the National Academies Eric and Wendy Schmidt Awards for Excellence in Science Communications. Related to this partnership, KSJ organized two narrative writing workshops, in June 2023 and July 2024, for award winners, with special gift funds from the Schmidt Futures Foundation.

In March, KSJ also partnered with the Hastings Center on a webinar entitled “In Science We Trust” that had a panel with a bioethicist, a scientist and a journalist. The event was successfully organized thanks to Claire Sadar, KSJ Learning and Event Coordinator.

[Undark](#) digital magazine continued its nonprofit mission to commission and publish exemplary science journalism in the public interest, and to give that journalism away to other publications for use on their platforms. Undark’s work is now as likely to be encountered on the websites of *The Atlantic*, *Scientific American*, *Smithsonian*, NPR, *Wired*, *Quartz*, *Salon*, and *Slate*, among others, as it is at our flagship website, [undark.org](#). Our work is also translated and published widely in newspapers and magazines abroad. We are proud to say that [undark.org](#) now sees some 20 million visits annually, with millions more people encountering the work we produce at publications around the world. *Undark* articles are also used in classes at many colleges and universities.

*Undark* magazine’s “[Long Division](#)” Project that chronicled the troubled, enduring legacy of race science, and Project editorial director Ashley Smart continued to receive attention and accolades in 2023-2024.

- [National Magazine Award](#) finalist nomination for Single Topic Issue (2023)
- AAAS Kavli Science Journalism [Gold Award for In-Depth Science Reporting](#) (2023)
- Online News Association [Award for Topical Reporting](#) (2023)
- [NASW Science in Society Journalism Award](#) (2023)
- [National Association of Black Journalists](#) (2023)

The list below is taken from the April 2023 fellowship [announcement](#):

- Lisa Grossman is a staff reporter at Science News, where she covers astronomy.
- Jessica Hamzelou, currently a senior reporter at MIT Technology Review, is a multi-award-winning science and health journalist.
- Kai Kupferschmidt is a freelance science journalist based in Berlin, Germany. As a contributing correspondent for *Science* magazine, he has mostly covered infectious diseases.
- Chikezie Omeje is currently an Africa editor at the Organized Crime and Corruption Reporting Project.
- Justin O’Neill is an audio journalist based in Washington, D.C. He works as a news editor at WAMU, covering the environment, transportation and education beats.
- Madeline Ostrander is an environmental journalist and the author of *At Home on an Unruly Planet: Finding Refuge on a Changed Earth*.
- Nicky Phillips is a science journalist based in Sydney, Australia. For the past six years, she

has been a news editor and the chief of the Asia-Pacific bureau for *Nature* magazine.

- Dyna Rochmyaningsih is a freelance journalist whose works have appeared in *Science* magazine, *Nature*, BBC Future, Mongabay, The Christian Science Monitor, Undark, SAPIENS, *Rest of World*, and other outlets.
- Inayat Singh, originally from Delhi, India, is a national climate reporter for the Canadian Broadcasting Corporation in Toronto.
- Peter Whoriskey is a reporter at The Washington Post whose current work focuses on investigations of economic and financial issues.
- Begley Fellow Deborah Balthazar worked as an intern at Science News, as well as Scholastic's *SuperScience* and Science World, and reported for a local news site in her hometown in New Jersey.

## Faculty

### Dwaipayan Banerjee, Associate Professor

Professor Dwaipayan Banerjee was granted tenure this academic year. His book *Computing in the Time of Decolonization* was contracted by Princeton University Press this year after receiving very positive readers' reports. His research activities included presenting "Computing in the Time of Decolonization" at the University of Wisconsin-Madison, "Enduring Cancer: Life Death and Diagnosis in Delhi" at the Chinese University of Hong Kong, and "The Politics of Cancer: A Global South Point of View" at the New Jersey Institute of Technology. He served as a discussant at the American Anthropological Association Annual Meeting in Toronto, contributing to sessions on "Enduring Colonialism Under Authoritarian Regimes" and "Holding Space: Practices of Accompaniment in the Field." His publications this year include "What you See Is What You Do Not Get: Expressive Non-Occurrent Gifts and Shadow Gift Relations" in *Mauss International*, "Dons réels et potentiels: critique et relations de don fantômes" in *Revue Du Mauss*, and "Anti-sacrifice: Articulating New Bodily Understandings in Support of Voluntary Blood Donation in India" in Matsuo, Mizuho (ed.), *Sabustance no Jinruigaku* (The Anthropology of Substance: Nature, the Body and the Reality of Relatedness). Professor Banerjee continued to serve as Editor for *Position Pieces in Medicine Anthropology Theory* (University of Edinburgh), Associate Editor for *Critical AI* (Rutgers University), and on the editorial boards of *Medical Anthropology* (Taylor & Francis) and *Societies* (MDPI). He participated in the STS New Faculty Hire Search Committee, the Colloquium Organization Committee for HASTS, the MIT SHASS Programming Initiatives Committee, and served as the Computing and Society Concentration Advisor and STS Undergraduate Officer. Additionally, he served as the Faculty Leader for the MIT Digital Humanities Lab workshop on 'Data-Driven Democracy.' He advised several PhD candidates this year, with Gabrielle Robbins and Di Wu graduating, and Hina Walajahi, Andra Sonia Petrutiu, and Radhika Radhakrishnan currently in process. He taught STS.086J/21A.504J Cultures of Computing and STS.417 STS Seminar on the Global South.



## **Kate Brown, Thomas M. Siebel Distinguished Professor in History of Science and Professor of Science, Technology, and Society**

Kate Brown, Thomas M. Siebel Distinguished Professor in History of Science and Professor of Science, Technology, and Society joined the MIT STS faculty in January 2019. Brown finished two book manuscripts in AY-2023-2024. The first monograph is *Tiny Gardens Everywhere: A Kaleidoscopic History of the Urban Food Sovereignty Frontier*, which will be published by Norton in 2025. The second monograph *Arid Lands*, is a work of an award-winning environmental historian, Linda Nash, who died in 2020. Brown put together a small team of historians who held a workshop at MIT in September 2023 to draft the final chapters of the book for publication with Oxford University Press. Working with HASTS grad student Turner Adornetto, Brown finished the manuscript in January 2024 and it is now under review at Oxford. Acted Sud published Brown's 2013 book *Plutopia* in French with reviews in a wide variety of mainstream media.

Brown initiated a collaboration with the Christopher Voigt Lab to write J-WAFS (Jameel Water & Food Systems Lab) and MISTI (MIT International Science and Technology Initiatives) grants to work on the only known case of the application of human-engineered molecules in a natural environment to clean up contaminants. The event occurred in 1989 in Soviet Estonia when phenol poisoned local rivers after an uncontrollable fire in an oil shale mine. Brown pulled together a group of Estonian and MIT historians to work with biochemists from Voigt's Lab. The interdisciplinary team won both awards. The grant is titled: Protecting Drinking Water From Widespread Organic Contaminants Using Engineered Soil Bacteria

Brown continued to write articles on request on nuclear history and continued as a regular contributor to the *Times Literary Supplement* and the *Washington Post* book review section. She reviewed tenure and promotion files for scholars at Cornell, UCLA, SUNY Stonybrook, Harvard, the University of Ohio, University of Tennessee, Virginia Tech, and the University of Sussex. Brown reviewed a half dozen books for publications and four articles for journals.

In collaboration with Megan Black (History), Brown developed a new graduate seminar called "Narrating the Anthropocene," a course that explored how the new geologic concept of the Anthropocene has shaped a wide range of scholarly disciplines. In terms of service to the profession and MIT, Brown served as co-chair of the advisory committee of Human and Microbiome project of the Canadian Institute for Advanced Research (CIFAR). She continued to serve as the founding, consulting editor of History Unclassified, a section in the *American Historical Review* and as a board member of *International Labor and Working-Class History* and *Kritika: Explorations in Russian and Eurasian History*. At MIT, Brown served on the search committee for two new STS faculty members, the graduate student selection committee, and a committee to award fellowships from the Environmental Solutions Initiative. She is an advisor or serves on the dissertation committee for four HASTS students at MIT and one student at Harvard and one at the University of Bremen in Germany. Brown mentors a Ukrainian scholar, at the University of Basel, part of the Basel Mentoring Network for scholars at risk. In May, the Anthropology Department of the University of Edinburgh invited Brown to serve as a consultant for a week retreat with PhD students. In AY 2023, Brown gave invited talks on nuclear history at Boston College, University of Maryland, College Park, Brigham Young University, MIT, the University of Halifax, and two talks at Harvard. She spoke about urban self-provisioning at Tufts.

### **William Deringer, Associate Professor**

William Deringer, Associate Professor of Science, Technology, and Society, completed his ninth year as a member of the STS faculty in 2023-24. He was on parental leave from MIT for Fall 2023 and on sabbatical leave in Spring 2024.

Deringer's research continued to focus on the development of his project, *The Formula That Rules Our Future: A History of Discounting*. The project traces the long history of one technique of economic calculation—exponential discounting—which has, somewhat covertly, come to rule how the future is valued, analyzed, and governed in our modern lives. That project will lead to the publication of a book, which is under contract with Yale University Press, in addition to several stand-alone articles. One product of that research, “Mr. Aecroid’s Tables: Economic Calculations and Social Customs in the Early Modern Countryside,” was published in the March 2024 issue of *The Journal of Modern History*. That article was featured in *MIT News*. Deringer submitted “The Social Rate of Discount and the Political Economy of the Future in Postwar America” for publication in *History of Political Economy*. He also presented research from his ongoing *Discounting* project at the University of Minnesota, Texas Tech, and Duke. He submitted a book review for the *Journal of Modern History*.

While Deringer was on leave from teaching during 2023-24, he continued to mentor graduate students. He currently is primary adviser to two students in the HASTS PhD program and served on ten other dissertation committees: four in HASTS; one each in Sloan (Organization Studies), Urban Studies and Planning, and Mechanical Engineering at MIT; two at Harvard (History of Science and Harvard Kennedy School), and one at the University of Hamburg (Sociology). He participated in four dissertation defenses for graduating PhD students.

Deringer made several service contributions to the profession over the course of the year. He co-organized (with Mikey McGovern and Pariroo Rattan) a workshop on “Just Computation: Social and Historical Perspectives on Computation in the Law” at the Harvard Kennedy School in September 2023. He served as Council Representative for the Forum for the History of the Human Sciences (History of Science Society) and chaired the selection committee for the Forum’s John C. Burnham Early Career Award. As a peer reviewer, he evaluated book manuscripts/proposals for Cambridge University Press and Oxford University Press and articles for *Critical Sociology*, *History of Political Economy*, *Isis*, *Journal of the History of Economic Thought*, and *Journal of Interdisciplinary History*.

### **Michael M.J. Fischer, Andrew W. Mellon Professor of Humanities**

Michael M.J. Fischer, Andrew W. Mellon Professor of Humanities, Professor of Anthropology, and of Science, Technology, and Society, published a book in 2023 on the arts in Singapore and Southeast Asia with Duke University Press, *At the Pivot of East and West: Ethnographic, Literary and Filmic Arts*. He is working on the manuscript of what will be a third in a trilogy with Duke University Press on theater. He published a six-part series on STS in Kenya, Turkey, Japan, and Ecuador in the *Journal Engaging Science, Technology and Society*; he published forwards to two books: Arpita Roy’s *Unfinished Nature: Particle Physics at CERN* (Cornell); and Frederic Keck’s *How French Moderns Think* (Chicago). He is co-editing and wrote much of the introduction to “The Post-Global City and Technological Creativity” (with Africa scholars Katrien Pype of Leuven, and Omlade Adinbe of Michigan), which is under review at the University of Michigan Press. He wrote two essays: one with Aaliya Sadruddin, “Through the Artist’s Eyes: Forms of Creative Life in

Rwanda” for a special issue of *Hau: Journal of Ethnographic Theory*; and “Huge Crabs Fighting and Crocodiles in the Tank” for a Festschrift for Professor Nur Yalman, to be published by Koch University Press; as well as book reviews of Manijeh Moradian’s *This Flame Within: Iranian Revolutionaries in the United States* (Duke), and Cynthia Enloe’s *Twelve Feminist Lessons of War*. He is working on a review essay on three recent ethnographies of Kigali and the Singapore model. He gave a keynote talk at the University of Kentucky on his work in Southeast Asia. He is on the PhD committee of Nadia Christi who is finishing her dissertation on water systems in Dubai and LA, and will defend August 1, 2024. He has done reviews for presses (Stanford, Duke) and provided blurbs. He has written several tenure and promotion letters for universities outside MIT. He continued fieldwork in Singapore in December and January, as well as his collaboration with Liron Shani (a paper on scientists learning to be synthetic biologists in Israel and the U.S.). He continues to co-edit the leading STS book series, *Experimental Futures*, at Duke University Press with now fifty-five titles published and several more in the pipeline: eight volumes appeared this year, including one by a HASTS PhD.

### **David Kaiser, Germeshausen Professor in the History of Science, Professor of Physics, and MacVicar Faculty Fellow**

During the 2023-24 academic year, Professor Kaiser served as an invited advisor for a US National Academy of Sciences working group on governance of generative AI, with a particular focus on uses of AI within the natural sciences. As part of that effort, he and a colleague wrote a commissioned briefing paper (in press in an edited volume organized by the National Academy) and a shorter essay published in the National Academy’s *Issues in Science and Technology*. He also co-authored a set of guidelines that the working group published in the *Proceedings of the National Academy of Sciences*. Drawing upon his historical research, Kaiser completed eight original research articles in theoretical physics (together with members of his research group, based in MIT’s Center for Theoretical Physics), on topics ranging from primordial black holes as dark matter candidates to a first-principles derivation of the quantitative treatment of quantum tunneling. Two of these articles were highlighted as “Editors’ Suggestions” in their respective journals, and additional articles about those papers were published in *Physics Magazine*. One of his research papers—on a first-ever description of a realistic mechanism by which a black hole could form with significant nuclear charge—was also the subject of a feature article in CNN. Beyond his scholarly publications, Kaiser published a brief essay about black holes and dark matter in the *London Review of Books*, and also contributed an invited preface for a new book about quantum theory by Nobel laureate Alain Aspect. In addition to these written contributions, Kaiser delivered nineteen invited seminars, keynote presentations, and public lectures, in venues ranging from the Niels Bohr Institute in Copenhagen to the École normale supérieure in Paris, in addition to Harvard, Yale, the Institute for Advanced Study, and several other US institutions. He also participated in an event at the Boston Museum of Science with Grammy-award winning musician Jack Antonoff to discuss black holes and the nature of time, and was an invited guest on three other podcast episodes. In addition, Kaiser advised and appeared in a new NOVA documentary film, *Decoding the Universe: Cosmos*, on dark matter and dark energy, while advising on two other documentary films about quantum theory (NOVA and NHK Japan, each in preparation).

Kaiser continued his service on the MIT Corporation's Joint Advisory Committee on Institute-Wide Affairs (CJAC). He also served on a faculty search committee in MIT's Department of Physics; on the admissions committee for the MIT HASTS doctoral program; and was elected a Member of the Board of the American Institute of Physics Foundation. He continued to Chair the Editorial Board of the MIT Press; serve as Editor of the *MIT Case Studies Series on Social and Ethical Responsibilities of Computing* (SERC); and serve as an associate editor of *Historical Studies in the Natural Sciences*. He likewise continued his role as a member of the advisory boards for the Niels Bohr Archive (Copenhagen), the MIT Museum, and the Catalyst Collaborative (MIT and the Central Square Theater). He also began his new role as Co-Chair of the SHASS Collaboration Fund. Kaiser served as a volunteer mentor with the "Unlock Her Potential" program, which focuses on young women of color, and also with the dynaMENT Mentoring for Women in the Natural Sciences program, sponsored by the Max Planck Society. He served as the principal advisor for four postdoctoral fellows (two in STS, two in Physics), as the principal dissertation advisor for three HASTS PhD students and one Physics PhD student, as the advisor for three Physics UROP students, and as a dissertation committee member for another seven PhD students (four in MIT Physics, one in Harvard's Department of History of Science, one in Physics at the Université Paris-Saclay, and one in History of Science at Université Paris Cité). His undergraduate course "Einstein, Oppenheimer, Feynman: Physics in the 20th Century" was published on MIT's OpenCourseWare in August 2023. To date, videos of the lectures have been streamed more than 250,000 times.

### **Jennifer S. Light, Bern Dibner Professor of the History of Science and Technology; Professor of Urban Studies and Planning**

Bern Dibner Professor of the History of Science and Technology and Professor of Urban Studies and Planning Jennifer Light's focus in 2022-23 was on launching her new project on embodied education which brings together physical activity and academic subject instruction. She taught a new undergraduate subject together with numerous DAPER faculty, MIT alums, and outside guests. She also designed a second subject to debut in 2023-24 in collaboration with DAPER faculty. To support these courses and related research efforts she applied for and received funding from the d'Arbeloff Program, the Alumni Class Grant Program, the J-WEL Educational Innovation Program, and CAST. Professor Light continued training in circus arts and explored several new genres of dance to expand the scope of this work. As in past years, she continued her service on several editorial boards and departmental committees, and graduated a PhD student in June 2023. She also maintains her affiliation as Senior Research Fellow at the Charles Babbage Institute.

### **Chakanetsa Mavhunga, Professor**

Chakanetsa Mavhunga took a year leave (one semester paid sabbatical, another unpaid) to develop a comprehensive curriculum, research, and innovation strategy for global STS education. He worked on building the necessary institutional partnerships in Africa, Europe, and the US to accomplish this goal. Mavhunga won a Fulbright Fellowship for fall 2023. He divided his leave time between the Max Planck Institute for the History of Science (MPIWG) in Berlin, Germany and the Dedan Kimathi University of Technology, Nairobi, Kenya. In November 2023, Mavhunga published his fourth book, *Dare to Invent the Future Book: Knowledge in the Service of and through Problem-solving*, as part of the Global South Cosmologies and Epistemologies Book Series with MIT Press. He is working on a fifth book, *Everyday Design-MakerX*. With colleagues in Mechanical Engineering and Mechatronics at Dedan Kimathi University of Technology, Kenya, he successfully designed and launched the Practical Field Lab pilot in Nyeri, Kenya, which will serve as the field follow-up to STS.053 Multi-disciplinary Learning through Problem-solving. In collaboration with MIT-Africa, the program hosted four MIT and fourteen Dedan Kimathi students and paved the way

for an annual IAP field-class drawing students from across the US, EU, and Africa to converge in Nyeri, Kenya, for multi-disciplinary problem-solving from diverse cultures of innovation.

### **Eden Medina, Associate Professor**

Eden Medina became a full professor in 2024. She co-curated the exhibition *Cómo diseñar una revolución: La vía chilena al socialismo* [*How to Design a Revolution: The Chilean Road to Design*] at the Centro Cultural La Moneda, the cultural center of the presidential palace in Santiago, Chile. The exhibition opened in September 2023 as one of the commemorative events that took place in the fiftieth anniversary commemoration of the military coup in Chile. The exhibit consisted of more than 350 objects and images and included the first full-scale, operational reconstruction of the Cybersyn operations room. Close to 40,000 people visited the exhibition by the time it closed in January 2024, and it has since been described as the “exhibition of the year” in Chile. The exhibition offered a new historical interpretation of the Popular Unity period grounded in the history of industrial and graphic design and shaped collective memory during an important moment of historical reflection. Through the objects and images on display, the exhibition showed how groups of people working in Chilean government offices, workshops, and factories collectively advanced a program for economic, social, and political change and used graphic and industrial design to improve the quality of life for Chile’s most vulnerable and marginalized populations.

In addition to the exhibition, Medina published the co-edited volume *How to Design a Revolution: The Chilean Road to Design* (Lars Müller Publishers, 2024), which also appeared in Spanish translation. With students Pedro Reynolds-Cuellar and Diego Aragon-Cerna, she published the article “Seeds, Dams, and Khipus: The Eclectic Panorama of Recent History of Technology in Latin America,” in the journal *Technology and Culture*. Medina also published edited excerpts of her book *Cybernetic Revolutionaries* in the MIT Press Reader (English) and *Aus Politik und Zeitgeschichte* (German) in connection with the fifty-year anniversary. Copies of the *Aus Politik und Zeitgeschichte* essay were distributed to every member of the German Bundestag. Her work appeared in media outlets such as BBC, *El País*, CNN Chile, Radio Ambulante (Spanish language podcast distributed by NPR), *Los Angeles Times*, *El Periódico de España*, Radio Duna, BioBio TV, MIT News, *New York Review of Architecture*, *Creative Review*, and SciTechDaily, among others. She delivered invited talks at the Harvard Graduate School of Design, Columbia University Seminar on Latin America, MIT Morningside Academy for Design, MIT Knight Journalism Program, and the Chilean Ministry of Science, Technology, Knowledge, and Innovation.

Medina continued working with collaborators Andrea Ballesterio (University of Southern California) and Gregg Hetherington (Concordia University) on the Social Science Research Council Scholarly Borderlands grant “The Future of Facts in Latin America.” Scholarly Borderlands grants support high-risk, high-rewards research in areas that sit between disciplines. Grant activities this year included organizing a cross disciplinary working group and editing a special issue for the journal *Tapuya: Latin American Science, Technology and Society* that is now under review. Medina also collaborated with MIT professors Sarah Williams and Sara Beery on the grant, “Generative AI for Cities: A Civic Engagement Playbook.” The grant was awarded by MIT for new research on the impacts and applications of generative AI and resulted in a whitepaper written with the City of Boston that will be released later this year.

Medina served on the doctoral dissertation committee for three PhD students who defended this year (one in HASTS, one in Media Arts and Sciences, and one at Northwestern University). With support from the MIT-Chile program, she brought two mechanical engineering undergraduate students with her to Chile to work on the full-scale reconstruction of the Cybersyn operations room. She also

continued to serve as the principal advisor for one HASTS PhD student and as a dissertation committee member for three additional students (two in HASTS and one at York University). With support from the Alumni Class Fund, she oversaw the transfer of undergraduate student projects and oral history interviews of alumni to MIT Distinctive Collections for long-term preservation. These materials were created during the East Campus history class that Medina taught in 2022 and 2023 to help preserve the history of the undergraduate residence.

Medina served on the editorial boards of *Tapuya: Latin American Science, Technology and Society*, *Revista Diseña*, and the Johns Hopkins University Press Studies in *Computing and Culture* book series. She was a 2023 summer fellow of the Radcliffe Institute for Advanced Study at Harvard University and read applications for the yearlong Radcliffe Fellowship. She also served as director of graduate studies of the MIT HASTS Doctoral Program, advisor for the HASS major, minor, and concentration in Latin American and Latino/a Studies, and associate head of house of the undergraduate residence East Campus.

### **David A. Mindell, Frances and David Dibner Professor of the History of Engineering and Manufacturing and Professor of Aeronautics and Astronautics**

David A. Mindell, Frances and David Dibner Professor of the History of Engineering and Manufacturing (STS) and Professor of Aeronautics is also Head of House at MIT Edgerton House. Mindell is an advisor to the MIT Mobility Initiative and is a member of the Manufacturing@MIT steering committee and served on the MIT Museum director search committee. Mindell is actively involved with the transformation of US industry in manufacturing, sustainable aviation, and clean energy. He has convened a series of quarterly dinners, “The Lunar Society,” bringing together leaders from business, industry, and research to envision the future of industry. Mindell has just completed his seventh book: *The New Industrialism: Lessons from the Lunar Society*, (MIT Press, February 2025) reimagining the industrial enlightenment that gave rise to the first industrial revolution, and rethinking its founding principles around sustainability and equitable work.

### **Eli Nelson, Assistant Professor**

Eli Nelson is a kaniēn’kaha:ka critical theorist and historian of Native science. He holds a BA in Natural Sciences from Shimer College (2012) and an MA (2013) and PhD (2018) in History of Science from Harvard University. Prior to coming to MIT, Nelson was an assistant professor of American Studies at Williams College. He is a co-founder of the [Center for Black, Brown, and Queer Studies](#), where he served as the Center’s Director of Fellowships (2018-2021) and Director of Research (2021-2023).

Nelson’s research traces how Indigenous knowledges have been produced and embodied in settler and postcolonial contexts. He has published on topics ranging from a feminist analysis of Indigenous cyborgs to a Native animist history of Kanaka Maoli canoes. You can find a selection of his publications [here](#). Nelson’s research has been supported by the American Philosophical Society, Luce Foundation, D’Arcy McNickle Center for Native American and Indigenous Studies, Charles Warren Center for American History, Harvard University Center for the Environment, Weatherhead Center for International Affairs, and the Williams College Oakley Center, among others.

In Spring of ’24, Nelson taught STS.S21 The History of Native Science, a class new to STS. He served on the HASTS graduate student selection committee and as a member of the Benjamin Siegel writing prize committee during AY 23-24.

He is currently working on his first book manuscript, *Sovereign Knowledge: Red Progressives and the Becoming of Native Science* (under agreement with Johns Hopkins University Press), which explores the science politics of Native activists in the United States during the mid-19th and early 20th centuries.

### **Robin Wolfe Scheffler, Associate Professor**

Associate Professor of Science, Technology, and Society Robin Scheffler maintained an active year of teaching, research, and service during his ninth year at MIT. In the fall he taught one undergraduate course, STS.011: Engineering Life, as well as the graduate level STS 260: Introduction to Science, Technology, and Society. He served as primary advisor to one undergraduate thesis in the Program on Science, Technology, and Society. He sits on three dissertation committees and is now a primary advisor to one doctoral student in the History, Anthropology, and Science, Technology, and Society. He took a research sabbatical in the spring semester of 2024.

Professor Scheffler continues to conduct wide ranging research and writing related to his study of the history of biotechnology in the Greater Boston Area, with support from the National Science Foundation. This includes supervising research assistants compiling datasets corresponding to the spatial, social, and business history of biotechnology as well as work on his second book project, *Genetown: Boston and the Rise of the Modern Biotechnology Industry*. He presented his work on the history of biotechnology to audiences at Cold Spring Harbor Laboratory and the Kendall Square Association as well as other specialized venues.

Within the Program on Science, Technology, and Society, Professor Scheffler continues to serve on the Strategic Initiatives Committee and added to this service to the Curriculum Committee and an *ad hoc* hiring committee for two new assistant professors in the Program. Within the Institute more broadly, he was a member of the subcommittee on the communication requirement as well as representing SHASS faculty on the planning process for renovating E51, he continues to serve as a member of the MIT Museum Life Science Advisory Committee a member of the Center for Environmental Health Sciences and of the steering committees for the Environmental Solutions Initiative Minor and the Global Health and Humanities Minor. He has also continued his service to history of science as a member of the History of Science Society's Suzanne J. Levinson Prize Committee, a member of the American Association for the History of Medicine's Shyrock Medal Committee, and as a steering committee member of the Forum for the History of Health, Medicine, and the Life Sciences, and a member of the local arrangements committee for the 2025 meeting of the American Association for the History of Medicine in Boston. He continues to serve as an associate editor for *Historical Studies in the Natural Sciences* and to act as a reviewer of articles and manuscripts for major journals and academic presses.

### **Merritt Roe Smith, Leverett and William Cutten Professor of the History of Technology and MacVicar Fellow**

Merritt Roe Smith is the Leverett and William Cutten Professor of the History of Technology at MIT. His primary research and teaching interest is American industrialization, particularly the role of the military as a catalyst of technological change. He is the author or editor of seven books. In June of 2024, he convened a two-day symposium organized by STS with 20 speakers to discuss the History of Technology: Past, Present, and the Future. He is currently working on a volume about technology and its implications during the American Civil War. He is an elected fellow of the

American Academy of Arts and Sciences, the American Association for the Advancement of Science, and the Massachusetts Historical Society. Other recognitions include the Margaret MacVicar Faculty Fellowship (MIT), the Arthur C. Smith Award (MIT), the Levitan Teaching Award (MIT), an honorary guest professorship at Kanazawa Institute of Technology (Japan), an honorary doctorate from Rensselaer Polytechnic Institute, a Regents Fellowship from the Smithsonian Institution, a Guggenheim Fellowship, a Senior Fulbright Scholarship (Sweden), and a Thomas Newcomen Fellowship at the Harvard Business School. Professor Smith is a past president of the Society for the History of Technology from which he received the Leonardo da Vinci Medal, the Society's highest honor.

### **Sherry Turkle, Abby Rockefeller Mauzé Professor of the Social Studies of Science and Technology**

Sherry Turkle, Abby Rockefeller Mauzé Professor of the Social Studies of Science and Technology (STS), began fall 2023 with an award from the MIT President's office to work on Generative AI. "Thinking About Generative AI and Artificial Intimacy, the New AI."

Her perspective, in line with her long career of studying the "subjective" side of technology, is not what Generative AI technology can do, but what it is doing to us. Her research project, "Who do we become when we talk to machines?" centers on interviews with new and seasoned users of chatbots. It led to a memo that was included in the MIT Press compilation of the grant work. Work on the President's grant led to a proposal and award from the Omidyar Foundation to continue research on artificial intimacy.

Turkle presented on artificial intimacy throughout the year. The venues included The New York Humanities Institute, Harvard Law School, The Media Scholars Sandbox Conference in San Francisco, the Affective Computing Conference at MIT, and the Harvard STS Conference on Generative AI and Democracy. She appeared on many television and radio programs and documentaries about the emotional impact of artificial intimacy. In the spring of 2024, she taught two courses, "Things and Thinking" and "What is a Better Future" (with Professor Rosalind Picard and Chaplain Nathan Barczy).

She continued to work on her book on artificial intimacy, which was contracted to Little Brown for spring 2025. Other writing included a new introduction for the 50th-anniversary re-edition of *Psychoanalytic Politics: Jacques Lacan and Freud's French Revolution* by the MIT Press and a new forward for the 10th-anniversary re-edition of *Reclaiming Conversation: The Power of Talk in a Digital Age* by Penguin Books.

Professor Turkle continued her nonprofit board and advisory work for the Electronic Privacy Information Center; the Boston Children's Museum; Harvard Magazine; the Children's Screen Time Action Network; and the Society for Responsible Robotics. She is also on the visiting committee for Harvard College.

Professor Turkle continues to work on her papers, preparing them for inclusion in the MIT Distinguished Archive Collection and the Schlesinger Library.

### **Kate Brown, Interim Department Head**

2024–2025

Thomas M. Siebel Distinguished Professor in History of Science

Professor of Science, Technology, and Society

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