When the Media Lab first opened its doors in 1985, we combined a vision of a digital future with a new style of creative invention. Now, 25 years later, we’ve done it again....

On March 5, 2010, MIT officially dedicated the Media Lab Complex—an architectural showcase that offers a new model for how physical space can be fully integrated with a research program. The entire complex will function as an evolving research platform, seamlessly connecting the real and virtual worlds.

Designed by Pritzker Prize-winning architect Fumihiko Maki, who came from Tokyo to participate in the dedication, the new 163,000-square-foot building (connected to the existing I.M. Pei-designed Wiesner Building) offers new levels of transparency. The goal is a space for creativity, collaboration, and learning that pulses with the efforts of some 30 research teams functioning as a single, massively interconnected unit—an effort that expands collaboration beyond our walls to visitors, sponsors, colleagues, and the public at large.

“This fantastic new home delivers on our unique vision of how to conduct society-changing research—no boundaries, no walls—just a flow of interdisciplinary ideas and plenty of open space to invent just about anything,” says Lab Director Frank Moss.

Sponsors will be introduced to the new building during the May sponsor meeting when the Lab hosts Diagonal Thinking, a one-day symposium on Tuesday, May 25. This sponsor event will use the new building as a jumping-off point to challenge preconceived notions about the intersection of physical space, technology, and creative thinking. Hosted by award-winning National Public Radio commentator Tom Ashbrook, the Lab will present unconventional ideas on ways to cross intellectual streets rather than follow them.
Sourcemap: Seeing Green

We all want to be good citizens of the world. As consumers, we want to know that the goods and services we’re purchasing are being created with a sensitivity to both the environment and best business practices. As producers, we want to show that we are reducing our carbon footprint, and that our supply chain is favoring local economies.

But how? One new tool that promises to help is Sourcemap, a volunteer-driven, social-networking Web application created by Leonardo Bonanni, a PhD candidate studying with Professor Hiroshi Ishii in the Media Lab’s Tangible Media group.

Sourcemap’s easy-to-understand visualizations show the environmental impact of consumer products—information that is almost never available to the public. With these maps, anyone can judge the ecological impact of a product by seeing not just its components, but also where they come from and how they are shipped. For example, one map representing the manufacturing of a laptop shows that it contains 49 basic materials from 34 different countries.

“While you might be told that something is green, you almost never get to see the facts underlying those claims,” says Bonanni. “This tool will create total transparency for both consumers and producers.”

“Now the site includes a carbon calculator, but going forward, Sourcemap could also be used to track other natural resources, such as water or forests, or to publicize a product’s health impact on a community,” says Bonanni. “We also hope to develop more applications and work on ways to validate the information that is being entered.”

First developed for Future Craft: Radical Sustainability in Product Design—an industrial design course co-taught by Bonanni and Media Lab PhD Amanda Parkes—the system was put into use last year when Bonanni traveled to Scotland to visit Lab sponsor Highlands & Islands Enterprise. There he started small, working with five local businesses. One was a butcher who wanted to show the quality of his meat by tracking it to local farms. Another was a small brewery that used Sourcemap to make the case for opening a local bottling plant. “It’s a tool to help small businesses make sustainable decisions, and then to use those decisions to market their brands,” says Bonanni. But Sourcemap’s impact is likely to go well beyond smaller enterprises. Several large corporations have now expressed interest, showing that Sourcemap may soon be helping millions around the world to “see green.”

The Sourcemap Team

Sourcemap developer Leo Bonanni is pictured with the 2010 Netexplorateur award. Other collaborators are Lab alumnus Matthew Hockenberry, a visiting scientist at the Lab who serves as Sourcemap’s principal Web developer, and David Zwarg, the project’s first volunteer developer, who created its user-friendly map interface.
Media Lab@Tokyo

Associate Media Lab Director Hiroshi Ishii and Lab sponsor Dentsu Inc. co-hosted “Bridging Body, Tangibles, and Community with Bits” in Tokyo on January 13. Some 80 members of sponsor companies—many of whom do not have the opportunity to travel to Cambridge—got a first-hand opportunity to interact both with Lab researchers and with other Lab sponsors.

Professor Ishii, who also co-heads the Lab’s Things That Think consortium and directs the Tangible Media group, spoke on “Defying Gravity.” Graduate students Ken Endo (Biomechatronics), Pranav Mistry (Fluid Interfaces), and Ben Weber (Human Dynamics) also presented.

NEW BOOK

Reinventing the Automobile: Personal Urban Mobility for the 21st Century

William J. Mitchell, Christopher E. Borroni-Bird, and Lawrence D. Burns
MIT Press (2010)

In this book, William J. Mitchell, head of the Media Lab’s Smart Cities group, reimagines the automobile for the twenty-first century. With co-authors Christopher Borroni-Bird (GM’s director of advanced technology vehicle concepts) and Lawrence Burns (GM’s former vice president for research and development and strategic planning), Mitchell proposes that today’s cars follow the same basic design principles as the Model T: they are well suited for conveying multiple passengers over long distances at high speeds, but inefficient for providing personal mobility within cities, where most of the world’s people now live. In this pathbreaking book, the authors roll out four big ideas that will make a revolutionary new approach to personal urban mobility both feasible and timely.

Honors Galore!

Riley Crane, Manuel Cebrian, Anmol Madan, Galen Pickard, and Wei Pan of the Lab’s the Human Dynamics group bested more than 4,000 other entrants to win DARPA’s Red Balloon Challenge in December. Top coverage of their triumph included The New York Times, CNN, and The Wall Street Journal.

The Media Lab was once again well represented on Technology Review’s annual list of outstanding innovators under the age of 35. The 2009 honorees included Pranav Mistry (Fluid Interfaces), Nathan Eagle (PhD 2005, Human Dynamics), and Andrea Lockerd Thomaz (PhD 2006, Personal Robots). Mistry was also included on the Forbes India list of Indians of the Year.

Design kudos: Marcelo Coelho (Fluid Interfaces) and alum Jamie Zigelbaum (Tangible Media) were among four winners of the 2010 W Hotels Designers of the Future Award for “Six-Forty by Four-Eighty,” an interactive installation of thousands of graspable, luminescent pixels controlled by remote light brushes.

Richard The (Design Ecology) won first prize in the Harold and Arlene Schnitzer Prize in the Visual Arts.

Benesse Career Development Professor Ed Boyden was awarded $500,000 over two years through the American Recovery and Reinvestment Act (prime sponsor, NIH). The funds will support a collaborative project with the Massachusetts General Hospital focusing on finding neural targets that, when modulated, enable more efficacious treatment of pain.

At the 2010 Consumer Electronics Show, Children’s Technology Review announced that Scratch won its first annual Kids@Play interactive awards in the “Informal Learning” category. LEGO Papert Professor Mitchel Resnick won the award in the Pioneer category.

Professor Deb Roy and Jeff Orkin (Cognitive Machines) were awarded a $144,000 grant from the Singapore-MIT GAMBIT Game Lab for “Collective A.I. for Social Role-Playing Agents.” This grant will fund the development of a new game for behavior capture and generation, using technologies from The Restaurant Game project.

NEC Career Development Professor Ramesh Raskar’s paper, “Looking Around the Corner Using Transient Imaging,” received the honorable mention of the Marr Prize—the top honor in computer vision—at ICCV (the Twelfth IEEE International Conference on Computer Vision). The paper’s co-authors were Ahmed Kirmani (Camera Culture), Tyler Hutchison, and James Davis.

AT&T Career Development Professor Leah Buechley received two NSF awards for her work on computational textiles.

Matt Hirsch’s (Information Ecology) BiDi project, in collaboration with Douglas Lanman, Ramesh Raskar, and Henry Holtzman, won second place in ACM’s student research competition.

There’s an app for that….Clark Freifeld’s (New Media Medicine) HealthMap app, Outbreaks Near Me, was released for both the iPhone and Android. The project is a collaboration with Children’s Hospital Boston.

And congratulations to all our recent graduates, whose theses can be found on insite, the Lab’s password-protected Web hub for sponsors at: http://www.media.mit.edu/insite.
MIT Media Lab Fellows

FROM ROBOTS TO HEALTHCARE, STORYTELLING TO SOFTWARE, THIRTEEN FELLOWS REPRESENT THE TRUE MULTIDISCIPLINARY SPIRIT OF THE MEDIA LAB.

2009-2010

BBVA
Dustin Arthur Smith, a third-year PhD student, is investigating ways that computers can communicate everyday problem-solving knowledge to their users in English. As part of his master’s work at the Lab, Smith developed an intelligent calendar agent and a mobile to-do list application. In addition to his MS in media arts and sciences from MIT, he earned a BSc in computer science from Wake Forest University.
Group: Software Agents
Advisor: Henry Lieberman
http://www.media.mit.edu/~dustin

HASBRO
First-year PhD student Seth Hunter explores how to design more seamless interfaces between people and information. He integrates software design, video projection, and sound to support creative engagement in the physical world, and is currently working to create interactive interfaces that will enrich social experiences. Hunter earned his BA in cognitive science and digital art from the University of Virginia, and an MFA in art and technology from the School of the Art Institute of Chicago. He was a recipient of the Presidential Trustee Scholarship, and has been employed as a multimedia developer, instructional technologist, media artist, and teacher.
Group: Fluid Interfaces
Advisor: Pattie Maes
http://www.media.mit.edu/~hunters

L to R: Sean Follmer, Nokia
Pei-Yu (Peggy) Chi, ITRI
Drew Harry, IBM
Dustin Arthur Smith, BBVA
Ryan Wistort, a second-year master’s student, is seeking cost-effective ways to enable rich social interactions with robots. He is most interested in using these technologies to develop new education applications capable of reaching large audiences. Currently, Wistort is exploring how best to enable robot-based creative media and content-creation models for eldercare applications, and is working with NASA to design robotic systems for planetary exploration.

Group: Personal Robots
Advisor: Cynthia Breazeal
http://www.media.mit.edu/~rwistort

Doctoral candidate Peter Schmitt’s research addresses challenges in digital prototyping and fabrication. His projects integrate mechanical and electronic hardware components with software as a means to rethink object design. He is currently exploring new approaches to 3-D printing, CNC machines, and robotics; past work has focused on electric vehicle design, especially integrated wheel assemblies, for which he has a patent pending. He received his MS in media arts and sciences from MIT, and a Diploma in fine arts and sculpture from the Academy of Fine Arts in Düsseldorf, Germany, where he was named a Meisterschüler, the highest honor a student can receive.

Group: Smart Cities
Advisor: William J. Mitchell
http://cities.media.mit.edu

IBM
Second-year PhD student Drew Harry focuses on the design and configuration of synchronous social spaces. This includes expanding our ideas about how to use virtual worlds for meetings, presentations, and play, as well as ways to augment physical environments to create new modes of social interaction. Past projects have explored identity issues in online games, sharing presence and location on mobile devices, and collaboration technologies. Before joining the Media Lab, Harry was a member of the inaugural class at Olin College of Engineering, where he received a BS in electrical and computer engineering. He received his MS in media arts and sciences from MIT. He has worked at IBM Research, Sun Labs, and Motorola Labs. In 2005, he founded Thinkature, a Web-based, synchronous, collaborative workspace.

Group: Speech + Mobility
Advisor: Chris Schmandt
http://www.media.mit.edu/~dharry

STEVEN R. HOLTZMAN FELLOWSHIP FOR DIGITAL EXPRESSION
Second-year master’s student Richard The explores the future of visual culture through projects that bridge the gap between traditional design disciplines and digital media. He has a background in graphic and interaction design, and received his BA in visual communication from the Berlin University of the Arts. Before joining the MIT Media Lab, he worked for the renowned design studio Sagmeister Inc. in New York City, and he is currently a member of Berlin-based design studio TheGreenEyed. His work has been shown at Ars Electronica, Design Museum London, and Experimenta Design Amsterdam, and has received numerous international awards.

Group: Design Ecology
Advisor: David Small
http://www.media.mit.edu/~rthe

L to R: Richard The, Steven R. Holtzman Fellowship
Andrés Monroy-Hernández, Telemex
Andrea Colaço, LG Electronics
Seth Hunter, Hasbro
**Andrea Colaço**, a second-year master’s student, is interested in harnessing mobile technologies as a way to strengthen the social element of interaction. In particular, her work explores new ways to be co-present with remote friends while watching television via an acoustic environment. Colaço holds a BS in electrical engineering from Birla Institute of Technology & Science in Pilani, India. Before coming to MIT, she worked on low-cost information access devices and paper-digital convergence at HP Labs, India.

Group: Speech + Mobility
Advisor: Chris Schmandt
http://www.media.mit.edu/~acolaco

**Matt Donahoe** is a first-year master’s student interested in group collaboration. He is currently developing a TV that is controllable from any smartphone or laptop, allowing everyone to look for content on their individual devices and share it with the group by sending it to the television. Prior to coming to the Media Lab, he received his BS in engineering (systems) from Olin College of Engineering.

Group: Speech + Mobility
Advisor: Chris Schmandt
http://www.media.mit.edu/~donahoe

**I CHOSE TO COME TO THE MEDIA LAB BECAUSE THE WORK DONE HERE IS DIRECTLY APPLIED TO REAL ISSUES PEOPLE FACE IN THEIR LIVES.**

—Pei-Yu (Peggy) Chi

**ITRI**

Master’s candidate Pei-Yu (Peggy) Chi explores how our daily activities can be enhanced in an intuitive way by using computer intelligence. Her current project, Raconteur, is an intelligent storytelling interface that helps users assemble coherent stories from media elements gathered through chatting with friends. Chi received the People’s Choice Award from the ACM Special Interest Group on Computer-Human Interaction (CHI) 2007 for her previous work on a nutrition-aware kitchen. She holds a MS in computer science and a BBA in information management from National Taiwan University.

Group: Software Agents
Advisor: Henry Lieberman
http://www.media.mit.edu/~peggychi

**Nokia**

**Sean Fallmer** is a first-year master’s student exploring how children can connect at a distance through storytelling and artifact creation. He is studying ways that these digital and tangible interfaces can both create stronger relationships for families separated by long distances, and empower children as authors and designers. He holds a BS in engineering and product design with a minor in computer science from Stanford University, where he worked with the HCI group on prototyping tools for physical computing, and with Nokia Research on networked toys. His research has been presented at CHI, NIME, and the Maker Faire.

Group: Tangible Media
Advisor: Hiroshi Ishii
http://web.mit.edu/~sfollmer

**ORANGE LABS BOSTON**

Physician, technologist, and PhD student John Moore is working to fundamentally change the role that patients can play in their care by empowering them with knowledge, confidence, and channels for communication. He is building a platform that takes a radical new approach not only to doctor-patient collaboration, but also to the role that family members, friends, peers, and others play in health behavior change. Moore received both a BS in biomedical engineering and a medical degree from Boston University. Before attending medical school, he was a Fulbright Scholar in Belgium, where he conducted clinical engineering studies on neurological movement disorders.

Group: New Media Medicine
Advisor: Frank Moss
http://newmed.media.mit.edu

**Procter & Gamble**

Daniel McDuff is a first-year master’s student interested in using computer vision and machine learning to enable the automated recognition of affect. He is also interested in technology for remote measurement of physiology. McDuff received his bachelor’s degree, with first-class honors, and master’s degree in engineering from Cambridge University. Prior to joining the Media Lab, he worked for the Defense Science and Technology Laboratory (DSTL) in the United Kingdom.

Group: Affective Computing
Advisor: Rosalind W. Picard
http://affect.media.mit.edu

**Telemex**

Third-year PhD student Andrés Monroy-Hernández is interested in the design of Web-based tools for cooperation and collaboration. He leads the development of the Scratch online community, which, via its Web site, enhances the technological fluency of young people. Creating and sharing Scratch projects helps young people learn to think creatively, reason systematically, and work collaboratively while also learning important mathematical and computational ideas. This work received an honorary mention at the Ars Electronica Prize 2008, and Monroy-Hernández was awarded a scholarship to the Oxford Internet Institute Summer Program in 2009. He received a BS in electronic systems engineering from Tec de Monterrey in Mexico, and an MS in media arts and sciences from MIT.

Group: Lifelong Kindergarten
Advisor: Mitchel Resnick
http://www.media.mit.edu/~andresmh