



PROFESSIONAL EDUCATION

NEWSLETTER

SPRING 2009

IN BRIEF

Advanced Study Program

In December 2008, the Advanced Study Program awarded eight certificates of completion to professionals from both the U.S. and abroad. Currently 29 full and part-time students are taking MIT courses through the Advanced Study Program.

Career Reengineering Program

The ten fellows enrolled in the third year of the Career Reengineering Program (formerly the Midcareer Acceleration Program) have just completed their fall semester courses. They are now working on research projects and actively networking to identify rewarding internships.

Accenture Solutions Delivery Academy



The global MIT faculty tour continues. Last October, Professor Srinivas Devadas lectured in Bangalore and Chennai, India, on the importance of software testing. In December, Professors John Williams and Abel Sanchez spoke in Sao Paulo, Brazil, and Buenos Aires, Argentina, on the latest in RFID technologies. This March, Professor Daniel Jackson will be speaking in Shanghai, Guangzhou, and Hong Kong, China, on the history of software development methodologies. To date, over 10,000 Accenture employees have heard the MIT faculty lectures either live or on video.

DEAR FRIENDS,

In our fall '08 newsletter, I spoke of several new initiatives and, happily, we have made progress on several fronts. To convey more clearly our brand and what we do, we have modified our unit name to "MIT Professional Education" and introduced a correspondingly new logo. We also re-named some of our programs as mentioned elsewhere in the newsletter.

This summer we will launch our 60th season of Short Programs, featuring a record 49 courses. Ten are new and in high-interest areas such as energy, lean enterprise, and nanotechnology. As in previous years, we expect our enrollees to come from across and outside the U.S. We also have international participants enrolled in our on-campus Advanced Study and Career Reengineering Programs. That notwithstanding, we fully realize that only a small percentage of those who wish to come to the U.S. to attend our professional or academic programs are able to do so. In order to expand our reach and share MIT's knowledge and expertise more widely, we have launched several global participation initiatives.

This newsletter is devoted to spotlighting international participants who come to us, as well as actions we have initiated to extend our programs beyond U.S. borders. You will hear about our first international one-day course on solar energy, which was led by Professor Nocera in Tokyo in January. We expect to follow this pilot by one or more courses in Singapore, utilizing MIT faculty connected with the Singapore-MIT Alliance for Research and Technology (SMART). Collectively, the pilot programs will allow us to determine the viability of offering a portfolio of short, intensive courses internationally on a more regular basis. You will also hear about our international faculty lecture series designed for one of our large Custom Programs corporate clients and delivered in India and at several other international locations.

Last year, across all professional programs, we engaged over 1,200 individuals from around the world and involved nearly 60 MIT faculty members. We are hoping to expand both those numbers substantially over the next few years while continuing to offer MIT's cutting-edge knowledge and world-renowned expertise in all our courses and endeavors.

As you face new challenges in your workplace, we appreciate and look forward to your continued interest and participation in MIT Professional Education programs. We also want to hear your suggestions on how MIT can better serve technical professional development needs in your industry in the months and years ahead.

Best Regards,

Bhaskar Pant, Executive Director
MIT Professional Education
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Professor Devadas, with MIT Professional Education Executive Director Bhaskar Pant by his side, shakes the hand of a certificate recipient in Bangalore.

SRINI DEVADAS CUSTOM PROGRAMS PROVIDES NEW INDIA EXPOSURE TO MIT FACULTY

Professor Srini Devadas walked into an Indian software house in October for the first time. That's perhaps surprising since he is a native of India and deeply immersed in advanced computing research in hardware and software. Yet, it was Devadas' involvement in a Professional Education Custom Program that connected the MIT professor to an exciting new facet of global software development.

Devadas is one of six MIT faculty involved in the Accenture Solutions Delivery Academy, a relatively new training and certification program based on the company's application delivery curriculum. Although he has traveled widely for research and consulting as Electrical Engineering and Computer Science (EECS) associate head and member of the Computation Structures Group in the Computer Science and Artificial Intelligence Laboratory (CSAIL), Professor Devadas was making his first business trip to India. His October lectures at Accenture sites in Chennai (formerly Madras) and Bangalore were delivered in person to more than 500 staff and viewed on the Web by several thousand more. Since 2006, the academy has provided 12 short courses, 13 videos, and eight faculty lectures to some 20,000 Accenture employees worldwide who are currently enrolled in the voluntary program. As of December 2008, more than a thousand certificates have been awarded.

"We were at Accenture for two days and I met senior management and heard about their strategies and how they deal with clients and manage projects," Devadas says. "That was eye opening. They are building complex systems in a very systematic way. And the Accenture vision of

how they will keep improving—that's pretty impressive."

Devadas was excited to work with Accenture for another reason. "I'm very interested in helping young people and people in industry learn to program properly," he says. And he heard good things about the opportunity from an EECS professor already involved in the academy. "Daniel Jackson told me about the Accenture program. I was intrigued because it was going to be a different kind of education experience than what I was used to. I was going to work with software engineers who are out deploying products and I have never really done that."

The focus of Devadas' talk was to inspire staff about the technical challenges of software testing. Sometimes design is seen as more challenging than testing, he says. "I've gotten involved in software security, which has involved software testing. Intellectually, testing is just as challenging and difficult as design."

His current focus is creating a computer that can take advantage of parallel processing and work as a teaching tool. Ultimately he plans to work with students to develop applications for massive data crunching required in fields such as HDTV encoding or assimilating information from natural phenomena like weather or biology. His research background is in very-large-scale integration (VLSI) design, computer-aided design, computer architecture, hardware validation, network router hardware, computer security, and computational biology.

"My plan is to build a 256-processor machine with integrated circuits that is programmable by sophomores. It's hard to exploit parallelism but you can write applications that will execute and run 10x faster. And being able to program this machine in an efficient way is a huge challenge—but that's what research is about."

"Software is particularly friendly to global development and academic-industry partnerships," he says.

"The software industry has boomed over the past decade and I felt this was going to be a great opportunity to learn," Devadas says. "That's why I got involved. It's been great. Every hour I've spent on it has been rewarding." ▀

SHORT PROGRAMS

SHORT PROGRAMS GOES GLOBAL



above: Tokyo skyline with Tokyo Tower
cover: pagoda in Tokyo
cover and above photo
by Anna Mahr

At the 2009 “MIT in Japan”

Conference in January, participants had a new opportunity. They could take a one-day course in Tokyo taught by an MIT faculty member whose solar energy storage breakthrough made worldwide news last summer.

The course, a concentrated version of a five-day MIT Professional Education offering taught by Professor

Daniel Nocera at MIT in the summer, was a first. MIT Professional Education offers 40–50 short programs on campus each summer with more than 25 percent of students coming from abroad. This time MIT Professional Education, collaborating with another MIT program, brought the course to professionals in Japan and the region. The success of this course, which attracted 16 participants from the Industrial Liaison Program (ILP)-sponsored conference and other area companies, was a pilot that brought the latest knowledge in solar energy to eager learners far from Cambridge.

Anna Mahr, MIT Professional Education associate director in charge of Short Programs, says working with ILP makes particular sense. Many of the faculty who are speakers at their industry conferences also teach Short Programs offerings on campus. “These people are already teaching for us, so they have a course geared to professionals,” she says. “Professionals are interested in applications. They want to know what they can take back to work and start using.”

Japan, which has virtually no oil or gas resources and depends on imports for more than 80 percent of its energy needs, was an apt place to address solar energy. “Japan does not have many natural resources, so solar energy is always a Japanese

interest,” says Keiji Yano, assistant director of ILP’s Japan Office. “Professor Nocera was very popular because of his topics and his lecture style. I certainly think his short course added value to the conference.”

Nocera’s course, *Solar Energy: Capturing the Sun*, attracted participants from a diverse range of Japanese corporations including chemical, heavy industry, electronics, metals, automotive, and gas companies. Participants noted benefits such

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Anna Mahr

Associate Director, Professional Programs



Participants in the solar energy course in Tokyo
photo by Anna Mahr

as learning about the mechanisms of bioenergy conversion, storage of solar energy as chemical fuel, and overall prospects for solar energy deployment.

Tadafumi Nishimura, a Daikin Industries Ltd. environmental technology researcher, is new to the field of renewable energies. “I am interested in the usage of renewable energy for air-conditioning and domestic hot water supply,” he says. After the short course, he was much more optimistic about solar energy. “I became aware of the possibility that solar energy may expand in the near future—much more than I have expected.”

What’s next? Given the success of the Japan pilot, plans are afoot to offer Short Programs offerings in Singapore, in conjunction with the Singapore-MIT Alliance for Research and Technology (SMART). ▀

COMING UP

Advanced Study Program

- ▶ Information Session—May 7, 2009
- ▶ RSVP: <http://advancedstudy.mit.edu>

Career Reengineering Program

- ▶ Information Sessions to be held in April, May, June, & July.
- ▶ RSVP: <http://career-reengineering.mit.edu>

Short Programs

- ▶ 49 intensive courses scheduled at MIT this summer.
- ▶ Course listing and dates: <http://shortprograms.mit.edu>

INTERNATIONAL PROFESSIONAL COMES TO MIT FOR GLOBAL PERSPECTIVE



Oscar Howell, who works for Estafeta Mexicana in information systems management and logistics, certainly has an international background. Born in Costa Rica, he attended university there and in Germany before embarking upon a business career primarily in Mexico. Yet he says it was his MIT experience that gave him a global perspective.

“When you come to the U.S., you have a much more global perspective about how you can focus your efforts within your company,” Howell says. “You can’t get this in Mexico—the focus is local. Being at MIT really expands

your vision of what happens on a global level.”

The Advanced Study Program has not only broadened his perspective, it has also provided the flexibility he needs personally and professionally.

“At my career stage, you are not looking for a degree, but you want to work in a specific area of interest. The Advanced Study Program is really open so you could explore your interests. Since I am sponsored by my company, they are interested in defining the area I am working in, which was easier in an open program than a degree program.”

In July 2003, Howell was named Estafeta’s chief information officer, charged with renewing an outdated information systems platform and preparing the company for aggressive growth and operational targets. About that time, Howell began learning from MIT. His first experience was attending Technology Review’s annual Emerging Technology conferences.

In fall 2008, Howell moved with his family to Brookline to begin full time studies at MIT as an Advanced Study Fellow. Initially, he took courses in Globalization, Technology-based Business Transformation, and Developmental Entrepreneurship. This spring his courses have included Innovation in the Internet Age, a writing course on Science, Technology, and Society, an Introduction to the History of Technology, and Social and Political Implications of Technology. This background should prove useful when he returns to Mexico in June to begin a new assignment—developing a technology innovation department.

Beyond the courses, Howell says being part of the MIT culture is a learning experience in itself. “You really learn a lot about emerging technologies from the people you work and talk with—the interaction. The courses you can use to go deeper into the technologies, but the environment you are in at MIT is a really good thing.” ■

As of this writing, Oscar is a semi-finalist in the \$100k competition and he is busy preparing his business case for round 2 due on April 30.

SHARPENING THE FOCUS OF “PROFESSIONAL EDUCATION”

This year, **MIT Professional Education** is launching new international initiatives. That means making sure each of its four program areas create offerings that meet the needs of global professionals and deliver them on campus or in targeted international locales. Executive Director Bhaskar Pant says this also means projecting more clearly what MIT Professional Education does and its connection to the Institute.

“We needed to communicate more transparently and powerfully who we are and what we do, particularly when we are going international and would be dealing with people whose first language may not be English.”

The changes included transforming the umbrella unit name “Professional Education Programs” into the more succinct “MIT Professional Education” (similar to although separate from “Sloan Executive Education”). Among the program areas, the **Advanced Study Program** and **Custom Programs** kept their names. The Midcareer Acceleration Program name was changed to minimize confusion and convey more clearly the nature of the program. The new name, **Career Reengineering Program**, emphasizes the development of career reentry and retooling of technical skills. The Professional Institute name was changed because it was not, in fact, an institute. The new name, **Short Programs**, fits the offerings—intensive courses, a week-long or less, on a technical or scientific topic.

MIT Professional Education also has a new logo incorporating the well-recognized MIT logo and a new chevron, suggesting a focus on the future.

“We are housed in the School of Engineering, but our programs offer educational opportunities across MIT. For example, students in our Advanced Study Program and Career Reengineering Program can take courses in any MIT school,” Pant says.

Under this refreshed nomenclature, MIT Professional Education is working to make MIT intellectual resources available to scientists and technical professionals worldwide. ■

For more information on our programs, visit
<http://professionaleducation.mit.edu>

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