Bibliotech

Contents

From the Director

Our plans for the future are bold, but we know we're not in this alone. The kind of library we envision — open, participatory, inclusive — will be built with collaborators around the globe.

In this issue of *Bibliotech*, we highlight some recent collaborations that have us working across and beyond MIT — whether it's the GIS and Data Lab and the School of Architecture and Planning providing the latest tools for students and scholars (p. 08), the MIT Media Lab innovating with public libraries across the country (p. 04), or the MIT Press and the Media Lab imagining new ways to transform research publishing (p. 13).

Successful collaborations don't happen without committed partners. The Libraries staff members honored with this year's Infinite Mile Awards (p. 10) exemplify what it means to be a good colleague: they excel at listening, crossing boundaries, pushing limits, and bringing people together. It is also a pleasure to spotlight champions like Victor and Ruth McElheny (p. 16) whose generosity fuels our work. Victor has dedicated his career to making science more accessible, and the gifts he and Ruth have made to the Institute Archives ensure that everyone — journalists, scholars, students, the public — will have access to scientific knowledge in perpetuity.

To everyone who made a gift to the MIT Libraries this past year, we thank you for your generosity. The impact of your giving is felt throughout MIT and beyond.

All my best,

Photo
Bryce Vickmark

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A Year of Library Innovation at the Media Lab

MIT Libraries and MIT Media Lab partner for Public Library Innovation Exchange —By Hannah Piecuch

What do tiny satellites, computers that grow plants, and an animated orange cat have in common? They are all part of collaborative projects that MIT Libraries' staffer Helen Bailey facilitated between MIT Media Lab researchers and public library staff during a year coordinating the Public Library Innovation Exchange (PLIX).

Media Lab researchers have partnered with public libraries for years, Bailey says, but when the Media Lab Learning Initiative received funding from the Knight Foundation to formalize and expand those relationships through PLIX, they approached the MIT Libraries. They needed a team member with a thorough understanding of how libraries operate and the ability to understand and communicate technical projects to a broad audience.
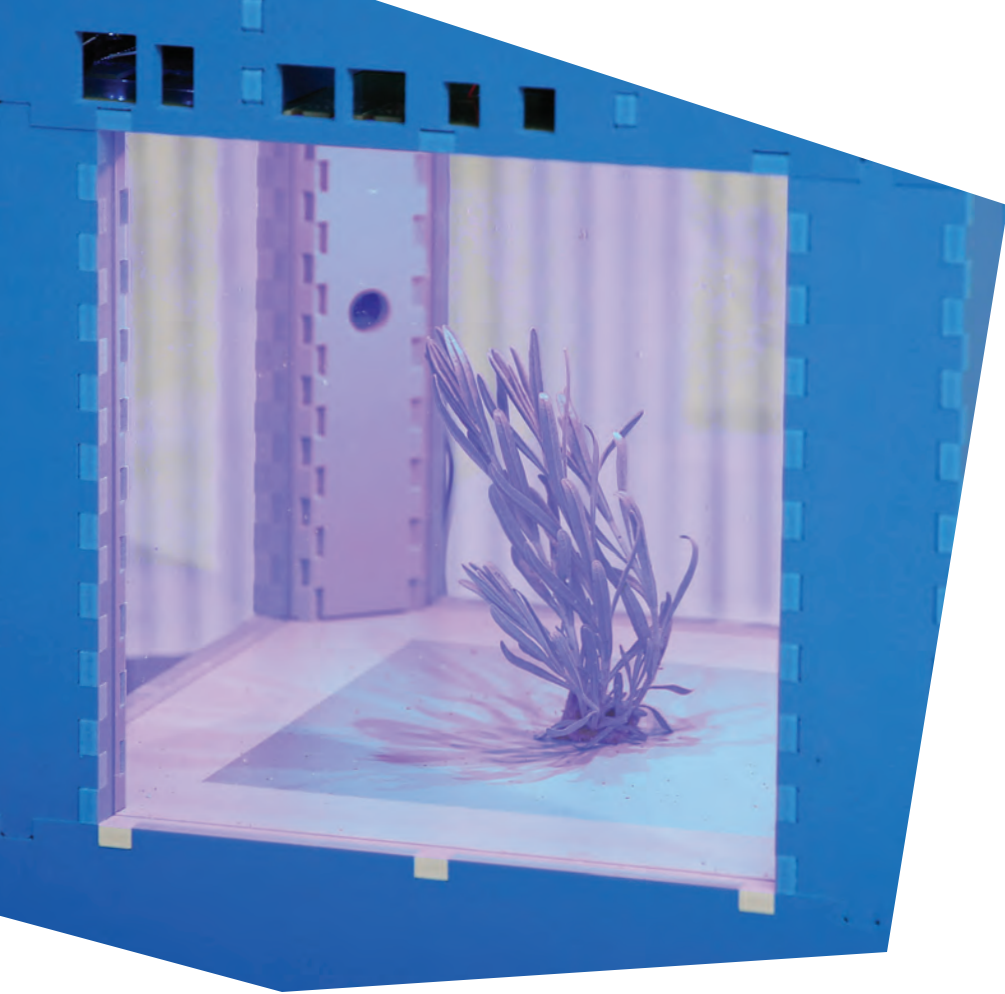
As engagement and data engineer, Bailey typically works on software development for the Libraries. In July 2017 she joined Learning Initiative Director J. Philipp Schmidt and Coordinator Katherine McConachie three days a week to help see PLIX through its first year.

Bailey created an online portal to make available learning tools developed at the Media Lab and helped launch an online community to support the public libraries that use them. But the bulk of her work as PLIX coordinator was spent facilitating intensive residency exchanges that brought public library staff to the Media Lab and sent Media Lab researchers to public libraries all over the country to create new tools that could be used in those communities.

Now that the first year of PLIX has wrapped up, Bailey has returned to the MIT Libraries full time, with a clearer understanding of what the MIT Libraries can offer their colleagues at the Media Lab and in public libraries.

The PLIX team, (from left) Learning Initiative Coordinator Katherine McConachie, Bailey, Learning Initiative Director J. Philipp Schmidt, and Sarah Hoffman '21, in the Lego Lab, one of the Media Lab's workspaces designed to aid in collaboration.

Photo
Bryce Vickmark

"Media Lab researchers want to do cool stuff with other people related to their research," says Bailey. "Why shouldn't that be us at the MIT Libraries? We bring more than just the ability to help them get books or articles. We can also help write APIs to our collections so they can do text and data mining. We can help find or maybe even create inclusive and diverse image data sets for training machine learning algorithms. We have expertise in the Libraries among our staff in so many different areas."

Bailey also sees potential for other partnerships: "Public libraries and academic libraries are not as different as we may think. They are thinking about new ways to reach out to their user communities, meeting them where they are physically and online and in terms of their learning needs and experiences. They are thinking about what learning is and how libraries can fit into the learning process. They want to give their users the skills to be better students and citizens."

For now, Bailey is happy to be back in Digital Library Services at the MIT Libraries. "I've really missed working with my team here. And — as a software engineer — I'm looking forward to getting back to writing code."

A sampling of PLIX projects

Personal Food Computers
Media Lab Open Agriculture Initiative
Akron-Summit County Public Library, Ohio
Free Library of Philadelphia, Pennsylvania
These self-contained growing units have UV lights, a hydroponic growing system, and are attached to a computer that allows users to program conditions like light, temperature, humidity, and nutrients. Both libraries have a strong interest in growing food: the Free Library of Philadelphia has a culinary literacy program, and the Akron-Summit County Public Library works with the agricultural community.

Scratch Extensions
Media Lab Lifelong Kindergarten
Richland Library, South Carolina
Scratch, with its cartoon mascot, Scratch Cat, helps children learn how to code by using picture blocks and puzzles. The Scratch team built an extension to attach to a micro:bit with built-in gesture sensing and output capabilities to a physical object. Kids and teens in library workshops can take toys, attach them to a micro:bit, and then use the object to interact with what's on the screen.

CubeSats
Media Lab Space Exploration Initiative
Cambridge Public Library, Massachusetts
Charlotte Mecklenburg Library, North Carolina
High school students are building 10x10x10cm satellites called CubeSats, which will orbit the Earth to collect climate data. The Space Initiative is designing a CubeStat curriculum for use in libraries, so staff can teach the science that goes into each step of building. The team is also partnering with the Harvard-Smithsonian Center for Astrophysics at the John G. Wolbach Library to build a network of ground stations in public libraries that can retrieve the data from the CubeSats and an open data archive for all the data collected.

Immersed in Collaboration

New virtual and augmented reality resources come to life with guidance from SA+P doctoral candidates

From left:
Daniel Sheehan, Madeline Wrable, Ricardo Alvarez, Cagri Hakan Zaman

Photo
Bryce Vickmark

Virtual and augmented reality (VR/AR) were once the stuff of science fiction, yet users of the new GIS and Data Lab in Rotch Library are finding very real opportunities to deploy these immersive technologies.

"There is a big 'aha' moment when you use VR and AR," says Ricardo Alvarez, a PhD candidate in the Department of Urban Studies and Planning whose research interests include the use of VR/AR for urban and spatial design. "It tricks your biology into thinking you are somewhere else, or someone else."

Both Alvarez and Cagri Hakan Zaman, a PhD candidate in architecture, have provided invaluable input on planning VR/AR resources for the new GIS and Data Lab. They have worked closely with GIS Specialist Madeline Wrable, who has led the Libraries' work in VR/AR, as well as Senior GIS Specialist Daniel Sheehan on selecting equipment, advising on the design of the

> ## "It's not just giving you access to content, it's giving you an experience. It has great potential to become the next library tool."
> ### —Cagri Hakan Zaman

space, and imagining potential applications for research. At MIT, those applications include everything from identifying regions of the brain that link memories, to training drones to avoid crashes, to visualizing sea level rise in Southern Florida. VR/AR makes sense as the next step in the evolution of tools to understand, analyze, and communicate spatially located information — it's a new medium that actually puts you inside it.

"There is a fundamental aspect about seeing things in space; we learn better in space," says Zaman, who develops AI systems that are trained by recording data of people experiencing virtual environments. "It's not just giving you access to content, it's giving you an experience. It has great potential to become the next library tool."

Wrable thinks so, too. "I envision libraries becoming thought of as places to learn new technologies," she says. "The GIS Lab is a natural home for spatial visualization software such as VR and AR." With funding from the Libraries for experimental projects, she purchased the lab's first VR equipment in 2017 and later piloted workshops for the MIT community. Alvarez was an enthusiastic participant, and Wrable has invited him to co-teach subsequent workshops with her.

As plans developed for the new, expanded GIS and Data Lab in Rotch, the Libraries and the School of Architecture and Planning (SA+P) began exploring how their interests in VR/AR could align. In addition to consulting with the Libraries on the Rotch lab, Zaman is leading efforts to set up another VR/AR space within SA+P. The school's assistant dean, Ken Goldsmith, sees both spaces working together as part of "a continuum of resources."

With the GIS and Data Lab open to anyone at MIT, it's an ideal place for the community to explore the technology from a variety of disciplinary perspectives. It can also be the first step in what the team envisions as a learning pipeline for VR/AR. "I'm excited that MIT is investing in this and excited about MIT students being active participants," says Alvarez. "I'm curious to see what the community will do with this technology."

Whatever the future holds for VR/AR at MIT, the Libraries and SA+P have found in each other a refreshingly receptive and collaborative partner. "I don't know where it's going to go, but I know it's a resource we need to have," says Goldsmith. "We'll be going down this road together."

Staff News

Infinite Mile Awards

The MIT Libraries honored the outstanding contributions of its employees on June 19, recognizing achievements in the following categories.

Bringing Out the Best

Jira Software
Normalization Team:
Habibe Artemiev
*Project Manager/
Business Analyst*
Frances Botsford
*Web Product Manager and User
Experience Specialist*

Customer Service

Ad Hoc Aleph Emergency
Responders Team:
Rich Wenger
E-resource Systems Manager
Beth Brennan
Metadata Systems Librarian

Results, Outcome, and Productivity

Caitlin Robles
*Project Manager/
Business Analyst*

Net 18 Change, Phase I Group:
Martina Anderson, Eugenia
Beh, Chris Donnelly, Kathy
Hamilton, Harolyn Hylton,
Jake Meaney, Sally Richter,
Rich Wenger, and Katie
Zimmerman

Communication and Collaboration

Grace Mlady
Facilities Administrator

Community Building

Grace Kindeke
Administrative Assistant

Tough Questions/ Critical Thinkers

Michelle Baildon
*Collections Strategist for
Arts and Humanities*

Christine Moulen '94 "Good Citizen" Award

Melissa Feiden
*Annex Services and User
Experience Librarian*

New Appointments

Tania Hewes Fersenheim
Senior Systems Librarian

Emilie Hardman
*Program Head for Special
Collections*

Yashu Kauffman
Assessment Program Manager

Rachel Van Unen
Archivist for Collections

Retirements

Peter Munstedt
Music Librarian

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29k+
Articles in the OA Collection

10m+
Downloads since OA policy began in 2009

90%
Articles in the OA collection have been downloaded in 90% of the world's countries

News from the MIT Press

MIT Press and MIT Media Lab launch Knowledge Futures Group

In June the MIT Press, in collaboration with the MIT Media Lab, launched the Knowledge Futures Group, a new initiative for the development and deployment of open source technologies. Staffed jointly by the Press and the Media Lab, the partnership is the first of its kind between a university press and a world-class academic lab.

The Knowledge Futures Group's mission is to transform research publishing from a closed, sequential process into an open, community-driven one. The Group's main objectives are to incubate and deploy open source technologies to support both rapid, open dissemination and a shared ecosystem for information review, provenance, and verification.

Among the Knowledge Future Group's inaugural projects is PubPub, an open authoring and publishing platform that socializes the process of knowledge creation by integrating conversation, annotation, and versioning into a digital publication. *Frankenbook*, a free and interactive edition of *Frankenstein: Annotated for Scientists, Engineers, and Creators of All Kinds* (MIT Press, 2017), is one of the first books available on the platform. PubPub is also home to MIT's *Journal of Design and Science* (JoDS), an open access conversation that explores timely, controversial topics in science, design, and society with a particular focus on the nuanced interactions among them.

What's New

Hayden Library Renovation Enters Pre-Design Phase

The Libraries are working with Kennedy Violich Architects (KVA) on the pre-design phase of planning for a proposed renovation of Building 14. Planning will focus on changes that would have the highest impact for the community and especially for students, such as community gathering/event space, group and collaborative workspace, expanded 24-hour study areas, classroom/learning spaces, and shared space with School of the Humanities, Arts, and Social Sciences.

KVA, whose principal Sheila Kennedy is on the faculty in MIT's Department of Architecture, have a well-earned reputation for designing creative, beautiful, and sustainable spaces and have a deep understanding of the Institute and its community. Their current and recently completed projects include the Tozzer Anthropology Building and Schlesinger Library at Harvard University and the North Bennet Street School in Boston.

Libraries Welcome First Visiting Scholar

The MIT Libraries announces its first-ever visiting scholar this fall, an initiative that emerged from the Grand Challenges Summit and the Future of Libraries Task Force recommendation that MIT establish a research agenda in information science and scholarly communication. With support from the University of Arizona, the Ohio State University, the University of Pittsburgh, and UCLA, the Libraries will host Philip Cohen, a professor of sociology at the University of Maryland, College Park, whose research concerns demography and inequality. Cohen will collaborate with MIT Libraries Research Director Micah Altman and others on research frameworks for open scholarship.

MIT Reads Partners with Black Students' Union

MIT Libraries is partnering with the MIT Black Students' Union (BSU), which celebrates the 50th anniversary of its founding this year, for the fall 2018 MIT Reads selection, *Dawn* by Octavia Butler. The visionary science fiction writer, known for creating strong protagonists who were often black women, explored "far-reaching issues of race, sex, power and, ultimately, what it means to be human" *(New York Times)*. This is the third year of MIT Reads, an Institute-wide reading and discussion program that partners with campus groups to choose a book for the MIT community to read and explore through small group conversations, panel discussions, and author events.

Everyday Science, Uncommon Resource

Victor and Ruth McElheny support the Institute Archives in more ways than one

Victor and Ruth McElheny

Photo
Bryce Vickmark

Around the time Sputnik 1 entered Earth's orbit, a distinguished career in science journalism was also launched. As a young reporter for the *Charlotte Observer*, Victor McElheny was called upon to write about the space race and other issues in science at a time when the public was increasingly awakening to its impact on their lives.

"Science isn't just happening in the minds of geniuses," says McElheny. "It changes the daily lives of ordinary people."

McElheny would go on to found MIT's Knight Science Journalism (KSJ) Program and, as its director for 15 years, pursue a mission to improve public understanding of science and technology.

In his early years as a science reporter, McElheny exhibited an archivist's impulse. He began collecting science-related newspaper and magazine articles, news releases, and notes, building a resource he could refer to as he continued to cover science and technology. He kept it up for 60 years.

"It was like a naturally accreting coral reef of the popular discussion of science," says McElheny, who gave more than 350 boxes of his papers to the Institute Archives and Special Collections in 2012. "The collection seemed relevant to MIT's mission. I thought it could potentially have extra value by being here, by being preserved and made accessible."

Indeed the collection has provided what McElheny calls, "the sense of a usable past." His records joined other documents from the KSJ program's history such as course materials, publications, and photographs. The collection, which has been used by KSJ fellows, researchers, and Science, Technology, and Society doctoral students, tells a multifaceted story of the public understanding of technology and science, one in which MIT plays a central role.

The Institute Archives was also a critical resource for McElheny as he wrote biographies of Edwin Land and James Watson and a history of the Human Genome Project.

> ## "Science isn't just happening in the minds of geniuses, it changes the daily lives of ordinary people"
> ## –Victor McElheny

McElheny and his wife, Ruth, share a passion for libraries ("We even visit them on vacation," she says) and believe in their power as an institution. The McElhenys recently made a generous gift to MIT Libraries to support the work of the Institute Archives. Further, they have made a planned gift to ensure that its collections will be accessible to researchers, journalists, and the public for years to come.

So what does Victor make of the current moment, when scientists march on Washington, smart phones rule our lives, and climate change will force new ways of building cities? "It's almost too interesting," he says. And more critical than ever for a community like MIT to share its knowledge, and continue the conversation, with the rest of the world.

Honor Roll

Thank you

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