Bibliotech

Contents

From the Director

The MIT Libraries offer some of the best views on campus, whether it's the Charles River and Boston skyline, the hustle and bustle of Massachusetts Avenue, or the oculus of the Great Dome. Our programming, too, offers a view into the best of MIT — its history, its creativity, its collective knowledge, and the minds who tackle the world's greatest challenges.

This spring, library exhibits are a window into the richness of our collections. *Afrofuturism & Otherworldliness*, part of the Artfinity campus-wide arts festival, examines Afrofuturist music's fascination with technology (p. 10). *Refracted Histories* uses historic stained glass windows as a lens through which to explore conservation techniques, materials science, and the legacy of Islamic architecture (p. 14). In the Hayden Library Loft, archival materials from Katharine Dexter McCormick's collection shed light on this pioneering MIT alumna, scientist, suffragist, and philanthropist (p. 14).

The MIT Prize for Open Data (p. 4), presented for the third time this past fall, is also a showcase of some of the most innovative work happening at the Institute — in human health, climate, energy, AI, elections, and more. Learning about their work each year is incredibly energizing, as is the glimpse into CREOS research underway with our two new postdoctoral associates (p. 8). We're so pleased to spotlight all of these researchers who care deeply about advancing knowledge through open scholarship practices.

There is always something to inspire at the Libraries. I hope you will take a look.

Photo
Shawn Henry

All my best,
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Honoring Researchers Across MIT

Third annual MIT Prize for Open Data awarded to 10 research projects

The third annual MIT Prize for Open Data, which included a $2,500 cash prize, was awarded in October. Presented jointly by the MIT Libraries and the School of Science, the prize highlights the value of open data — research data that is openly accessible and reusable — at the Institute.

The prize program was launched in 2022, spearheaded by Chris Bourg and Rebecca Saxe, associate dean of the School of Science and the John W. Jarve (1978) Professor of Brain and Cognitive Sciences. It recognizes MIT-affiliated researchers who use or share open data, create infrastructure for open data sharing, or theorize about open data.

"This year, we noted a number of submissions touching on strategic priorities for MIT, like artificial intelligence," said Bourg. "There were also a number of projects that relate in some way to climate change, democracy, and human health."

The 2024 awards were presented at a celebratory event held during International Open Access Week. Winners gave five-minute presentations on their projects and the role that open data plays in their research. The program also included remarks from Nergis Mavalvala, dean of the School of Science and Curtis (1963) and Kathleen Marble Professor of Astrophysics, who noted how open data drives research forward, including her own work detecting gravitational waves. "People who make data usable by others are not celebrated enough," she said.

Winners were chosen from more than 70 nominees, representing 25 different departments, labs, and centers across the Institute.

- Awad Abdelhalim, assistant director of research, Urban Mobility and Transit Labs, won for the KhartouMap Initiative, along with collaborators Ilham Ali and Abubakr Ziedan. KhartouMap is the first to fully map Khartoum's semi-formal public transit system and provide open data on transit routes, usage, and opportunities for improvement.

- Faisal AlNasser, PhD candidate in Civil and Environmental Engineering, and Dara Entekhabi, Bacardi and Stockholm Water Foundations Professor, were recognized for the DustSCAN Dust Plumes Dataset, the first open-source collection tracking mineral dust plumes using satellite data across the global "Dust Belt."

- The team behind Cast Vote Records: A Database of Ballots from the 2020 U.S. Election, downloaded publicly available unstandardized cast vote records from the 2020 U.S. general election, standardized them into a multi-state database, and extensively compared their totals to certified election results.

- Undergraduate student Lily Chen won for FactPICO, a novel and open benchmark for factuality evaluation of plain language summarization of medical evidence including 345 LLM-generated summaries of randomized controlled trial abstracts, as well as fine-grained medical expert factuality assessments based on a PICO evaluation framework.

- Also recognized was the team who created a dataset of the Operating Station Heat Rate for 806 Indian Coal Plant Units Using Machine Learning. Considering different factors, including water stress, coal price, coal age, and power capacity, the group created a station heat rate dataset for 806 Indian coal plant units using machine learning, presenting the most comprehensive coverage compared with previous databases.

- Mohamed Elrefaie, graduate student in Mechanical Engineering, Faez Ahmed, d'Arbeloff Career Development Assistant Professor of Mechanical Engineering, and collaborators Angela Dai and Florin Morar won for DrivAerNet. It provides a comprehensive, large-scale multimodal car dataset with high-fidelity CFD simulations and deep learning benchmarks, enabling advanced aerodynamic analysis and design optimization.

- Hannah Jacobs, PhD candidate in Biology, won for her project, "Widespread naturally variable human exons aid genetic interpretation," detecting naturally variable human exons in publicly available RNA sequencing data to aid in understanding of health and disease.

- Members of the MIT BioMicro Center, including Charlie Demurjian, Taisha Joseph, and Director Stuart Levine, were recognized for the Data Management and Analysis Core for the MIT Superfund Research Program. They created infrastructure that handles thousands of datasets to enable effective sharing through open access.
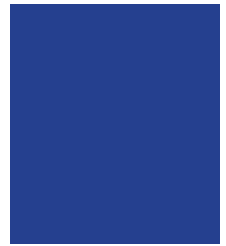
- Joachim Schaeffer, a visiting graduate student at the MIT Energy Initiative, won for a large lithium-ion battery field dataset. It is the first openly available dataset of batteries that failed in the field and enables further research into battery health monitoring and fault detection, which is important for battery safety.

- Yosuke Tanigawa, a research scientist in the Computer Science & Artificial Intelligence Lab, developed inclusive polygenic scores, the first methodology applicable to everyone across the continuum of genetic ancestry, for genetic prediction of disease risks.

Learn more about the winning projects, as well as honorable mentions, and see links to all the projects' research data, at *libraries.mit.edu/opendata*.

Meet CREOS' Newest Postdocs

Second cohort of postdoctoral associates joins the MIT Libraries

Hannah Hok Kim

Kim received her PhD in developmental psychology from the University of Chicago, where she studied social cognitive development and how children think about rules. While at the Center for Research on Equitable and Open Scholarship (CREOS) she is working with faculty mentor Rebecca Saxe, Associate Dean and John W. Jarve (1978) Professor in Brain and Cognitive Sciences.

"Rhetorical justifications about open scholarship and open science — such as the way it contributes to the academic ecosystem and to the workflows of individual researchers — have played an important role in shaping perceptions, driving adoptions, and influencing policy decisions surrounding practice. Despite growing support behind open scholarship and open science as a movement, the adoption of open science practice can vary across disciplines. This disparity may stem from methodological divides such as between qualitative or quantitative methods. Further, disciplines are rich with differences in internal norms and epistemological styles.

In this project, we examine how different epistemological styles of scholars, as well as how rhetorical justifications underpinning open science statements, affect researcher attitudes and beliefs. We plan to 1) survey current scholars across varied disciplines on their epistemological beliefs and open science attitudes; and 2) experimentally manipulate different types of rhetorical justifications to examine rates of open science endorsement across scholars. These findings have the potential to inform tailored strategies for fostering equitable and effective open scholarship practices across disciplines."

James Michaelov

Michaelov is a scholar of cognitive science whose research focuses on language models and psycholinguistics. He earned his PhD in Cognitive Science at the University of California, San Diego in 2024, and previously studied philosophy and linguistics at the University of Edinburgh, where he earned his master's degree in Cognitive Science. While at CREOS he is working with faculty mentor Roger Levy, Professor in Brain and Cognitive Sciences.

"The field of artificial intelligence, particularly in the area of large language models, has seen rapid advancements in the past few years. The increase in the apparent capabilities of such systems has led to their increased adoption by both individuals and companies. Concurrently, there has also been a rise in the amount of scientific research involving large language models, both in terms of fundamental machine learning and applications. From a scientific perspective, one of the more concerning trends is that the majority of the most powerful models today are proprietary, and thus there is a lack of transparency about how these models are trained and on what data. In addition to possible ethical and legal ramifications, this situation can also make it difficult to successfully evaluate scientific claims surrounding them.

In this project, we plan to develop a framework for understanding the scientific inferences that can be drawn from research on large language models, with a particular focus on how open science practices can help to strengthen the validity of the scientific claims made. Based on this, we plan to develop a set of recommendations and best practices for open science in research involving large language models, with the goal of improving the ability of scientists to understand their capabilities and risks, and thereby separate the reality from the hype."

To learn more about CREOS research, visit *libraries.mit.edu/creos.*

Celebrating Creativity and Community

Libraries participate in Artfinity, MIT's campus-wide art festival

From February 15 to May 2, MIT presented Artfinity, a new festival of the arts featuring 80 free performing and visual arts events. As part of the festival, *Afrofuturism & Otherworldliness*, an exhibit in Lewis Music Library, celebrated the visionary contributions of Afrofuturist artists across various genres and mediums. From the cosmic jazz of Sun Ra and the psychedelic funk of Parliament-Funkadelic and George Clinton, to the neo-soul of Erykah Badu and the sci-fi narratives of Octavia E. Butler, these artists have pushed the boundaries of creativity and imagination.

The exhibit, which traveled to different library locations and the new Edward and Joyce Linde Music Building, was accompanied by a screening of the Afrofuturistic science fiction film *Space is the Place*, written by Sun Ra, vinyl collections and streaming audio and video of pioneers in the genre, a display of musical instruments and technological artifacts used by artists and creators from the 1950s onward, a digital exhibit chronicling the history of Afrofuturistic music from the past 70 years; and a digital library resources guide.

The popular Books and Bites event series, highlighting new acquisitions, rare materials, ephemera, zines, and artists' books in the Libraries' collections, returned as part of Artfinity in March. "Exploring Technovernacular Creativity," held in Rotch Library, featured selections from Distinctive Collections highlighting marginalized communities' contributions to art, science, and technology.

"Artfinity was envisioned as a testament to MIT's dedication to creativity, community, and the dynamic intersection of art, science, and technology—values that are deeply embedded in our diverse library collections and programs," said Alexia Hudson-Ward, Associate Director for Research, Learning, and Strategic Partnerships. "We were honored to contribute to this cross-campus collaboration and to showcase creativity within the Libraries."

Photos
Opposite page: exhibit graphic by Cheryl Burke. This page: photo by Bryce Vickmark.

Staff News

New Appointments

Charles Hosale
Digital Preservation Coordinator

Dave Janelle
User Interface Designer and Developer

Eric Cruze
Program Head for Access Services and Libraries' Learning Spaces

Emma Lilienthal
Access Services Assistant

Jessica Fatzinger
Scanning and Annex Services Assistant

Jennifer Zaslow
Director of Administration and Finance

Molly O'Brien
Electronic Resources Metadata Librarian

Sabrina Brown
Biosciences Librarian

Roshan Kharbanda
Access Services Assistant

Retirements

Chris Donnelly
Image Cataloging and Technical Associate

Sally Richter
E-Resources Associate

News from MIT Press

Designing the future with the MIT Press
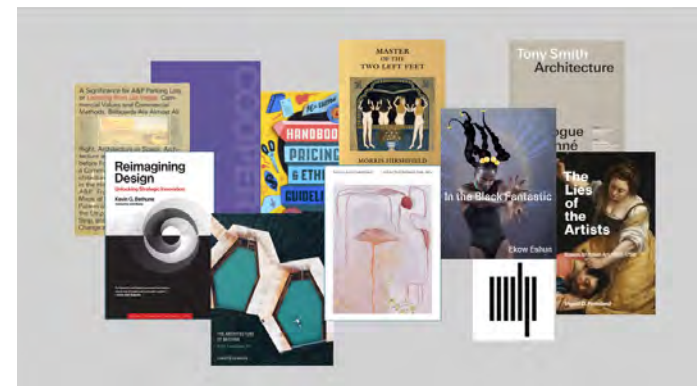
In 2025, we celebrate the 100th anniversary of Muriel Cooper's birth, honoring her transformative impact on design at the MIT Press and beyond. As the Press' first design director, Cooper revolutionized the visual identity of academic publishing and established a legacy that continues to shape our books and journals today. The iconic colophon she designed still graces every MIT Press spine as a testament to her enduring influence.

Cooper's pioneering work extended beyond print into the realms of digital design and information visualization. Her contributions to the Visible Language Workshop at MIT's Media Lab presaged contemporary explorations of typography, interactivity, and data-driven storytelling. She challenged conventions and set a standard that continues to guide our commitment to design excellence.

The MIT Press champions transformative scholarship, exploring how art, architecture, and design shape the world. Our rigorously researched, culturally relevant projects respond to contemporary global urgencies, keeping the Press at the forefront of visual culture and innovation.

Support of the Cooper Memorial Design Fund from the MIT Press community helps sustain this tradition, enabling the creation of exquisitely designed books that honor Cooper's legacy. Together, we continue to inspire new ideas and uphold the enduring value of great design.

What's New

New exhibits showcase Distinctive Collections

Refracted Histories: 19th-Century Islamic Windows as a Prism into MIT's Past, Present, and Future

In MIT's Distinctive Collections, many architectural elements from the earliest days of the Institute's architecture program still survive as part of the Rotch Art Collection. Among the artworks that conservators salvaged was a set of striking windows of gypsum and stained-glass, dating to the late 18th- to 19th-century Ottoman Empire. *Refracted Histories* illuminates the life of these historic windows, tracing their refracted histories from Egypt to MIT, their ongoing conservation, and the cutting-edge research they still prompt. The exhibit is on view in the Maihaugen Gallery (14N-130) through July 17.

Katharine Dexter McCormick and MIT

An exhibit in the Hayden Library Loft celebrates the 150th birthday of McCormick (SB 1904), one of the first women to earn a biology degree from MIT and a noted suffragist, philanthropist, and champion of women's reproductive rights. Student notebooks and correspondence explore her time at the Institute, how her studies impacted her life after graduation, and her legacy today.

Why I Give: Sharon Israel '86

Sharon Israel received an SB in electrical engineering from MIT in 1986, as well as an MBA and JD from Emory University in 1991. She is currently the president of the Class of 1986 and class stewardship agent. Israel serves on the Alumni Association Awards Committee, on the Corporation Visiting Committee for the MIT Libraries, and on the board of directors for the MIT Club of South Texas. She was honored with the Henry B. Kane '24 Award in 2006, Great Dome awards in 2012, 2020, and 2022, the Harold E. Lobdell '17 Distinguished Service Award in 2019, and the Bronze Beaver Award in 2023.

You serve on the Libraries' Visiting Committee, a group that provides advice and insight on library priorities and other critical issues. What excites you about the Libraries' vision for the future?

I've had the privilege of serving on the Libraries' Visiting Committee for the last several years. MIT is a leader in the field, punching well above its weight in this critical area. Every time I meet with Chris Bourg, her talented library team, and the MIT community who relies on MIT Libraries, I'm inspired and honored to learn about the Libraries' cutting-edge initiatives and to play a small role in this area.

You have also supported the Women@MIT archival initiative in Distinctive Collections. Why is it important to you to illuminate and elevate the stories of women at the Institute?

The history of women at MIT is rich and unique. As a proud MIT alumna, I want to preserve and inspire others about the incredible stories and history of women at MIT.

What do you wish more people at MIT knew about the Libraries?

MIT Libraries provide it all — from Distinctive Collections, to CREOS (the Center for Research on Equitable and Open Scholarship), to providing collaborative spaces for the MIT community. MIT Libraries exemplify the library of the future, and everyone should take the opportunity to see what they have to offer.