

MIT



International Development Forum

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The Guide to International Development @ MIT

Bartos Theater and Lobby
MIT Media Lab
September 20, 2002

MIT



International
Development
Forum

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Making a Difference and Making the Grade at MIT

2:00 – 3:30

Ralf Hotchkiss and Sandy Pentland

Ralf Hotchkiss is Senior Research Scientist and Technical Director of the Wheeled Mobility Center at San Francisco State University. A recipient of the MacArthur “genius award”, he is the co-designer of the Whirlwind Wheelchair and has organized a network of wheelchair builders at 30 workshops in 25 developing countries.

Alex (Sandy) Pentland is a pioneer in smart environments, wearable computers, and technology for developing countries. He is one of the most-cited computer scientists in the world. He is the founding director of the Media Lab Asia, and is a co-founder of the Media Laboratory’s Digital Nations Consortium, and of the Center for Future Health. He is the Toshiba Professor of Media Arts and Sciences at MIT’s Media Lab.

3:30 – 5:30

Development Midway



Welcome

Welcome to this exciting event – a “first of its kind” which we hope will develop into an annual event. Our goal for the MIT International Development Forum is to introduce incoming MIT students (grad and undergrad) to all the opportunities to learn about and participate in academic and extracurricular programs which will help them to become a person who leads and works for justice, global health, viable sustainability, and positive change.

This guide will give you an overview of the issues involved in viable development and help you navigate through the afternoon. It is our intention to revise this guide and make it available on the web as a resource to you and others at MIT.

Please let us know if you have suggestions for our revised guide or for next year’s forum.

Sincerely,

The Planning Team

- Joost Bonsen (*MIT Sloan*) jpbonsen@sloan.mit.edu
- Amy McCreath (*Technology and Culture Forum*) mcreath@mit.edu
- Fleming Ray (*Technology and Culture Forum*) ftr@mit.edu
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- Sally Susnowitz (*Public Service Center*) susnowit@mit.edu
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Introduction to Sustainable Development at MIT

Satisfying basic human needs is critical for achieving sustainable development. Many efforts towards these ends are already underway at MIT.

Food and Nutrition – Since MIT does not have an agricultural school, direct efforts at food production are minimal. However, MIT has a variety of clubs and research activity devoted to optimizing nutrition and the political economics of food distribution. For example, see <http://web.mit.edu/mitmsa/www/afghan/home.html>

Water – Major investigations in water are underway in the Department of Civil Engineering. Political economic issues are engaged through projects in places such as Nepal and Gaza.

Transportation – The Center for Transportation and Logistics (CTL) is a major node for research activity in ground transportation at MIT. The Department of Aeronautics and Astronautics focuses on air transportation in the newly competitive domestic and international airline industry. A recently released study by the World Business Council on Sustainable Development (WBCSD) highlights the challenges in achieving global sustainable mobility. <http://lfee.mit.edu/publications/>

Shelter – MIT Building Technology, within the School of Architecture, is part of a cooperative project to develop sustainable urban housing in China. <http://chinahousing.mit.edu/english/home/index.html>

Health Care – Since biotechnology is one of the major research thrusts at MIT, activity abounds in areas such as diagnostics, molecular therapeutics, and tissue engineering. Additionally, capacity building for future inquiries is supported through genomics and proteomics at the Whitehead Institute. Student activities such as United Trauma Relief provide an avenue for addressing health concerns in developing countries.

Media, Communications and Computing – The Media Lab, Laboratory for Computer Science, Artificial Intelligence Lab, and Course 6 engage in a wide variety of analysis and development projects for next generation communication devices.

Energy – The newly-formed Laboratory for Energy and Environment (LFEE) provides a platform for integrating energy production and environmental stewardship.

Guide to Participating Organizations

AID-Boston

URL: <http://www.aidboston.org>, <http://www.aidindia.org>
Email: ansiv@mit.edu, info@aidboston.org
Contact: Anand Sivaraman

Description: AID is a 501(C)(3) non-profit charitable organization, working towards implementing grassroots developmental projects in India. AID was started in 1991 by graduate students at the University of Maryland. The problems of poverty, illiteracy, unemployment, dependency, disease, social inequalities, corruption and the dwindling of natural resources like land, forests and water, reinforce one another: one problem leads to the other and feeds on another. Therefore the solutions to these problems must be interconnected, like the problems themselves. This interconnected nature of the problems neither starts nor stops with the people who are poor—it affects all of us. The core philosophy of AID is one of sustainable, holistic development through interventions at many levels. The other element of AID's philosophy is the fact that any model for change must be participatory: the people in whose lives we would like to bring about the change must be part of the decision-making process. Hence we actively seek and support community oriented, people-intensive projects.

Participants: Anyone can become an AID Boston volunteer. We have a diverse volunteer base; we wish to bring together people with varied skill sets.

Prerequisites: The only prerequisite is loads of motivation and a will to participate in and bring about a grassroots socio-economic change in India.

Asha-MIT

URL: <http://www.ashanet.org/mit>
Emails: Aswin Punathambekar <aswin1@MIT.EDU>
Ananth Chikkatur <ananth@mit.edu>
Contacts: Aswin Punathambekar, Ananth Chikkatur

Description: Asha-MIT, the chapter of Asha for Education (AfE) in Boston, is a voluntary student organization at MIT that aims to mobilize the substantial local student community to collectively support and provide financial assistance to various grassroots level educational movements in India. Our members consist of students from MIT and other neighboring universities, and young professionals in the greater Boston area. Through various fundraisers and general donations., we fund education projects and organizations that are apolitical and secular in nature. We are a relatively structure-free, democratically run organization. Our bi-monthly meetings are open to everyone in MIT and the general community at large.

Participants: Any interested person can participate. Although we are officially a MIT graduate student organization, we welcome undergraduates and the MIT community in general to attend our meetings and fund raisers. Our bi-monthly meetings are held at MIT (Rm. 5-232) every other Sunday 10am-1pm.

Prerequisites: Just an interest in education-related issues in India. Our goal is to include everyone who is interested in helping out and/or simply interested in learning about education issues in India.

EASE: Expediting Access to Standard Education.

URL: <http://web.mit.edu/ease/www>

Email: jg_noor@MIT.EDU

Contact: M. Jehanzeb Noor

Description: EASE is an acronym for Expediting Access to Standard Education. The aim of the program is to improve access to basic education in Africa through sponsorship programs and the establishment of libraries in villages. We believe that education holds the solution to most of the world's problems. Yet, many children are denied the opportunity due to financial constraints. We are convinced that a little effort on our part will go a long way to help. Although the program has hopes of expanding to other African countries, the initial scope is limited to Ghana. The current focus is to sponsor underprivileged children through Junior Secondary School (JSS), which forms the core of basic education in Ghana.

The general goals of EASE are to

- Provide funding for students to attend Junior Secondary School (JSS) who would otherwise not be able to do so
- Help selected villages establish community libraries/stock existing ones
- Increase African awareness at MIT and in Cambridge schools

Participants: Anyone

Prerequisites: None

Foreign Languages and Literatures

URL: <http://web.mit.edu/fl/www/>

Email: fendt@mit.edu, nlowe@mit.edu

Contacts: Kurt Fendt, Nancy Lowe

Description: The Foreign Languages and Literatures Section contributes in significant ways to the internationalization of MIT's education. All of our classes provide an authentic linguistic experience through the use of the most advanced technologies, including the Internet and interactive video. The possibilities include intensive January courses, focus on regional studies, access to film festivals and guest speakers.

The faculty of FL&L are committed to promoting cross-cultural critical thinking and, further, to providing diverse opportunities to live and work in international contexts through opportunities such as study-abroad programs and internships abroad. By integrating the cultural flexibility and breadth that FL&L provides with the professional training in technical domains, MIT students are unusually well prepared for the challenges of the internationalized 21st century.

Participants: Main focus is undergraduates with some graduate students; others may participate with permission of instructor if space is available.

Prerequisites: The bulletin lists prerequisites.

The Haiti Class

URL: <http://web.mit.edu/cidd/haiti>

Email: haitians-exec@mit.edu, mmadinot@mit.edu

Contacts: Jamy Drouillard, Rodney Jonace, Amy Smith

Description: The Haiti class is a 9-unit seminar on appropriate technologies in third world countries, focusing primarily on Haiti. The course covers both appropriate

technologies and culture/language, and is a preparatory course for an IAP fieldtrip to Haiti to gather information and work with community partners to tackle some of the technical needs of the Haitian community. Students learn basic Haitian Creole as well as ways to utilize their engineering skills to make a difference in some part of Haiti.

Participants: MIT undergraduates and graduate students, as well as cross-registered students from Harvard and Wellesley

Prerequisites: None

International Development and Regional Planning (IDRP) Department of Urban Studies and Planning (DUSP)

URL: <http://web.mit.edu/dusp/www/academics/idrp/>

Email: krp@mit.edu

Contact: Karen R. Polenske

Description: The MIT International Development and Regional Planning (IDRP) Program is the longest standing and largest graduate program within a U.S. planning school devoted specifically to the developing world. In a recent survey of U.S. planning schools by the American Collegiate Schools of Planning, MIT's IDRP program showed the greatest number of courses devoted exclusively to international development planning, and it was the only graduate planning program to meet all of a list of nine criteria for involvement in international planning education. The IDRP Program provides students with an integrated view of the institutional, economic, technical, and socio-political factors necessary for effective planning in today's world. IDRP students proceed to careers in local, state, and national government, universities and other research institutions, nongovernmental organizations, and international agencies.

Participants: All students and faculty in DUSP interested in international development issues.

Prerequisites: None

MISTI (MIT International Technology & Initiatives)

URL: <http://web.mit.edu/misti/www/>

Email: gercik@MIT.EDU, bwiddig@MIT.EDU

Contacts: Patricia Gercik and Bernd Widdig

Description: Created in 1994, the MIT International Science and Technology Initiatives (MISTI) program prepares students, faculty, and industry leaders to pursue knowledge across the world. MISTI encompasses the following country-programs: MIT-China, MIT-France, MIT-Germany, MIT-India, MIT-Italy, and MIT-Japan.

Through these programs, MISTI provides:

- Paid internships of 2-12 months
- Intensive language and cultural training
- Innovative curriculum development
- International research collaborations
- Meetings, public education, and outreach
- Educational products
- Seminars, conferences, human resources, and distance education course

Participants: MIT Students

Prerequisites: Yes. Please check out the website for more details.

MIT \$50K Entrepreneurship Competition

URL: <http://50k.mit.edu>
Email: bcurtis@mit.edu
Contact: Brian Curtis

Description: The MIT \$50K Entrepreneurship Competition is designed to encourage students and researchers in the MIT community to act on their talent, ideas and energy to produce tomorrow's leading firms. Now in its 14th year, the Competition has awarded hundreds of thousands of dollars in cash and business startup services to outstanding teams of student entrepreneurs who submitted business plans for new ventures showing significant business potential in areas ranging from cutting edge technology to social, economic and environmental development.

Participants: All MIT students. All teams must have at least one MIT student to be eligible.

Prerequisites: No

MIT-Africa Internet Technology Initiative (MIT-AITI)

URL: <http://web.mit.edu/mit-africa/www>
Email: solomona@mit.edu
Contact: Solomon Assefa

Description: The Web is fast emerging as the preferred form of communication worldwide, and the Western world is leading in this technology. Africa, which lags significantly in this field, needs programs that help promote computer technology and the utilization of the huge resources available on the Web. One solution is the establishment of school-based programs that teach students the importance of the Web while equipping them with skills that allow them to be innovative and resourceful when using it. MIT-AITI is a project that will link African schools to the internet and empower its students with Web technology.

The MIT-AITI project hopes to achieve three goals: 1) to enable MIT students to apply their technical expertise to enable advancement of web technology in Africa; 2) to create an opportunity for future MIT undergraduates to develop further initiatives that help society at all levels; and 3) to create a long-term cultural and technical understanding between the MIT community and her African counterparts.

Participants: Undergraduates and graduate students, MIT community, and companies/organizations with interest to contribute to MIT-AITI

Prerequisites: None.

MIT Entrepreneurship Center

- MIT \$50K Global Startup Workshop
- Carroll L. Wilson Awards

URL: <http://entrepreneurship.mit.edu>
Email: yih@mit.edu, ajives@mit.edu
Contacts: Christie Yih, Anthony Ives

Description: The MIT Entrepreneurship Center trains the people who make high tech start-up companies successful. We provide content, context, and contacts that enable entrepreneurs to design and launch successful new ventures based on innovative technologies. We help MIT students, alumni, and colleagues access an array of educational programs, networking opportunities, technologies, and resources, both at MIT and around the world. Members of the MIT E-Center community form a global network to actively advise and assist each other for mutual benefit, enabling them to set and meet their highest expectations.

The MIT \$50K Global Startup Workshop is the premier conference for entrepreneurial organizers of business plan competitions to exchange best practices and to learn how to use a business plan competition for economic development, technological dissemination, and innovation.

The Carroll L. Wilson Awards is a grant for up to \$5,000 awarded to graduate students, in any MIT department, who wish to pursue exciting and challenging research opportunities abroad. The aim of the Wilson awards is to provide opportunities for MIT graduate students to explore a program of research and/or study of an important societal problem with international dimensions.

Participants: The MIT Entrepreneurship Center coordinates a variety of programs for the MIT community, alumni, and the general public. The MIT \$50K Global Startup Workshop involves members of the MIT \$50K organizing team as well as other organizers of business plan competitions worldwide. The Carroll L. Wilson Awards are eligible only for MIT graduate students in any MIT department. An essay application is required.

MIT IDEAS Competition

URL: <http://web.mit.edu/ideas>
Email: ideas-staff@mit.edu
Contact: Amy Smith, Amy Banzaert

Description: The IDEAS Competition provides an opportunity for members of the MIT community to develop their creative ideas for projects that make a positive impact in the world. Participants work in teams to develop designs, plans, strategies, materials and mechanisms that benefit communities, locally, nationally, or internationally. Using \$20,000 in awards, as well as additional materials grants, the teams can take effective steps toward resolving pressing individual and community challenges. Some of the award funds are specifically designated for international development projects.

Participants: At least 1/3 of each team must be enrolled MIT students. We encourage teams to include community members as well.

Prerequisites: None. Come to the Kick-off event in 6-120 on October 8 at 7:30 or download an application from our web page after that date. <http://web.mit.edu/ideas/>

MIT Public Service Center

URL: <http://web.mit.edu/mitpsc>
Email: susnowit@mit.edu
Contact: Sally Susnowitz

The MIT Public Service Center facilitates community service efforts by the MIT community to assist local, regional, national, and international communities. For international projects, we offer planning assistance and grants, and our fellowship program includes international offerings whenever possible. Recent initiatives and partnerships are expanding our international development work. With the Edgerton Center, we developed the IDEAS Competition, which celebrates and supports innovative designs that meet community needs worldwide, and we have begun a service-learning program that incorporates service projects into classes. We are also working with Cambridge University to develop collaborative international opportunities.

Participants: Fellowships are reserved for MIT undergraduates and graduate students; grants and planning assistance are available to anyone within the MIT community for projects that involve MIT students in community service projects.

Prerequisites: None

MIT Student Pugwash

URL: <http://web.mit.edu/pugwash>

E-mail: jarudi@mit.edu

Contact: Izzat Jarudi

Description: MIT Student Pugwash is one of twenty-seven chapters of Student Pugwash USA. We encourage all students to consider the ethical implications of science and technology from the development of genetic engineering to sustainability, and to make these concerns an important part of their academic and professional lives.

Participants: Undergraduate and graduate students

Prerequisites: None.

MIT Western Hemisphere Project

URL: <http://web.mit.edu/hemisphere/>

Email: hemisphere-admin@mit.edu

Contact: All officers at e-mail above

Description: Project activities are designed to help members of the MIT community understand the connections among peoples, governments, & corporations in the Western Hemisphere. We examine all facets of these relationships, from the historical and cultural to current economics, politics, mass media, and human rights. In the past we have brought speakers and activists to campus. One of our current efforts is to create a not-for-profit "International Corps of Engineers," whose goal is to provide systematic technological aid to developing communities and those in the process of re-building after a natural or other disaster.

Participants: MIT community, others by invitation

Program on Human Rights & Justice at MIT (PHRJ)

URL: <http://web.mit.edu/phrj>

Email: phrj@mit.edu

Contact: Marisa Cravens, Program Coordinator, x37692

Description: Established in late 2000, the PHRJ aims to create a cutting-edge interdisciplinary environment for research, teaching, curricular development and real-world application in human rights, especially relating to the global economy and science and technology. We offer an internship program, a fellowship program, and a regular series of lectures, conferences, and other events, to engage the MIT community in considering the broader social impacts of development. Cross-cultural dimensions of human welfare, security and dignity animate all PHRJ activities.

We are the first human rights program in a leading technology school and the first in the world with a specific focus on the human rights aspects of economic, scientific and technological developments.

Participants: Internships are for MIT undergraduates and graduate students: all events are open to the public.

Prerequisites: There are no prerequisites for participation.

SANGAM – Indian Cultural Organization

URL: <http://web.mit.edu/sangam/www/>

Email: anoop@mit.edu, sriram@mit.edu

Contacts: Anoop Rao, Krishnan Sriram.

Description: We define ourselves as a cultural organization comprising students who are either from the Indian subcontinent, have their roots there or have a fascination for the diverse culture and traditions of India. SANGAM has at least one event per week that includes but is not limited to music concerts, social events, lectures, screening movies and events that have a festive significance. Almost always these events are FREE for interested individuals. SANGAM often coordinates with other student groups within MIT (SAAS, ASHA, AID, HSC, Paksmit) fostering cooperation that transcends all hurdles. SANGAM has received the Edward L. Horton Fellowship Award for fostering fellowship within graduate students and spearheading a relief drive for earthquake relief.

Participants: Just about anyone.

Prerequisites: None at all.

Sloan Entrepreneurs for International Development (SEID)

URL: <http://www.mit.edu/afs/athena/org/s/seid/>

Email: julianne@sloan.mit.edu, tvalido@mit.edu, irna@sloan.mit.edu, rgupta@sloan.mit.edu

Contact: Julianne Young, Telmo Valido, Irna Hutabarat, Richa Gupta

Description: The mission of SEID is twofold: a) to educate students at MIT and neighboring schools about international development and innovative, sustainable developmental entrepreneurship, and b) to build a worldwide network of relationships related to developmental entrepreneurship. To achieve this, we plan to host speakers who have worked on or are connected to entrepreneurship in international development, establish a database of contacts in this field, and build resources for academic projects and internship opportunities.

Participants: Everyone is encouraged to participate.

Prerequisites: For invitation to all SEID events (including private receptions and club-organized development treks), there will be a small membership fee. But we will also hold some general events where anyone is allowed to participate without any prerequisites.

Students for Global Sustainability (SfGS)

URL: <http://web.mit.edu/sfgs>

Email: agssc-exec

Contacts: Anke Hildebrandt (anke@mit.edu) and Daniel Collins (daniel_@mit.edu)

Description: Students for Global Sustainability is a young chapter of the World Students Community for Sustainability. Our interest in sustainability issues is interdisciplinary and includes besides environmental also social science, economics, architecture, civil and environmental engineering and many others. Our activities at MIT now are focused on building up the local chapter. One of our main goals is to promote the application of the skill that is present in our school in our immediate environment for the sake of sustainable development. In the future we want to work on issues like recycling, the focus on sustainable high and low technologies in class syllabus or awareness for sustainable architecture for new buildings at MIT.

Participants: Graduate and undergraduate students from MIT and other schools in the Boston area

Prerequisites: None

The Technology and Culture Forum at MIT

URL: <http://web.mit.edu/tac/www>

Email: weinmann@mit.edu

Contact: Patricia Weinmann

Description: The Technology and Culture Forum at MIT sponsors lectures and symposia that address critical issues of our time. The programs explore the role of science and technology in promoting positive social, ecological, and economic change. In addition, they stimulate discussion about the ethical implications of scientific discovery and technological innovation.

Participants: A Steering Committee coordinates T&C events. All MIT students, faculty and staff, and the public are invited to all events.

ThinkCycle: Open Collaborative Design

URL: <http://www.thinkcycle.org>

Email: thinkcycle@media.mit.edu

Contact: Nitin Sawhney, Timothy Prester, Saul Griffith, Yael Maguire, Neil Cantor

Description: ThinkCycle is an academic non-profit initiative established at MIT, engaged in supporting distributed collaboration towards design challenges facing underserved communities and the environment. ThinkCycle seeks to create a culture of open-source design innovation, with ongoing collaboration among individuals, communities and organizations around the world.

Over the last two years, Design that Matters, an experimental design studio course at MIT, has brought together multi-disciplinary teams of students to develop sustainable engineering solutions in critical problem domains. ThinkCycle provides a shared online space for designers, engineers, domain experts and stakeholders to discuss, exchange and construct ideas for open collaborative design. Join the ThinkCycle Community and make a difference!

Participants: Anyone

Prerequisites: None

United Trauma Relief (UTR)

URL: <http://web.mit.edu/utr/www>

Email: sboza@mit.edu and sweiwang@mit.edu

Contacts: Shefali Oza and Stephanie Wang

Description: United Trauma Relief is a student-run group working to prevent and alleviate suffering that results from poverty, disease and war. UTR members approach concerns that arise from global epidemics, refugee crises and disasters through three basic types of initiatives: 1) Active redistribution of needed resources from developed to developing countries; 2) Short-term relief and long-term reconstruction projects; 3) Direct coordination and hands-on work with needy communities in developing countries.

Current and previous projects include: AIDS drug recycling, medical equipment recycling (to Kenya); landmine clearance in Afghanistan; relief for various natural disasters in developing countries; refugee relief in Afghanistan; successful proposal for MIT to join FLA and WRC (labor issues).

Participants: We are a student-run organization, but anyone interested is welcome to join.

Prerequisites: None



Index of Development Related Resources at MIT

MIT has a range of curricular and co-curricular offerings focused on sustainable development. While no formal school of academic thought exists to bridge advanced technology, entrepreneurial efforts, and sustainable development, many people and activities at MIT are directly or indirectly engaged in the intersection of these areas. A range of clubs, centers, competitions and classes with a development focus are listed below. Those marked with a bullet (•) have a representative attending the activities midway today.

Clubs

- Amnesty International
- AID-Boston
- Asha-MIT
- EASE: Expediting Access to Standard Education
- Habitat for Humanity
- MIT-Africa Internet Technology Initiative (MIT-AITI)
- MIT Student Pugwash
- MIT Western Hemisphere Project
- SANGAM – Indian Cultural Organization
- SAVE – Share A Vital Earth
- Sloan Energy and Environmental Finance Club
- Sloan Entrepreneurs for International Development (SEID)
- Socially Responsible Business Club (SRB)
- Student for Global Sustainability (SfGS)
- ThinkCycle: Open Collaborative Design
- United Trauma Relief (UTR)

Centers

- Aga Khan Project
- Center for International Studies (CIS)
- Foreign Languages and Literatures
- International Development and Regional Planning (IDRP)
- Laboratory for Energy and Environment (LFEE)
- Mexico City Project
- MISTI
- MIT Entrepreneurship Center
- MIT Public Service Center
- MIT Technology & Culture Forum
- SPURS - Special Program for Urban and Regional Studies
- The Program on Human Rights and Justice at MIT (PHRJ)

Competitions

- MIT \$50K Competition
- MIT IDEAS Competition

Courses

While no formal “sustainability” curriculum exist at MIT, there are many courses which support intellectual development in this area. The LFEE presents a complimentary list of courses with an environmental focus (<http://lfee.mit.edu/education/courses/>).

Humanities

- 21A.336 Globalization: From Mercantilism to Microchips C. Walley
- 21F.053 Topics in Global Culture Odile Cazenave
- 21F.084J Introduction to Latin American Studies C. Lawson
- 21F.090 Where East Meets West Eva Hoffman
- 21H.967J Modernity, Postmodernity, and Capitalism B. Mazlish
- SP746 ATF Writing Seminar <http://web.mit.edu/sp.746/www/home.html> Amy Smith

Social Sciences/Economics/Political Science

- IDRP <http://web.mit.edu/dusp/www/academics/idrp/main-pages/courses.html>
- 11.122 Environment and Society D. O'Rourke
- 11.305 Landscape Ecology and Urban Development Staff
- 11.366J Planning for Sustainable Development D. Laws
- 11.368 Environmental Justice D. O'Rourke
- 11.486J/14.778J/17.184J Economic Institutions and Growth Policy Analysis
- A. Amsden, M. Piore
- 13.661 Economics of Marine Transportation Industries and Environment
- H. L. Kite-Powell
- 14.72 Capitalism and Its Critics M. Piore, P. Temin
- 14.781J/15.678J/17.100J Political Economy I: Theories of the State and the Economy S. Berger, M. Piore
- 15.657J Sustainability, Trade, and the Environment N.A. Ashford
- 17.31J/STS.082J Science, Technology, and Public Policy K.Oye
- 17.182 Sustainable Development: Theory, Research and Policy N. Choucri
- 17.194 Political Economy of the Post-Socialist Transition D. Woodruff
- 17.196 Globalization S. Berger
- 17.148 Political Economy of Globalization S. Berger
- 17.208 Comparative Social Policy: Challenges to the Welfare State S. Giaimo
- 17.410 Globalization, Migration, and International Relations N. Choucri
- 17.414J/ESD.156J Policy Choice and Global Environmental Issues J. M. Kauffman
- 17.559 Comparative Security and Sustainability N. Choucri
- 17.560 Comparative Security and Sustainability N. Choucri
- STS.036 Industrial Landscapes D. Fitzgerald
- STS.037 Food and Power in the Twentieth Century D. Fitzgerald
- STS.047 Medicine, Healthcare, and Technology in the US E.M.Hammonds
- STS.069 Technology in a Dangerous World R.H Williams
- STS.340 Introduction to the History of Technology D. Mindell

STS.449J Social Studies of Biosci and Biotech B. J. Good, M. M. J. Fischer,
M. D. Good
STS.450J US Military Power B. Posen, T. Postol
STS.455 Ecocrisis or Ecomyth? Historical and Philosophical Roots of
Environmental Policy J. Conway, K. Keniston
STS.456 Energy, Environment, and Global Politics E. Fox Keller, D. Marks
STS.463J Is Technology Eradicating Nature? R. H. Williams, L. Marx

IAP Grassroots Development Seminar <http://www.media.mit.edu/~nitin/aid/iap/>
Nitin Sawhney

Engineering Systems

1.041J Engineering System Design J. Sussman, K. Kruckemeyer
ESD.32J Product Design and Development S. D. Eppinger
ESD.33J Systems Engineering C. W. Boppe
ESD.34 System Architecture E. F. Crawley
ESD.71 Engineering Systems Analysis for Design R. de Neufville, J. P. Clark, F. Field
ESD.126 Energy Systems and Economic Development R.D.Tabors
ESD.128J Global Climate Change: Economics, Science, and Policy
H. D. Jacoby, R. G. Prinn
ESD.132J Law, Technology, and Public Policy N. A. Ashford
ESD.137J Sustainability, Trade, and the Environment N. A. Ashford

Disciplinary Tools

1.250J/ESD.207J Transportation in an Environmentally Constrained World
M. Ben-Akiva, J. Heywood, A. Schafer
1.253J/ESD.222J Transportation Policy and Environmental Limits J. Coughlin,
F. Salvucci
1.725J/ESD.151J Chemicals in the Environment: Fate and Transport
H. F. Hemond
1.811J/ESD.133J Environmental Law: Pollution Control N. A. Ashford,
C. C. Caldart
1.812J/ESD.134J Regulation of Chemicals, Radiation, and Biotechnology
N. A. Ashford, C. C. Caldart
11.362 Environmental Management W. Shutkin
11.369J Industry, Technology, and Ecology D. O'Rourke
ESD.123J Industrial Ecology J. Clark, F. Field
ESD.166J Sustainable Energy J. Tester, M. W. Golay, D. H. Marks, E. Drake

Enabling Technologies

MAS.836 Sensor Technologies for Interactive Environments J. Paradiso
MAS.863 How to Make (Almost) Anything N. Gershenfeld, J. Jacobson,
I. Chuang, J. Paradiso, J. DiFrancesco
MAS.963 Development Technologies
<http://www.media.mit.edu/~mikeb/class963.html> Michael Best
MAS.967 Developmental Entrepreneurship
<http://courses.media.mit.edu/2002fall/de/> Sandy Pentland/Joost Bonsen



1. What does sustainable development mean?
2. How does environmentalism relate to sustainable development?
3. Who is addressing the tension between business interests and environmental concerns?
4. Are there funding sources to pursue sustainable development?
5. Is there a research program in sustainability which can lead to a tenure track position?
6. Can I be an entrepreneur and do development work?
7. Are there models which combine service, research, and teaching in today's fast-paced competitive environment?
8. Who is working to set the rules of the "sustainability game"?
9. What are major structural barriers to more rapid progress toward sustainable development?

1. What does sustainable development mean?

Sustainable development has a variety of meanings. One of the most comprehensive is provided by Professor Nicholas Ashford of the MIT Technology and Policy Program. He seeks to co-optimize environment, economy, employment, and equity.

2. How does environmentalism relate to sustainable development?

Environmental sustainability is one of the most visible streams within sustainability discourse. Environmental constraints were one of the driving factors for UN action, and high-profile international, supranational, and regional challenges such as global climate change, water shortages, and rainforest destruction remain. As seen by the activities represented at this forum, however, international development contains many other dimensions beyond the environmental, including economic empowerment and entrepreneurial approaches.

3. Who is addressing the tension between business interests and environmental concerns?

The National Academy of Engineering has begun to address these issues through publications such as *Engineering Within Ecological Constraints*. Proactive firms such as 3M, DuPont, and Shell are beginning to rethink their business practices given the goals and values implied by sustainable development. Business coalitions, such as the World Business Council on Sustainable Development (<http://www.wbcsd.org>) are also emerging.

4. Are there funding sources to pursue sustainable development?

Some commentators have noted the historic difficulty in obtaining funding for development initiatives. With the recognition of the strategic importance of environmental quality and the interconnected nature of ecological, industrial, and social systems, various governmental and private funds have begun to

support research activity in sustainable development niches. Examples include the US National Science Foundation and the Gates Foundation. Additionally, firms with an interest in sustainable development sometimes make available funds for internal projects.

5. Is there a research program in sustainability which can lead to a tenure track position?

Currently, there is no tenure track for those studying sustainable development, although sustainability studies programs are emerging at universities such as Rice, the University of Wisconsin-Madison, and the University of Minnesota. At MIT, the LFEE supports research in environmental sustainability. Organizations such as ThinkCycle and conferences such as Development by Design (<http://www.thinkcycle.org/dyd02>) are providing project examples and fora to support such an academic enterprise. Perhaps you will make a crucial contribution in this area.

6. Can I be an entrepreneur and do development work?

Given the historic lack of funding sources, some of the major initiatives have been launched by entrepreneurs in the technical, business, or policy domains. At MIT, competitions such as the IDEAS competition (<http://www.mit.edu/~ideas/home.html>) and the \$50K (<http://50k.mit.edu>) provide mentorship and experience for interested individuals.

7. Are there models which combine service, research, and teaching in today's fast-paced competitive environment?

These three categories are the historic goals for those pursuing tenure at land grant institutions, such as MIT. Today, many acknowledge the primacy of research among this set. Offerings from the Public Service Center, the Graduate Student Volunteer Corps, and others are helping to strike a new balance.

8. Who is working to set the rules of the "sustainability game"?

A variety of international frameworks, such as the World Trade Organization (WTO) and the General Agreement on Tariffs and Trade (GATT), exist to promote economic development. Frameworks to support the social dimensions of sustainable development, including labor agreements, international war crimes tribunals, and human rights, are in development around the world. At MIT, the Program on Human Rights and Justice provides an opportunity to engage these issues.

9. What are major structural barriers to more rapid progress toward sustainable development?

Underlying institutional structures, including political, economic, social, and religious traditions, shape the physical technologies which are developed. A number of classes and clubs at MIT provide frameworks for thinking more deeply about these issues. For example, Course 17, DUSP, and ESD each offer courses which complement the activity of clubs such as the MIT Western Hemisphere Project.