

Technology and Development Program

The Technology and Development Program's (TDP) primary mission is to provide a focus at MIT for research and education related to technology's role in the socioeconomic development of newly industrialized nations. TDP works with other academic departments and research centers throughout MIT to:

- Promote awareness of the relationship between science, technology, and development among faculty and students at MIT
- Provide a focal point for the technology and development activities of faculty, students, and visiting scholars interested in the field of technology and development
- Assist the faculty, students, and staff of collaborating institutions in other countries to develop research and academic interests consistent with their national needs
- Serve as a contact for interested organizations outside MIT (government, academic, private sector) to access the Institute's resources and its knowledge of developing countries, particularly of their socioeconomic and technological problems.

TDP carries out these objectives through research, academic programs, and contacts with international and national organizations having an interest in broad areas of technology and development. In order to fully utilize available resources, TDP is structured to interact with other academic departments and research centers throughout MIT.

Current Research Programs

The two major ongoing programs are in Thailand and Abu Dhabi.

Thailand

In Thailand, TDP collaborates in research and education with two major Thai institutions: the Collaborative Program of Science and Technology with the National Science Technology and Development Agency of Thailand, and the Collaborative Program of Science and Technology with the King Mongkut University of Technology at Thonburi. These two programs are funded under an agreement with Suksapattana Foundation, and both started in 1996.

Abu Dhabi

Centrally located and with a tradition of addressing issues critical to the Middle East, Abu Dhabi is intent to diversify its oil-dominated economy and boost its non-oil economic profile. To this end, Abu Dhabi has initiated the Masdar Initiative, a multifaceted response to the need for a global focus on resource conservation and the alternative energy sector. It is designed to ensure in the long term that Abu Dhabi retains and even grows its share of the global energy market. It is a new economic program in Abu Dhabi aimed at fostering the development and commercialization of advanced and innovative technologies in renewable energy.

One of the Masdar Initiatives is to establish a new institution dedicated to premier engineering research and education. The Masdar Institute of Science and Technology will serve as the nucleus of the Masdar Initiative, feeding it with talent and innovative technologies to enhance economic development and promote new industries using renewable energy and resources in the emirate and the region. It is envisioned that over the next decade the Institute will subsequently lead to the establishment of an intellectually elite, private, not-for-profit, independent institute of science and technology devoted to graduate-level education as well as research.

In December of 2006, MIT signed a cooperative agreement with Abu Dhabi to assist in the establishment of a graduate institute and to collaborate on research projects of interest to both parties. While there is no doubt as to Abu Dhabi's ability to marshal resources and command respect within Abu Dhabi and the region, the experience and advice shared by the faculty and staff of MIT in this endeavor, as well as participation by MIT in joint research, will help propel the Institute toward top ranking as an internationally recognized research and development (R&D) institution in the Middle East. For its part, MIT sees this as an excellent opportunity to enhance its research interests, both in the United States and in Abu Dhabi, in critical areas of concern such as energy, environment, water, and logistics, as well as make a substantial contribution to the Middle East region.

In order for the Institute to make important contributions to national human resources development in Abu Dhabi and the UAE, it will undertake a wide range of activities. These activities will be comprehensive in terms of research, industrial, and governmental linkages, as well as academic. They will also encompass a diverse set of disciplines including science, technology, management, and public policy. To expedite this development, the Institute anticipates launching a three-pronged approach; although major emphasis has to be on R&D in several research fields of interest to the region, the Institute should also emphasize its effort in forging strong partnerships with industry and government, and in providing its partners in industry and government with R&D and educational services, such as short courses, conferences, and internships.

Academic Program

Graduate classes will begin in Abu Dhabi at the Masdar Institute of Science and Technology on August 23, 2009. Currently Masdar Institute is preparing curricula for two master of science academic programs; namely, Mechanical Engineering and Materials Science and Engineering. By August 2009, three additional master of science programs will be in place.

Governance of Cooperative Program

The Cooperative Program Steering Committee will oversee the intellectual and strategic goals of the program, as well as any modifications or extensions to the agreement. Members of the Committee at MIT consist of a senior faculty member appointed by the provost representing the Office of the Provost, the Dean of the School of Engineering, and the two codirectors of the Cooperative Program. The Cooperative Program Steering Committee will meet at least annually, alternating location between Cambridge, Massachusetts, and Abu Dhabi, United Arab Emirates, to review with the Joint Executive

Committee the progress of the program, and review and approve the nominations for Joint Executive Committee member replacements necessitated from time to time.

Members of the Joint Executive Committee of the Cooperative Program are Sultan al Jaber, Khaled Awad, Steven Geiger, Abdullataif Al Shamsi, Fred Moavenzadeh, David H. Marks, Charles L. Cooney, and Patricia Vargas. The Joint Executive Committee is responsible for reviewing and approving the activities to be developed under the cooperative agreement and, through its program directors, implementation thereof.

At MIT the implementation of the Cooperative Program is being directed by Dr. Fred Moavenzadeh, director of MIT's Technology and Development Program, and Dr. David H. Marks, codirector of MIT's Laboratory for Energy and the Environment. In Abu Dhabi implementation of the Cooperative Program and cooperation with MIT is being directed by the Institute president and the Institute provost.

Future Research Initiatives

TDP will continue to work cooperatively with King Mongkut University of Technology and with the National Science Technology and Development Agency in Thailand on research relative to the interests of MIT and Thailand, and will work with the Masdar Institute of Science and Technology on research focusing initially on energy, environment, water, and logistics. In addition, TDP continues its discussions with other appropriate institutions in South America and the Middle East.

Other Initiatives

The TDP-sponsored Middle East Program at MIT has completed its 18th year. The program (under the direction of Professor Nazli Choucri, TDP associate director) involves faculty from throughout the Institute and enables students through their research endeavors to examine the processes of socioeconomic change, technological development, political change, institutional development, capital flows, and business and investment patterns in the Middle East region.

Organization

The director of TDP is Professor Fred Moavenzadeh of the Department of Civil and Environmental Engineering. Professor Nazli Choucri of the Department of Political Science is the program's associate director. Patricia Vargas is the assistant director of TDP and executive director for both the Thailand and Abu Dhabi initiatives. Susan Cass serves as TDP's communication officer and Steven Griffiths is a research associate in charge of technical and research strategy issues.

Fred Moavenzadeh

Director

James Mason Crafts Professor of Engineering

More information about the Technology and Development Program can be found at <http://web.mit.edu/mit-tdp/www/>.