

Media Lab

For the [Media Lab](#), FY2011 was a year of both looking back and looking forward. In October 2010 we celebrated the Lab's 25th anniversary, and in April we announced the appointment of Joi Ito as the Lab's next director, effective September 2011.

The Lab's 25th anniversary celebration on October 15–16 brought together approximately 1,000 alumni, sponsors, and friends. For many, this was the first opportunity to experience our wonderful new building firsthand, as well as to reconnect with old friends while meeting current students and faculty. October 15 included a daylong program hosted by professor Tod Machover. The morning session included presentations by current and former graduate students and a "Future Visions" session that introduced the work of the Lab's five newest faculty members: Ed Boyden, Leah Buechley, César Hidalgo, Neri Oxman, and Ramesh Raskar. The afternoon session, "Soul(s) of the Media Lab" – moderated by award-winning NPR journalist John Hockenberry – featured several founding members of the Lab, including chairman emeritus Nicholas Negroponte, professor Marvin Minsky, and the Lab's associate director, Andy Lippman. It also featured talks by Google chairman and CEO Eric Schmidt and former MIT president Charles Vest.

Throughout the 25th anniversary celebration, all guests were invited to engage with the Lab's new Glass Infrastructure, which provides a social, place-based information window into the Media Lab via 30 touch-sensitive screens donated by Lab sponsor Samsung. The screens recognized guests' radio frequency identification (RFID) name badges, triggering conversations among visitors about the work they jointly explored and allowing them to collect sets of digital "charms" to be saved and traded.

This year also ushered in an exciting new era for the Lab when we announced that Joi Ito would become the Lab's next director. Ito is a leading thinker and writer on innovation, global technology policy, and the role of the Internet in transforming society. A vocal advocate of emergent democracy, privacy, and Internet freedom, he is board chair (and former CEO) of Creative Commons and sits on the boards of the Mozilla Foundation, WITNESS, and Global Voices. In Japan he was a founder of Digital Garage, and he helped establish and later became CEO of the country's first commercial Internet service provider. Ito was an early investor in more than 40 companies, including Flickr, Six Apart, Last.fm, Kongregate, Kickstarter, and Twitter. His honors include a *Time* magazine "Cyber-Elite" listing in 1997 (at age 31) and his selection as one of the "Global Leaders for Tomorrow" by the World Economic Forum (2001). In 2008, *BusinessWeek* named him one of the "25 Most Influential People on the Web."

A sampling of 2010–2011 Media Lab research initiatives includes:

- NETRA (Near-Eye Tool for Refractive Assessment), a small, plastic device produced for less than \$2 that provides a simple way for people in the developing world to use mobile phones to give themselves eye exams in about two minutes.

- Konbit, a mobile phone–based system that helps communities rebuild by soliciting the skill sets of local residents. The system, which does not require participants to be literate, indexes the skills of those who phone in, translates the responses to English, and makes them searchable by nongovernmental organizations (NGOs) via natural language processing and visualization techniques.
- LuminAR, which transforms a traditional, incandescent light bulb and desk lamp into a robotic, digital information device that provides just-in-time projected information.
- Scratch, an open-source programming language for kids that allows them to create their own interactive stories, games, music, and animations for the web. Children around the world have already created close to two million Scratch projects.
- New tools for affective-cognitive project evaluation that can help to predict customer decisions better than any focus group. This involves using multimodal affective measures (such as facial expressions and skin conductance) combined with behavioral, anticipatory-motivational, and self-report cognitive measures in a novel computational model.
- Advances in commonsense computing and natural language recognition for the detection, prevention, and mitigation of cyberbullying in social networks.
- The Glass Infrastructure, a social, place-based information window into the Media Lab via 30 touch-sensitive screens strategically placed throughout the physical complex. The Glass Infrastructure facilitates discussion about research; demonstrates a framework for an open, integrated information technology (IT) system; and shows new uses for the system.
- Beyond, a collapsible input device for direct 3D manipulation. When pressed against a screen, Beyond collapses in the physical world and extends into the digital space of the screen, giving users the illusion that they are inserting the tool into the virtual space and allowing them to interact directly with 3D media without having to wear special glasses. Users can select, draw, and sculpt in 3D virtual space and seamlessly transition between 2D and 3D manipulation.
- Living Wall, which experiments with interactive wallpaper that can be programmed to monitor its environment, control lighting and sound, and generally serve as a beautiful and unobtrusive way to enrich environments with computation. By running a hand across the wallpaper, a person can turn on a lamp, play music, or send a message to a friend.

Exhibitions and Performances

Media Lab researchers played a major role in MIT's Festival of Art, Science, and Technology (FAST), a prominent feature of the Institute's 150th anniversary celebration. Professor Tod Machover directed the festival, and his robotic opera, *Death and the Powers*, was one of the festival's highlights. The opera, commissioned by the Futurum Association of Monaco, had its world premiere in Monte Carlo in September and its US premiere March 18–25 in Boston. Scored for an ensemble of specially designed

hyperinstruments, the opera is set on a first-of-its-kind robotic, animatronic stage. As the opera progresses, the stage comes alive as the main character in the drama. The production was a collaboration with the American Repertory Theater.

Another Lab contribution to FAST was a symposium on the history and future of music and technology (February 3–5) moderated by Machover and associate professor Joe Paradiso. Other Lab participants were professors emeriti Marvin Minsky and Barry Vercoe and alumnus Eran Egozy.

FAST Light (May 7–8), the culminating event of the three-month festival, featured more than 20 installations that illuminated work throughout the campus and along the Charles River. Media Lab contributors to FAST Light included:

- Suzanne Seitinger: *LightBridge*
- Eric Rosenbaum and Charles DeTar: (*now (now(now))*)
- Elena Jessop and Peter Torpey: *Bibliodoptera*
- Javier Hernandez and M. Ehsan Hoque: *MIT Mood Meter*
- Praveen Subramani and Anna Kotova (undergraduate student in architecture): *Night of Numbers*
- Eyal Shahar and Akito van Troyer (with support from Seung Jin Ham of Harvard): *Chroma District*

Also as part of the Institute's 150th anniversary celebration, several Media Lab projects were included in the MIT150 exhibition at the MIT Museum. Every evening from December 10 to April 1, the museum featured *Luminous Windows* holography, celebrating the work of the late professor Steve Benton and his spatial imaging research group, with holograms on view from the MIT Museum windows. The exhibit also included the Media Lab–designed conductor's jacket worn by Keith Lockhart, conductor of the Boston Pops, and the One Laptop per Child XO laptop.

Fellows

Six corporate sponsors—Audi-VW, Enel, Hasbro, Intel, Nokia, and Procter & Gamble—funded student fellows. In addition, each year the Lab awards the Steven R. Holtzman Fellowship for Digital Expression, funded by the family and friends of the late Steven R. Holtzman. The following graduate students were named fellows during FY2011:

- Nancy Foen (Audi-VW)
- Gershon Dublon and Daniel Leithinger (Enel)
- Seth Hunter (Hasbro)
- Jie Qi (Steven R. Holtzman Fellowship for Digital Expression)
- Natan Linder and Brian Mayton (Intel)
- Sean Follmer (Nokia)
- Daniel McDuff (Procter & Gamble)

Sponsors

The Media Lab, whose annual operating budget was approximately \$35M in FY2011, continued to work on fostering a spirit of collaboration with Lab sponsors and advancing a model for one-on-one relationships between sponsoring companies and individual faculty members.

The Media Lab welcomed 16 new sponsors: Aegis Media, the Benesse Corporation, Deloitte LP, ESPN, the Fidelity Center for Advanced Technology, Fujitsu Limited, GlaxoSmithKline, the Hyundai Motor Company, Mars Inc., Northrop Grumman, NTT (Nippon Telegraph & Telephone Corporation), the Panasonic Corporation, Research in Motion, Sanofi-Aventis, Sberbank of Russia, and Toys“R”Us Inc.

Patents

The Lab filed 27 patent applications during FY2011, and 23 patents were issued.

Directed Research

In FY2011, the Media Lab submitted 77 proposals for new directed research projects, including postdoctoral fellowships. Forty-six of these proposals remain under consideration, and 23 have resulted in awards. Approximately half of the proposals submitted were in response to government solicitations (National Science Foundation, National Institutes of Health, Defense Advanced Research Projects Agency, Department of Veterans Affairs, and Department of Defense), with the other half submitted to foundations and nongovernmental sources. The new awards ranged in size from \$20K to \$593K and spanned six months to five years, with awards averaging \$125K per year for three years.

Human Resources/Administration

Martha Collins became the Lab’s director of human resources in December 2010. Prior to joining the Lab, she was a human resources officer in MIT’s Human Resources office for seven years. Collins replaced Mary Markel Murphy, who took a position as the assistant director of administration in MIT’s Research Laboratory of Electronics. The Lab has promoted several people this year. Nicole Degnan, formerly an administrative assistant II in the Center for Bits and Atoms, became an assistant fiscal officer in the Lab’s finance group. Marissa Wozniak, also from the finance group, was promoted to contracts and intellectual property administrator. The Lab would also like to congratulate Mirei Rioux, program manager of the Things That Think Consortium, for receiving an Infinite Mile Award from the School of Architecture and Planning recognizing her outstanding contributions to the Lab and its sponsors.

Mitchel Resnick

Program Head, Media Arts and Sciences

Professor of Media Arts and Sciences

LEGO Papert Career Development Professor of Learning Research

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