

Knights Science Journalism fellows arrive on campus

The 25th anniversary class of Knight Science Journalism fellows—a group of 10 writers and editors from six countries—has begun taking classes at MIT. During their year on campus, the journalists will also be visiting labs, interviewing researchers and attending twice-weekly Knight seminars, most taught by MIT faculty members.

The new Knights are:

Pam Belluck, New England bureau chief of The New York Times, who is preparing to specialize in medical coverage.

Cathy Clabby, science reporter of the Raleigh, N.C., News & Observer.

Pere Estupinyà, editor of “Redes,” a popular science television program in Spain.

Jonathan Fahey, associate editor at Forbes magazine.

Zarina Khan, who covers science, medicine and the environment for Emirates Today, published in Dubai.

John Mangels, science reporter for

the Cleveland Plain Dealer.

Esther Nakkazi, science and medical reporter for The East African, which circulates in Uganda, Kenya, Tanzania and Rwanda.

Julie Robotham, medical editor of The Sydney Morning Herald in Australia.

Keith Seinfeld, science and medical reporter at KPLU, the PBS affiliate in Seattle.

Ivan Semeniuk, New Scientist’s U.S. bureau chief, based in Cambridge.

The MIT community is invited to meet the new Knights at a reception Thursday, Sept. 20, from 4 to 6 p.m. in the Faculty Club. It’s sponsored by Technology Review magazine, the MIT News Office and the Knight Fellowships.

The Knight Fellowships, part of the Science, Technology and Society program in the School of Humanities, Arts, and Social Sciences, is funded chiefly by an endowment from the John S. and James L. Knight Foundation.



PHOTO / GRAHAM RAMSAY

Left to right: Molly Seamans, administrative assistant; Esther Nakkazi; John Mangels; Julie Robotham; Pam Belluck; Boyce Rensberger, director; Ivan Semeniuk; Pere Estupinyà; Keith Seinfeld; Zarina Khan; Catherine Clabby; Jonathan Fahey; Kathy Boisvert, assistant director.

‘Wiki City Rome’ draws map like no other

Greg Frost
News Office

Residents of Italy’s capital glimpsed the future of urban mapmaking this month with the launch of “Wiki City Rome,” a project developed at MIT that uses data from cellphones and other wireless technology to illustrate the city’s pulse in real time.

The project debuted Sept. 8 during Rome’s “Notte Bianca,” or white night, an all-night festival of events across the capital city. During that night, anyone with an Internet connection could see a unique map of the Italian capital showing the movements of crowds, event locations, and the real-time position of city buses and trains.

The map was also broadcast on a big-screen display in the heart of Rome, giving Romans real-time feedback on the human dynamics in their immediate surroundings.

Wiki City Rome stemmed from MIT’s SENSEable City Laboratory, an initiative directed by Carlo Ratti that studies the impact of new technologies on cities. The project built on the work of “Real Time Rome,” presented during the 2006 Venice Architecture Biennale, the prestigious biannual exhibition of contemporary art.

Organizers said Wiki City Rome raises the intriguing prospect of a map drawn on the basis of dynamic elements of which the map itself is an active part. According to researcher Francesco Calabrese of SENSEable City Lab, a person could consult the map to find the most crowded place to drink an aperitivo—and then identify the least congested route by which to reach it.

“Rome’s Notte Bianca is all about the city, the people and the events, and Wiki

City Rome gave Romans a new awareness of how they move within their city in response to this exceptional pulse of activities,” said researcher Kristian Kloeckl, a SENSEable City Lab member who is also working on the project.

“How do people react towards this new perspective on their own city while they are determining the city’s very own dynamic? How does having access to real-time data in the context of possible action alter the process of decision-making in how to go about different activities?” Kloeckl asked. “These are among the questions we may be able to answer.”

By looking at a city using a “real-time control system” as a working analogy, the Wiki City project studies tools that enable people to become prime actors themselves in improving the efficiency of urban systems. In coming years, the Wiki City project will develop as an open platform where anybody can download and upload data that are location and time sensitive.

“By deploying developments of the ‘Web 2.0’ and the ‘Semantic Web,’ Wiki City can be a significant leap forward towards a pervasive ‘Internet of things’ to support human action and interaction,” said Carlo Ratti.

Ratti’s team obtains its data anonymously from cell phones, GPS devices on buses and taxis, and other wireless mobile devices. Data are made anonymous and aggregated from the beginning, so there are no implications for individual privacy.

Partnering with the SENSEable City Lab on Wiki City Rome are SEAT Pagine Gialle, Telecom Italia, Telespazio, the Rome public transportation authority ATAC, La Repubblica, and Trenitalia.

In addition to Kloeckl, Calabrese and Ratti, members of the Wiki City Rome team include Assaf Biderman, Bernd Resch and Fabien Girardin.

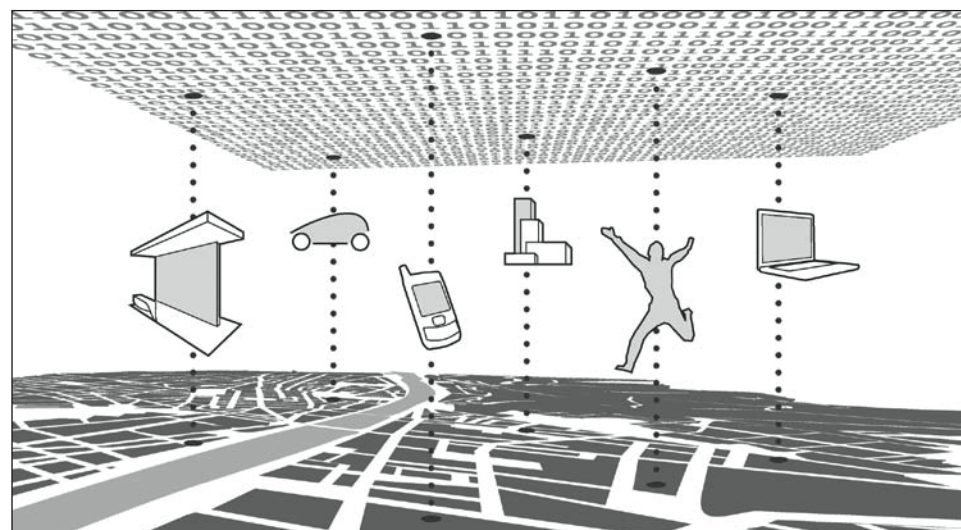


IMAGE COURTESY / KRISTIAN KLOECKL

In the ‘Wiki City Rome’ project, an MIT team obtained data anonymously from cell phones and other devices to map Rome in real time.

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ents, a chemist and a mathematician, at the age of 7. When he was 13, he started to work at Rutgers to develop one of the first e-mail systems ever built, which eventually won him a Westinghouse Science Award.

At MIT, Ayyadurai was founder and editor of a newspaper called The Student and an activist who worked to raise awareness of global and campus issues such as apartheid, U.S. policies overseas, cuts in student aid and sexual harassment on campus.

“My intention was always to make the MIT community aware of our being part of a larger global society, and we as leaders had a duty to fight for those who had less,” he said.

After graduating from MIT in 1986 with a degree in electrical engineering and computer science, he was one of the early developers of a graphic software program that was eventually sold to Lotus. He had always been interested in art and design, so after selling his company he went to the MIT Media Lab and got a master’s degree in animation, focusing on how to present scientific data visually. He also holds a master’s degree in mechanical engineering from MIT.

His next venture was a software program called EchoMail, which companies can use to automatically sort and respond to customer e-mails. EchoMail has been used by major companies including Nike, Citibank, IBM and Proctor & Gamble.

In 2004, Ayyadurai returned to MIT, this time to work on a Ph.D. in systems biology, a relatively new field that integrates biology, engineering and computer science. The goal of systems biology is to figure out how the layers of a biological system, from genes to cells to organs to the whole body, are linked.

Systems biologists start by figuring out how individual cellular pathways work, but deciphering just one pathway can take years. To speed up that process, Ayyadurai developed a computer model that can integrate the activities of all the different pathways in a cell—work that formed the basis of his doctoral thesis.

Professor Dewey Forbes, Ayyadurai’s thesis advisor, said the project was conceived as a tool that would help the biological community address the large-scale problem of modeling the complexity of a complete cell.

“In the end, Shiva not only provided the basic system called Cytosolve, but he used it to create a new composite model of the upregulation of interferon following viral infection,” said Forbes. “There is a lot of excitement about the several aspects of the thesis, and much of it should be in public journals in the near future.”

To Ayyadurai, who defended his thesis last month, the appeal of systems biology is its combination of a range of fields, especially computing and medicine.

“For me, this goes back to everything I wanted to do,” he said.

AWARDS AND HONORS

Lorlene Hoyt, assistant professor of urban studies and planning, is the winner of this year’s Ernest A. Lynton Award for the Scholarship of Engagement given by the New England Resource Center for Higher Education.



Lorlene Hoyt

Hoyt studies and teaches on urban revitalization strategies, business improvement districts, and planning education. She is the project director of MIT@Lawrence, a university-community partnership focused on affordable housing, community asset-building and youth pathways to education and careers.

The single Lynton Award recipient from a pool of 72 nominations from across the country, Hoyt has been invited to present her work at the annual conference of the Coalition of Urban and Metropolitan Universities to be held Oct. 21 in Baltimore.

Assistant Professor **Tanja Bosak** is the recipient of the 2007 Geological Society of America Subaru Outstanding Woman in Science Award, to be presented Oct. 27

in Denver. Bosak, new to MIT this fall, uses laboratory models to examine microbial biosignatures in carbonate rocks. Her approach to interpreting signs of life in ancient rocks includes developing a laboratory system that mimics the chemistry of the Precambrian ocean.

MIT economist **Daron Acemoglu** and graduate student **Vanda Felbab-Brown** recently received awards from the American Political Science Association. Acemoglu was honored for his co-authorship of the book “Economic Origins of Democracy and Dictatorship” and as co-author of the article “Economic Backwardness in Political Perspective.” Felbab-Brown’s “Shooting Up: The Impact of Illicit Economies on Military Conflict” won best doctoral dissertation in the field of policy studies.

The Multimedia Educational Resource for Learning and Online Teaching has presented its 2007 Editors’ Choice award in physics to Professor **John Belcher** for Physics 8.02: Faraday’s Law. The freshman course subject is taught collaboratively and interactively, including use of 3-D animations and visualizations, employing MIT’s Technology Enabled Active Learning (TEAL) teaching format. TEAL personnel involved include Andrew McKinney, Philip Bailey, Pierre Poignant, Ying Cao, Ralph Rabat, Michael Danziger, Mark Bessette, Andreas Sundquist and Mesrob Ohannessian.