Section 7
Service to Local and World Communities

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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; community service work-study positions; and advising resources, students can engage in a variety of opportunities.

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

Fellowships, Value-Added Internships, and Grants

Locations as near as Boston or as far as Bangladesh offer 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 more than $600,000 to 117 teams to make their ideas a reality. These teams have implemented innovative service projects in 41 countries, serving the needs of hundreds of thousands of people.

Community Engagement and Local Service

Through several community engagement 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, the PSC offers programs such as the Freshman Urban Program, Giving Tree, and ReachOut that connect the MIT community to needs of the broader Cambridge/Boston community. In addition, through the Four Weeks for America program, students work with Teach for America teachers during the month of January to help them develop innovative ways to teach science and math to students. PSC staff also advise about volunteer opportunities, service group management, grants and proposal writing, and other areas that help MIT students, staff, and faculty participate in service to the local community.

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 and opportunities such as meeting the needs of underserved populations, youth programs, and environmental sustainability. The Institute supports these organizations by providing direct financial support as well as in-kind resources including facility use, faculty and staff expertise, and volunteer engagement. In addition, OGCR collaborates with the MIT Public Service Center and MIT Community Giving to oversee 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 at MIT—the Institute's various Departments, Labs and Centers have a diverse array of programs that support our host community.

Office of Digital Learning

The Office of Digital Learning, through its Strategic Educational Initiatives unit, is taking the lead in developing collaborations with community colleges. These projects include curriculum development in areas such as advanced manufacturing and entrepreneurship, and online learning using edX and other MIT technologies. The design of these projects reflects the MIT mens et manus philosophy of blending online/virtual instruction with hands-on learning. With funding from the federal Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant Program, ODL is working with 15 Massachusetts community colleges to develop blended courses in advanced manufacturing. Other collaborations are in the proposal or design stages.

Abdul Latif Jameel Poverty Action Lab (J-PAL)

The Abdul Latif Jameel Poverty Action Lab (J-PAL) is a global network of over 100 researchers from leading universities who use randomized evaluations to answer critical questions in the fight against poverty. J-PAL was founded on the belief that development programs can be made more effective, creating positive change in the lives of the poor, if policymakers have access to rigorous scientific evidence of what works.

J-PAL has a three-part strategy to ensure that policy is informed by rigorous evidence: (1) increase scientific evidence on poverty reduction through randomized evaluations, (2) promote a culture of evaluations through training and facilitating the use of evidence in the policymaking process, and (3) encourage the use of rigorous research findings in the design and scale-up of poverty alleviation programs through outreach, promotion, and technical advising.

J-PAL was founded at MIT in 2003 as a research institute in the Department of Economics. In addition to its headquarters at MIT, J-PAL has expanded to six regional offices hosted by local universities in Africa (University of Cape Town), Europe (Paris School of Economics), Latin America (Pontificia Universidad Católica de Chile), North America (MIT), South Asia (Institute for Financial Management & Research), and Southeast Asia (University of Indonesia). Within each region, J-PAL works across seven program areas, including Agriculture, Education, Environment & Energy, Finance & Microfinance, Health, Labor Markets, and Political Economy & Governance.

Research

J-PAL affiliates have conducted more than 500 randomized evaluations in over 50 countries. Recent research by J-PAL affiliates includes: an evaluation by Olken (MIT), Onishi (World Bank), and Wong (World Bank) that found that community block grants improved health and education in Indonesian villages, and adding performance incentives sped up improvements in health; an evaluation of the impact of third-party environmental audits on truth-telling and pollution levels among industrial firms in India by Duflo (MIT), Greenstone (MIT), Pande (Harvard), and Ryan (Harvard); and an evaluation of the impact of household water connections on time use, social conflict, and mental well-being in urban Morocco by Devoto (J-PAL Europe), Duflo (MIT), Dupas (Stanford), Pariente (UC Louvain), and Pons (MIT).

Capacity Building

J-PAL also aims to increase the capacity of governments, NGOs, and other organizations to produce their own evidence to inform effective development policy. J-PAL has equipped more than 1,600 practitioners with the expertise to conduct their own rigorous evaluations through training courses and joint research projects.

Policy Outreach

J-PAL affiliates and staff analyze and disseminate research results and build partnerships with policymakers to ensure that policy is informed by evidence and to scale up programs that are found to be highly effective. Such programs have included school-based deworming, remedial education, free insecticidal bednets, dispensers for safe water, police skills training for police, conditional community block grants, and improved distribution of subsidized rice. Programs that were found to be successful by J-PAL affiliates and then scaled up in different parts of the world have reached over 160 million people.

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 Campaign

The CityDays Campaign is a six-part, year-long campaign. Each part of the campaign comprises a one-day service event with participants from the entire MIT community that work to serve a local organization for several hours. The PSC offers two events in the fall semester, one during January, two more during the spring, and then a special all staff event during the summer. These events will attract around 600 volunteers completing over 1,000 hours of volunteer service. Volunteers help to maintain green spaces in Cambridge and Boston, prepare materials and clothing for low-income children, and serve meals to individuals experiencing homelessness, among many other 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. The Edgerton Center instructors mentor faculty and students in local public schools as well. In all aspects of these programs, MIT students are closely involved. All of the programs are provided at no or minimal cost.

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 sorting food at food banks, working with low-income students in math and science, maintaining Fenway field, along with serving many additional local organizations. Community service combined with reflection and urban exploration provide incoming students with opportunities to meet people, get involved in the community, and to learn about themselves with respect to the MIT and greater community.

Giving Tree

The MIT Giving Tree allows students, alumni, faculty, staff, and friends to provide gifts to local children and families each holiday season. The MIT Public Service Center works with several campus groups, along with hundreds of individuals across campus to collect gifts for 12 local agencies serving low-income children. This program provides MIT a means to expand our ethic of caring to local children and families.

World Programs

D-Lab

MIT 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 (19 developed to date, about a dozen offered each year), 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 in countries including Brazil, Nicaragua, Honduras, Guatemala, El Salvador, Haiti, Ghana, Lesotho, Nigeria, Tanzania, Uganda, Zambia, Cambodia, Nepal, India, and the Philippines.

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

Comprehensive Initiative on Technology Evaluation

The Comprehensive Initiative on Technology Evaluation (CITE) has developed a rigorous methodology for evaluating technological solutions to challenges in the developing world to help donors and policymakers identify and invest in the best of these solutions. CITE researchers investigate how products behave or might behave prior to their large-scale implementation, and even prior to their design. The multidisciplinary approach developed by CITE is user and context-driven, focusing on three main evaluation components: suitability, scalability and sustainability. The first CITE evaluation focused on technical and user testing of solar lighting options available in the Uganda. The second evaluation is located in India and focused on water filters. CITE is a five-year program funded by USAID's Global Development Lab and led by D-Lab in partnership with the Department of Urban Studies and Planning,

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

International Development Innovation Network

The International Development Innovation Network (IDIN) is building a diverse, international, network of innovators to define development problems, prototype solutions to these challenges, perform comparative evaluations, move the most promising solutions forward, and incubate ventures to disseminate the solutions. At the core of IDIN is a network of nearly 400 inventors, technologists, and social entrepreneurs from almost 50 countries around the world. IDIN is supporting and building this network through hands-on design summits, focused entrepreneurship training modules, micro-grants, and networking within and outside the network. IDIN also includes research, monitoring, and evaluation functions to document and assess its work to ensure that best practices are identified and supported. In addition to MIT, IDIN consortium institutions include Olin College of Engineering, Colorado State University, University of California-Davis, Kwame Nkrumah University of Science and Technology (Ghana), and the National Technology Business Center (Zambia).

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

D-Lab Scale-Ups

D-Lab Scale-Ups was established in 2011 to identify and support technologies with potential for wide-scale poverty alleviation. The program includes an accelerator for MIT social entrepreneurs, a technical assistance program, research and development, and collaboration with industry. As of 2014, the Scale-Ups Fellowship program has supported 16 social entrepreneurs working in sectors including health care, waste recycling, water sanitation, solar energy, and agriculture. The Scale-Ups fellows have launched ventures in less-industrialized markets in Africa, Central and South America, and Asia. Scale-Ups' technical assistance program for agricultural waste charcoal briquette enterprises in East Africa is facilitated by the Harvest Fuel Initiative, a collaborative effort by D-Lab and New York-based nonprofit The Charcoal Project. In the fall of 2014, D-Lab Scale-Ups will launch the Practical Impact Alliance at MIT to promote collaborative action and shared learning among corporations, academic institutions, social ventures, and nongovernmental organizations in order to scale market-driven poverty solutions worldwide.

http://d-lab.mit.edu/scale-ups/overview

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.

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://newsoffice.mit.edu/2012/itw-idds-brazilian-waste-pickers-0831

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://newsoffice.mit.edu/2012/solar-thermal-stg-international-0806