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# *Section 7*

## *Service to Local and World Communities*

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# Service to Local and World Communities

Founded with the mission of advancing knowledge to serve the nation and the world, MIT has been strongly committed to public service from its start. While MIT faculty, students, and staff regularly engage in conventional projects such as raising money for hurricane victims, renovating old housing, or restoring local nature reserves, MIT's scientific and technological orientation gives much of its public service outreach a particular emphasis. Many of its public service programs are specifically devoted to inventing new technologies and applying new knowledge that will advance social well-being.

## Public Service Center

The Public Service Center (PSC) offers MIT students multiple ways to assist communities beyond MIT while expanding their own education and life experiences. The guidance, resources, and support offered by the PSC help students to identify public service options that suit their passions and abilities.

The PSC helps students gain hands-on experiences that serve communities and the students themselves in life-transforming ways. Through fellowships, internships, and grants; the IDEAS Global Challenge; programs such as Four Weeks for America and the Freshmen Urban Program (FUP); community service work-study positions; and advising resources, students have the opportunity to engage in a variety of opportunities.

<http://web.mit.edu/mitpsc/>

## Fellowships, Value-Added Internships, and Grants

In locations as near as Boston or as far as Bangladesh, there are many opportunities to work on community issues, whether it is designing community spaces for domestic violence survivors in Boston, scrutinizing labor practices in the electronics industry in Mexico, or developing a business plan for villagers to produce and sell silk garments in Thailand. As a subset of its internships program, the PSC also offers specialized opportunities for students in the Department of Civil and Environmental Engineering and the Department of Urban Studies and Planning.

## MIT IDEAS Global Challenge

Students form teams to design and implement innovative projects for community partners in order to improve the quality of life of individuals around the world. Since 2001, the IDEAS Global Challenge has awarded \$500,000 to 100 student-led teams to make their ideas a reality. As a result of implementation funds awarded to teams, communities around the world have directly benefited from these innovations.

## Programs, Planning, and Volunteering

Through local outreach programs, MIT students can work with a K–12 science classroom, serve as a mentor to adolescents in math and science, or teach a child to read. The PSC maintains the online MIT Outreach Directory of outreach programs offered throughout the Institute, many of which share MIT's research endeavors with the public. Additionally, FUP, Giving Tree, and ReachOut are among the programs led by students under the direction of the PSC. In the Four Weeks for America program, students work with Teach for America teachers during the Independent Activities Period to help them develop innovative ways to teach science and math and increase classroom learning. Also, PSC staff advise students about volunteer opportunities, service group management, grants and proposal writing, and other areas that help MIT students and groups to participate in community service.

## **Office of Government and Community Relations**

Since its founding, MIT has maintained a commitment to serving the local community as both a resource for education and technology and as a good neighbor. Through the Office of Government and Community Relations (OGCR), MIT works collaboratively with dozens of Cambridge nonprofits that address local challenges such as meeting the needs of underserved populations, youth development, and environmental sustainability. The Institute solidly supports these organizations by providing financial support as well as in-kind resources like meeting space, faculty expertise, and volunteer engagement. In addition, OGCR collaborates with the MIT Public Service Center and MIT Community Giving to manage the MIT Community Service Fund (CSF). The CSF provides support for nonprofits where MIT volunteers are at work and encourages the creation of new community service projects by providing grants to MIT affiliates.

Service to the community is not just centralized in one office, the Institute's various Departments, Labs and Centers have a diverse array of programs aimed at giving back to its host community.

## **Local Programs**

### **Amphibious Achievement**

Amphibious Achievement is an MIT student group that mentors high school students in the Boston-Cambridge area in both athletics and academics. Under the guidance of MIT student coaches/tutors, Amphibious Achievers train to row and swim competitively while also working on critical reading techniques, math problem solving, and grammar comprehension in an SAT-based curriculum.

<http://amphibious.mit.edu>

### **Cambridge Science Festival**

The annual Cambridge Science Festival, the first of its kind in the United States, is a celebration showcasing Cambridge as an internationally recognized leader in science, technology, engineering, and math. The festival is presented by the MIT Museum in collaboration with the City of Cambridge, community organizations, schools, universities, and businesses. A multifaceted, multicultural event held every spring, the festival makes science accessible, interactive, and fun, while highlighting the impact of science on all our lives.

### **CityDays Serve-Off**

More than 190 MIT students volunteered at 13 sites in the greater Boston area for the 2012 CityDays Serve-Off. Student volunteers prepared materials for classrooms of low-income children, provided adults with literacy training and sorted clothes for thrift stores that support AIDS research, among many other service activities.

### **Edgerton Center—K–12 Programs**

The Edgerton Center continues the learning-by-doing legacy of "Doc" Edgerton. The Center's K–12 programs educate, inspire, and motivate kindergarten through 12th grade students through hands-on science and engineering challenges with the aim of increasing students' curiosity and desire to pursue these fields in their future. Concentrating in the Greater Boston area, with selected out-of-state and foreign endeavors, the Edgerton Center's multifaceted approach supports over 150 on-campus classroom workshops annually, intensive summer programs, innovative curriculum and professional development workshops for teachers. As well, Edgerton Center instructors mentor faculty and students in local public schools. In all aspects of these programs, MIT students are closely involved. All of the programs are provided at no or minimal cost.

## Local Programs

(continued)

### Educational Studies Program

Founded by students in 1957, the MIT Educational Studies Program (ESP) shares knowledge and creativity with local high school students in the Boston, Cambridge, and MIT communities. Through an extensive offering of academic and non-academic classes, ESP is dedicated to providing a unique, affordable educational experience for motivated middle school and high school students. ESP courses are developed and taught by MIT students, alumni, faculty, and members of the community.

<http://esp.mit.edu/>

### Freshman Urban Program

The Freshman Urban Program is a freshman pre-orientation program that introduces students to MIT and the surrounding community through service activities and discussion of urban issues. Projects have included service such as cleaning and preparing elementary school classrooms for the new school year, gardening with CitySprouts, and working at the Boston Rescue Mission. Community service combined with urban exploration provides incoming students with the means to meet people and to get involved in the community.

### Giving Tree

The MIT Giving Tree allows students, alumni, faculty, staff, and friends to provide gifts to needy children in the Cambridge and Boston area each holiday season. The MIT Public Service Center and Panhellenic Association work with 12 local agencies to collect gift requests from hundreds of children. Each gift request is then individually matched to a Giving Tree participant, making the Giving Tree a more personalized experience for everyone.

## World Programs

### Abdul Latif Jameel Poverty Action Lab

The Abdul Latif Jameel Poverty Action Lab (J-PAL) is a global network of researchers who use randomized evaluations to answer critical policy questions in the fight against poverty. J-PAL works to achieve this by conducting rigorous impact evaluations, building capacity of others to conduct randomized evaluations, and translating research findings into policy action. J-PAL is organized both by regional offices and by research programs. J-PAL's headquarters is a center within the MIT Department of Economics, with independent regional offices in Africa, Europe, Latin America, South Asia, and Southeast Asia that are hosted by local universities. J-PAL's research programs include Agriculture, Education, Environment and Energy, Finance, Health, Labor Markets, and Political Economy and Governance.

<http://www.povertyactionlab.org/>

### D-Lab

D-Lab is building a global network of innovators to design and disseminate technologies that meaningfully improve the lives of people living in poverty. The program's mission is pursued through interdisciplinary courses, technology development, and community initiatives, all of which emphasize experiential learning, real-world projects, community-led development, scalability, and impact assessment. Founded by Amy Smith, Senior Lecturer in Mechanical Engineering, D-Lab has developed a range of technologies and processes including community water testing and treatment systems, human powered agricultural processing machines, medical and assistive devices for global health, and clean-burning cooking fuels made from waste. All D-Lab classes and projects are connected to communities around the world, including partners in Brazil, Nicaragua, Honduras, Guatemala, El Salvador, Haiti, Ghana, Tanzania, Uganda, Zambia, Cambodia, and India.

<http://d-lab.mit.edu/>

### **International Development Innovation Network**

The International Development Innovation Network (IDIN) is an international consortium of institutions led by MIT's D-Lab that are building a network of innovators to better define international development problems and the constraints surrounding them, prototype multiple solutions to these challenges, perform comparative evaluations to move the most promising solutions forward, and incubate ventures to disseminate the solutions. The Consortium is building the network by training people from a wide variety of backgrounds to become innovators and entrepreneurs through hands-on, creative capacity-building design summits and focused entrepreneurship training modules and programs. In addition to MIT, IDIN consortium institutions include Olin College of Engineering, Colorado State University, University of California-Davis, University of São Paulo, and Kwame Nkrumah University of Science and Technology. IDIN is part of the Higher Education Solutions Network, a ground-breaking partnership between USAID and top U.S. and foreign universities committed to developing innovative solutions to global development challenges.

<http://d-lab.mit.edu/idin>

### **Comprehensive Initiative on Technology Evaluation**

The Comprehensive Initiative on Technology Evaluation (CITE), led by MIT's Department of Urban Studies and Planning, is developing a rigorous methodology for evaluating technological solutions to challenges in the developing world, eventually leading to the development of comparative Technology Evaluation Reports. These reports will help donors and policy-makers identify and invest in the best of these solutions. The program includes a biannual DevTech conference, a CITE Fellows program, as well as

product design challenges to assist the private sector, researchers, innovators and students in targeting the most intractable development problems and create a pipeline of innovative technology options for the development community. CITE is part of the Higher Education Solutions Network, a ground-breaking partnership between USAID and top U.S. and foreign universities committed to developing innovative solutions to global development challenges.

<http://d-lab.mit.edu/cite>

### **Legatum Center for Development and Entrepreneurship**

The Legatum Center for Development and Entrepreneurship at MIT was founded on the belief that economic progress and good governance in low-income countries emerge from entrepreneurship and innovations that empower ordinary citizens. The center administers a highly competitive fellowship program for MIT graduate students who intend to launch innovative and inclusive for-profit enterprises in developing countries. In addition to supporting the Legatum Fellows, the Legatum Center aims to catalyze entrepreneurship for broad-based prosperity by administering programs including case writing, research, articles, lectures, conferences, and seed grants.

<http://legatum.mit.edu/>

### **International Development Grants**

These grants support international development projects that involve MIT students. Faculty, students, and other MIT community members can use them to cover materials, travel, and other expenses in projects that serve communities in developing regions.

## Selected Projects

### Chlorine Dispensers for Safe Water

Research by J-PAL affiliates has shown that a point-of-collection water chlorination system, in combination with encouragement from community promoters, can dramatically increase access to safe water compared to marketing bottled chlorine through retail outlets. Evidence from their studies has contributed to the scale-up of the Chlorine Dispenser System reaching over 400,000 people in Kenya and 20,000 people in Haiti, with plans to expand the program to at least two additional countries by 2014.

<http://www.povertyactionlab.org/scale-ups/chlorine-dispensers-safe-water>

### Helping Brazilians turn waste into products

Brazilian waste pickers, called catadores, are highly adept at making the most out of their nation's waste. But a monthlong summit co-led by MIT engineers worked with them to find ways of further expanding the recycling and repurposing of waste materials, finding ways to produce food in close-packed urban favelas, or shantytowns, and ways to turn trash into floor tiles, among other projects.

The event, the sixth annual MIT-spawned International Development Design Summit, was the first to be held in Latin America, the first to be conducted entirely bilingually, the first with an urban focus, and the first to be largely organized by local people in the host country.

<http://web.mit.edu/newsoffice/2012/itw-idds-brazilian-waste-pickers-0831.html>

### Bringing power to the people—and heat as well

In some isolated clinics in parts of Africa, the electricity needed to power lights and medical devices is generated by expensive imported diesel fuel; the water supply can be so cold in winter that health workers can't even wash their hands properly. But a startup company established by a team of MIT students and alumni aims to change that.

The patented technology they developed uses a mirrored parabolic trough to capture sunlight, heating fluid in a pipe along the mirror's centerline. This fluid then powers a sort of air conditioner in reverse: Instead of using electricity to pump out cold air on one side and hot air on the other, it uses the hot fluid and cold air to generate electricity. At the same time, the hot fluid can be used to provide heat and hot water—or, by adding a separate chiller stage, to produce cooling as well.

A prototype of the system has been installed at a small clinic in the southern African nation of Lesotho. The MIT team plans to have five fully operational systems installed in isolated clinics and schools there for field-testing in 2013.

<http://web.mit.edu/newsoffice/2012/solar-thermal-stg-international-0806.html>