

Industrial Liaison Program at MIT

As U.S. industry looks for ways to leverage its R&D dollars, and academic institutions seek industrial sponsors to maintain or expand their research capabilities, programs that actively foster industry/academia relationships with long-term benefits for both parties have become increasingly important. The Industrial Liaison Program (ILP) at the Massachusetts Institute of Technology (MIT) seeks to meet the mutual needs of both sectors by creating research and educational collaborations and facilitating technology transfer and innovation.

In 1948, MIT became the first U.S. academic institution to establish a formal program with industry, an effort that evolved into the ILP. The school is renowned for its breadth and excellence in research, and it encourages its faculty and students to focus on real-world problem solving. MIT's research expenditures in 1999 were \$377 million, spread among

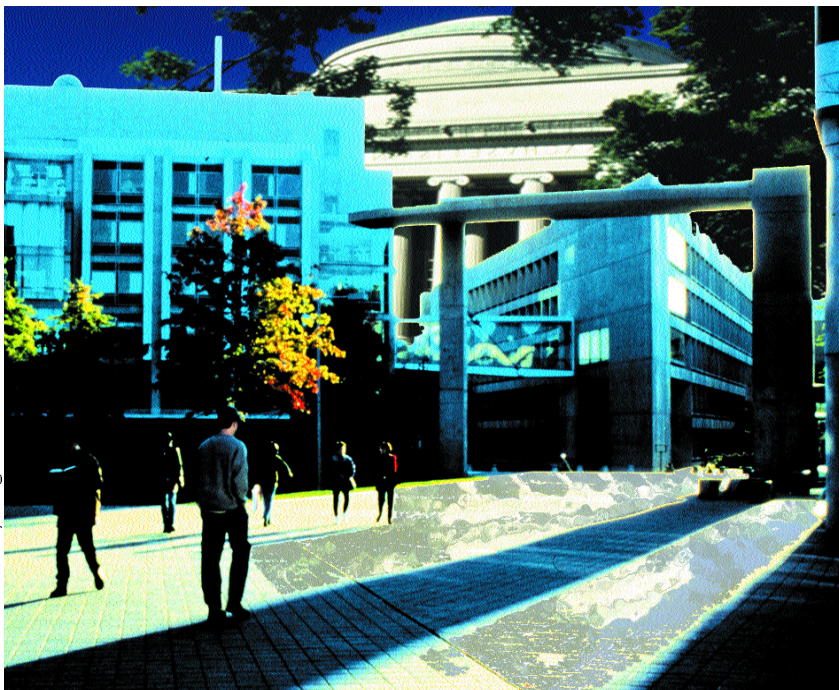
199 research centers and laboratories. Of the research funds, industry provided 19%; government, 69%; and other sources, 12%. During 1999, MIT signed 99 technology-licensing agreements resulting from research at the school.

The ILP currently has almost 200 corporate members. The core of the program consists of 16 industrial liaison officers, who essentially serve as account executives and provide each corporate member with an individual point of contact at MIT. ILP annual membership fees are assessed on a sliding scale. Liaison officers design a program for each company that matches its needs to the school's wide-ranging science and technology knowledge base.

Among the benefits that corporate members receive are

- developing joint research programs with MIT scientists and engineers;

- special reports on science and technology developments at the university;
- ready access to MIT experts willing to serve as consultants;
- assistance in recruiting MIT students as employees;



Photos: Stuart Darsch/College; Steven R. Black

- participation by their employees in MIT-sponsored continuing- or professional-education programs;

- personnel exchanges with MIT and sponsorship of research fellows;
- employee participation in MIT seminars, conferences, and consortia; and
- employee access to the MIT library and to publications and MIT databases that provide frequent updates on current technology developments.

Corporate membership also provides a company's employees with free admission to the ILP-sponsored "MIT Series on Technology and the Corporation," a yearly schedule of conferences that is open to the public at a fee. A recent session on nanotechnology featured faculty experts on nanofabrication, nanomanufacturing, quantum computing, and quantum chemistry who described the opportunities for, and problems in, commer-

cial development at this scale. The conference drew more than 150 industry representatives from the United States, Europe, and Japan. The remaining conferences for this academic year include the "MIT Japan Conference" (an annual event), "Management of Technology," and the "Worldwide Auto Conference."

Frank Cassidy has been an ILP liaison officer since 1997. His background includes experience as a senior engineering manager in industry (Digital Equipment Corp. and RCA) and as an adjunct professor and director of a university-based technology incubator (Stevens Institute of Technology). This career path, he says, has

helped him to understand both the corporate and academic environments and to build a bridge between the two cultures.

"My role is to visit the member companies and spread the word about the program," says Cassidy. "I encourage member companies to participate in ILP programs in an active way, through meetings and conferences, and even by sending one of their scientists or engineers to spend several months on campus in association with a particular MIT research program."

Like his fellow liaison officers, Cassidy is knowledgeable about the university, including its faculty, staff, and research programs, and he can help a member company meet the MIT experts who will be most useful to its long-term and short-term objectives. Cassidy also makes a point of learning the details of each company's line of business, interests, and goals in order to match it up with the MIT

resources that can best meet its needs.

Some member companies use the ILP primarily to recruit new employees. For example, in the early 1990s, 3M Corp. worked with the ILP to set up a program to financially support first-year graduate students in disciplines of interest to 3M. The company also made contacts with the students' thesis advisors and the advisors' other students. Eventually, the company had knowledge about a pool of bright, well-trained technical candidates from which to hire. 3M also adapted results from research projects of the students it supported into its own R&D program.

Instron Corp. (Canton, MA), which supplies technologies for evaluating metals and materials, uses the ILP as a spur for innovation. For example, the company recruited a group of students from MIT's Sloan School of Management who successfully redesigned its manufacturing facilities, including a completely new modular layout

for its high-production machine shop. John Kosich, Instron's director of manufacturing, credits the collaboration with a major contribution to advancing the company's goal of becoming a world-class manufacturer.

Peter Wolff, professor of physics at MIT, has worked through the ILP to build departmental contacts with industry. "I've had mixed experiences with the private sector," recounts Wolff. "In normal times, it is not too hard to build ties to key scientists in major laboratories, such as Lucent, Hewlett-Packard, and IBM. However, during the Asian economic meltdown, most of our contacts just disappeared. A major complaint our department has had with industrial recruiting is that it lacks continuity." ILP liaison officers can help maintain continuity when they know the right people in a company to contact, he adds.

Wolff also is active in MIT's Physics/Industry Forum, a group established in the

physics department in the late 1970s. The forum works in parallel with the ILP to cultivate relationships with companies and national laboratories that employ industrial physicists to aid them in student recruiting and raise funds to support graduate students. MIT student internships in industrial physics laboratories are not common, says Wolff, "because many professors feel they interfere with department-related research."

The Physics/Industry Forum also organizes interdisciplinary courses, such as "Biophysics" and "Information Processing and the Brain," to broaden the curriculum and help prepare students for jobs in industrial research. Both the physics department and the university as a whole have long realized the importance of industrial outreach, and this synergy has contributed to MIT's continuing legacy of research excellence. 