

Distance Learning: A Global Perspective

Boston,
as seen
from MIT



Presented
in Beijing,
China, June
27, 2005

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Cambridge, Massachusetts USA

International Conference on
Promotion of Distance Learning and
Service Networks for Development in
China and Other Countries

Today we live in a
knowledge age

The Most Valuable Natural Resources of a Country Lie Buried...



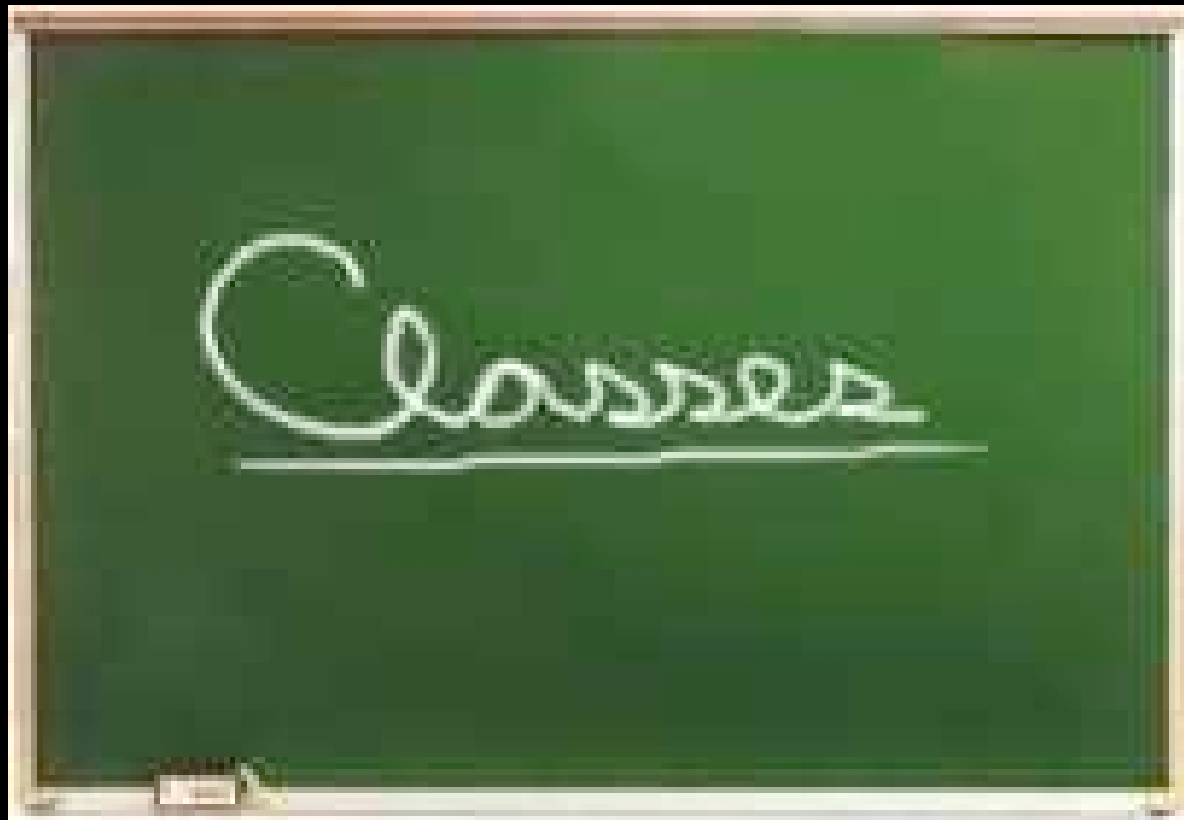
Between the Ears of Its Citizens!



<http://www.essex.ac.uk/afm/postgraduate/smallgirl2-websave.jpg>

Until Recently, what has
been the
Primary Technology For
Teaching?

Chalk and blackboard...



from: <http://home.earthlink.net/~mariko-usa/graphics/chalk2.jpg>

What's the Difference Between the Blackboard and Cave Drawings?



The Eraser!!



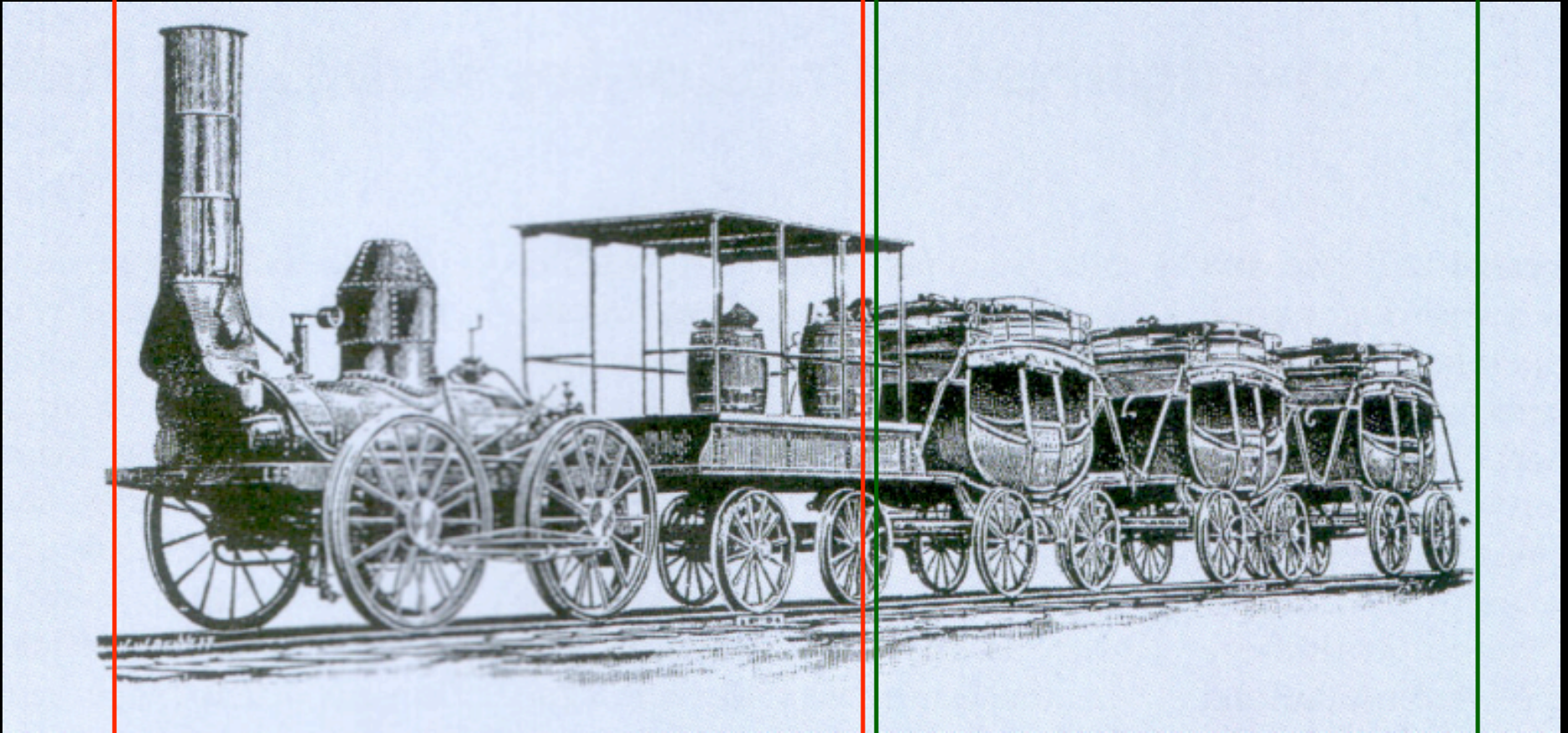
And the dutiful student sits
passively listening to her lecturer



<http://www.images.bham.ac.uk/im2011.jpg>

<http://www.millennium.scps.k12.fl.us/bariosstudent.jpg>

Tomorrow's Learning, Yesterday's Teaching



Internet, PCs, Multimedia

Passive Listening Lectures

But,
-- with technology --
the delivery and pedagogy
of education are changing
rapidly

Distance Learning Even Occurs on Campuses!



<http://www.outreach.usf.edu/catalog/spring02/macgirls.jpg>

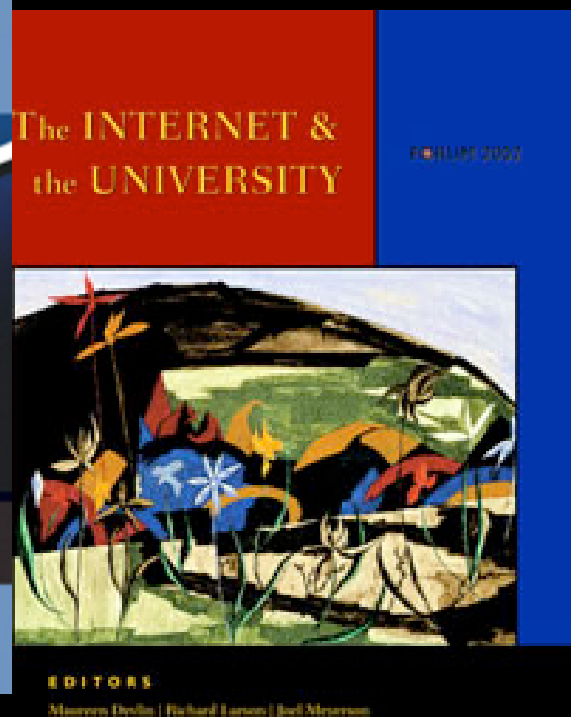
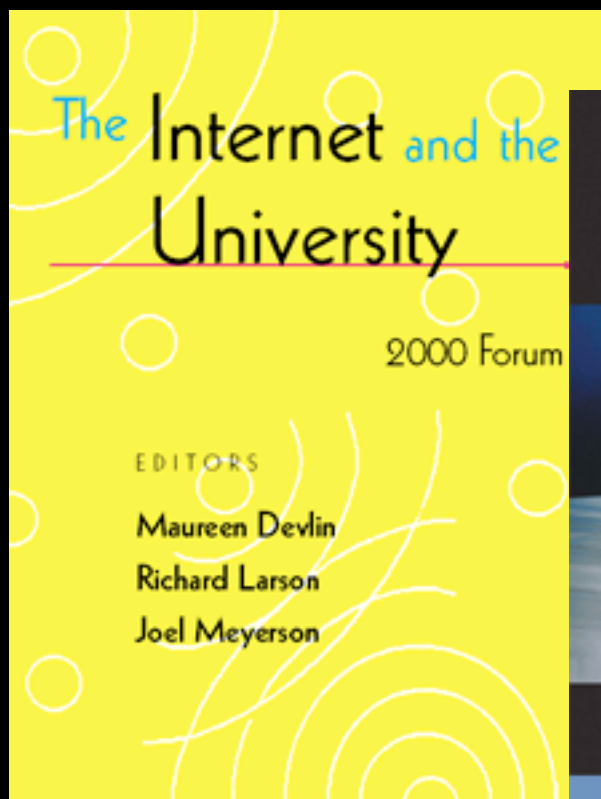
Developing Countries Very Active in Distance Learning

- ◆ Mexico and Latin America
 - Monterrey Institute of Technology (ITESM) Mexico
- ◆ China
- ◆ Some New Entrants:



- World Bank Global Development Learning Network
- Pakistan, Uzbekistan, Tunisia, Algeria, South Africa, Jordan

Five Years of *The Internet and the University*



<http://www.educause.edu/forum/ffpiu02w.asp?bhcp=1>

E-Learning Perspectives from MIT

- 1) MIT's OCW (OpenCourseWare) program
- 2) **MIT World** (free video on demand)
- 3) Internet-based virtual laboratory experiments
- 4) PIVoT, an on-line video tutor
- 5) Singapore MIT Alliance (SMA)
- 6) MIT experience with the African Virtual University
- 7) Research in e-Learning
- 8) LINC, Learning International Networks Consortium
 - LINC's AITI, African Internet Technology Initiative
 - Working with Tsinghua School of Continuing Education

1) MIT OpenCourseWare

Educational Materials from 1,100
MIT Courses Up on the Web

This material may be used free of
charge anywhere on Planet Earth
and Beyond!

MIT OPENCOURSEWARE

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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FAQ

Questions about OCW? Write to
ocw@mit.edu

"OpenCourseWare looks counter-intuitive in a market-driven world. It goes against the grain of current material values. But it really is consistent with what I believe is the best about MIT. It is innovative. It expresses our belief in the way education can be advanced — by constantly

Welcome to the MIT OpenCourseWare Information Home

This page provides updates on the progress of MIT OpenCourseWare (OCW). We invite you to bookmark it, and to check back frequently for the latest news.

- [Project Updates](#)
- [OCW in the News](#)
- [OCW Release Dates](#)
- [A Brief Description of OCW](#)

Project Updates

OpenCourseWare Executive Director Named

Anne Margulies, who has held administrative positions at Harvard and was a chief operating officer in the private sector, has been named the first executive director of the OpenCourseWare initiative, following an extensive search.

To read more, please see the [MIT Tech Talk article](#), April 24, 2002

MIT OpenCourseWare | Civil and Environmental ...

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Address: http://ocw.mit.edu/global/department1.html

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MITOPENCOURSEWARE
CIVIL AND ENVIRONMENTAL ENGINEERING

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SEARCH

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Courses


1.00-Introduction to Computers and Engineering Problem Solving

1.061-Transport Processes in the Environment

1.138J-Wave Propagation

1.203J-Logistical and Transportation Planning Methods

MIT



Civil and Environmental Engineering

The Department of Civil and Environmental Engineering is one of the oldest departments at MIT. Our mission is to educate the future leaders of the profession and to provide skills and foundations for lifelong learning and growth. Research to create new knowledge is an integral part of our education program and the continued renewal of the profession.

For more information, go to <http://web.mit.edu/civenv/>.

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Address: @ http://ocw.mit.edu/6/6.281j/f01/index.html

@ Live Home Page

@ Apple

@ iTools

@ Apple Support

@ Apple Store

@ Microsoft MacTopia

@ MSN

@ Office for Macintosh

@ Internet Explorer

MITOPENCOURSEWARE

ELECTRICAL ENGINEERING & COMPUTER SCIENCE

6.281J / 1.203J / 13.665J / 15.073J / 16.76J / ESD.216J Logistical and Transportation Planning Methods, Fall 2001

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Course Home

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Assignments

Exams

Required Readings



6.281J / 1.203J / 13.665J / 15.073J / 16.76J / ESD.216J Logistical and Transportation Planning Methods, Fall 2001



Logistical and Transportation Planning Methods

Urban Operations Research

Illustration by [Elaine Chew](#), MIT PhD, 2000. Used with Permission

Highlights of this Course

This MIT subject includes a full 500+ page online textbook, [Urban Operations Research](#), by Profs. Richard C. Larson and Amedeo R. Odoni. While that book was published in 1981, most of the material is still current and is referenced in the course reading assignments. To augment the book and to bring it up to date where necessary, there are lectures handouts, available here as PDF files. Interactive color animations bring to life some of the most interesting applied probability problems in Chapter Three of the book. These, too, are referenced in the reading

Staff

Professor:
Prof. Arnold Barnett
Prof. Richard Larson
Prof. Amedeo Odoni

Course Meeting Times

Lectures:
Two sessions / week
1.5 hours / session

Send [feedback](#) about OCW

Internet Explorer window titled "@ Urban Operations Research at EMCC".

Address bar: http://web.mit.edu/urban_or_book/www/

Navigation buttons: Back, Forward, Stop, Refresh, Home, AutoFill, Print, Mail.

Search bar with suggestions: @ Live Home Page, @ Apple, @ iTools, @ Apple Support, @ Apple Store, @ Microsoft MacTopia, @ MSN, @ Office for Macintosh, @ Internet Explorer.


Left sidebar: Favorites, History, Search, Scrapbook, Page Holder.

Main content area:

This site is a supplement to the [course webpage](#).

URBAN OPERATIONS RESEARCH

Logistical and Transportation Planning Methods



TEXTBOOK

[Urban Operations Research](#)
by Richard C. Larson
and Amedeo R. Odoni

LECTURES: [Larson](#) (Ppt Slides), [Odoni](#) (MSWord),
[THE MORSE LECTURE 1998](#)

EXAMPLES: [Stick Breaking](#), [Dropping Needle](#), [Spinning Bottle](#),
[Factory Location](#), [Airline Yield Management](#).

DISCUSSIONS: [Webboard](#)

TOOLS: [OR-Objects](#)

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Hosted by the [Educational Media Creation Center](#)

Internet Explorer window titled "Urban Operations Research by Larson/Odoni". The address bar shows the URL: http://web.mit.edu/urban_or_book/www/book/. The browser toolbar includes Back, Forward, Stop, Refresh, Home, AutoFill, Print, and Mail. The Favorites bar shows links to Live Home Page, Apple, iTools, Apple Support, Apple Store, Microsoft MacTopia, MSN, Office for Macintosh, and Internet Explorer.

The main content area displays the title "Urban Operations Research" in large blue and orange text. Below the title is a central graphic featuring a map of the United States with numerous black lines radiating from a central point, a blue satellite dish, and a yellow and blue airplane. To the left of the title is a small image of a city skyline. To the right is another small image of a city skyline.

On the left side, there is a vertical sidebar with links: Favorites, History, Search, Scrapbook, and Page Holder.

The page lists the following chapters:

- Chapter 1**
Introduction
- Chapter 2**
Probability
- Chapter 3**
Functions of Random Var
- Chapter 4**
Queueing Theory
- Chapter 5**
Spatial Queues
- Chapter 6**
Network Applications
- Chapter 7**
Simulations
- Chapter 8**
Implementation

The authors are listed as **by Richard C. Larson and Amedeo R. Odoni**, first published by Prentice-Hall, NJ, © 1981.

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Our MIT Course,
Urban Operations Research,
has been taught for over 30 years!

- ◆ Contents now on MIT's OpenCourseWare
- ◆ One of the top ten most visited OCW sites (*Wired* Magazine, Sept. 2003)
- ◆ Now available in three languages: English, Spanish and Portuguese
- ◆ Teachers: Professors Amedeo Odoni, Arnold Barnett and yours truly

Urban Operations Research

- ◆ Deals with urban operational problems
- ◆ Transportation
- ◆ Health care
- ◆ Public Safety
- ◆ Sanitation
- ◆ Repair and maintenance of infrastructure





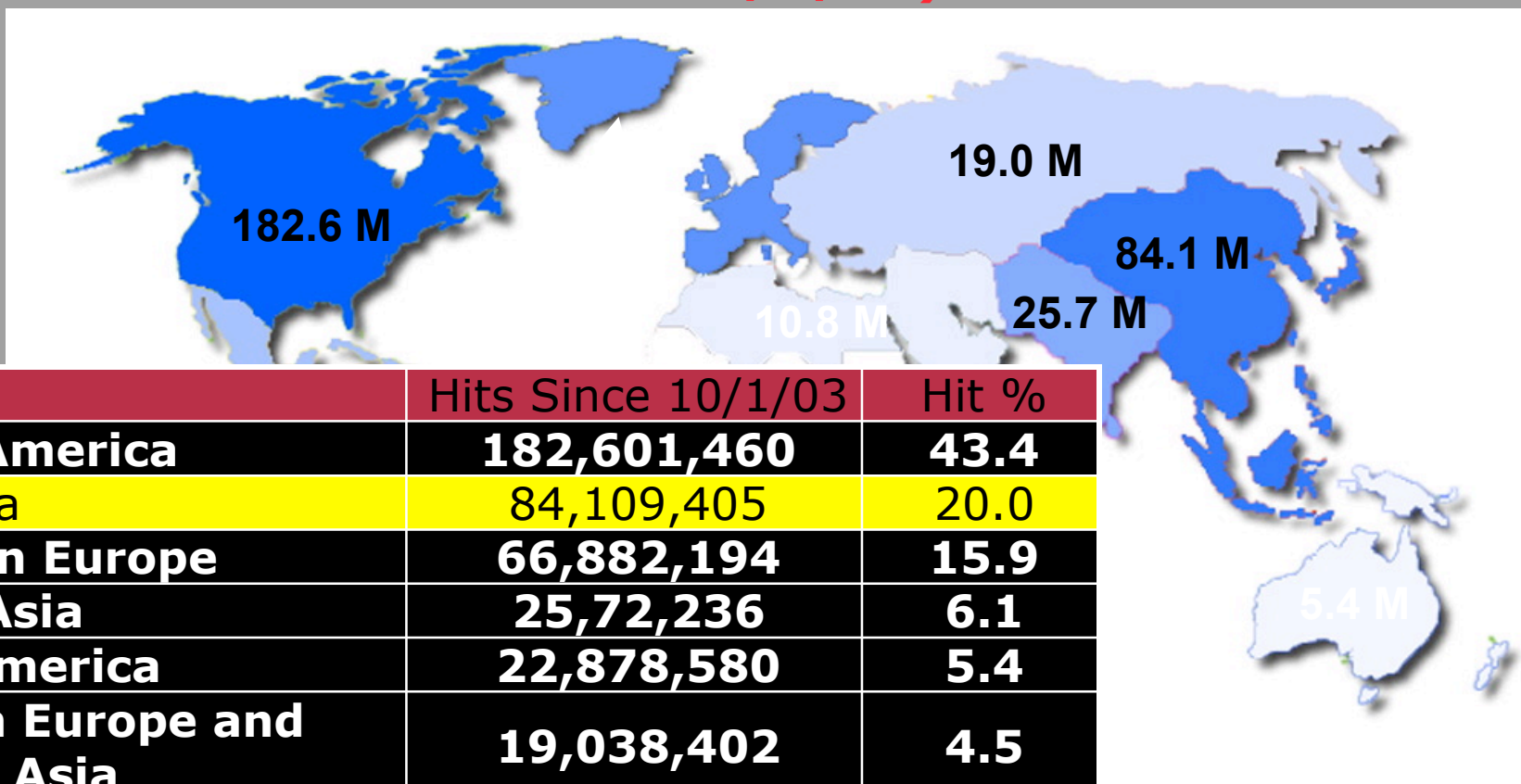
Urban Operations Research

- ◆ OCW Site Contains Homework and Exam Problems

We are seeking partners in creating an online learning community around this course and around operational planning problems of cities.

Outcomes — Access data

Traffic by Geographic Region (in Web hits, since 10/1/03)



Region	Hits Since 10/1/03	Hit %
North America	182,601,460	43.4
East Asia	84,109,405	20.0
Western Europe	66,882,194	15.9
South Asia	25,72,236	6.1
Latin America	22,878,580	5.4
Eastern Europe and Central Asia	19,038,402	4.5
MENA	10,819,406	2.6
Pacific	5,436,272	1.3
Sub-Sahar Africa	3,258,812	0.8
TOTAL HITS	420,744,767	

Outcomes — Access data

Countries with most hits in April 2005 (*outside of U.S.*)

Country		Web Hits
1	China	2,139,951
2	India	1,222,719
3	Canada	1,039,254
4	South Korea	1,008,295
5	Taiwan	974,456
6	United Kingdom	776,755
7	France	529,660
8	Germany	486,608
9	Japan	422,402
10	Brazil	406,532

Country		Web Hits
11	Turkey	380,605
12	Sweden	375,965
13	Italy	357,541
14	Australia	306,286
15	Spain	305,774
16	Singapore	301,704
17	Netherlands	244,064
18	Iran	215,478
19	Indonesia	210,760
20	Mexico	206,790

OCW Outcomes — User profile

- ◆ **Visitors generally fit one of three user profiles:**
 - **Educators are 15.3% of all MIT OCW traffic**
 - **Students are 31.4%**
 - **Self-learners are 48.2%**
- ◆ **66% of visitors hold a bachelor's or master's degree**
- ◆ **Visitors most frequently interested in courses in electrical engineering, business, physics, and mathematics**
- ◆ **Visitors average 1.6 visits per month**
- ◆ **Review average of 9.36 HTML pages per visit**



2) MIT World

*The World's Largest Freely
Available Video-on-Demand
University Site for Public
Lectures.*



In Charlie's Vision: The Future of Engineering at MIT

James A. Champy,
Chairman of
Consulting
Perot Systems
Corporation
MIT Host:
Engineering Systems
Division

 [Play
Now](#)



(eco)Logical: Greening the 21st Century City

Richard M. Daley,
Mayor, City of Chicago
Ken Greenberg,
Principal, Greenberg
Consultants Ltd.
Hillary Brown,
Architect and Principal,
New Civic Works
Robert Campbell,
Architecture Critic
The Boston Globe
Douglas I. Foy,
Secretary of the Office
for Commonwealth
Development
State of



Engineering Systems and Civil
and Environmental
Engineering

MIT Host: Alumni
Association

Future Automotive Technology and Fuels: The Options and Their Impacts

John B. Heywood, Sun Jae
Professor of Mechanical
Engineering

MIT Host: Alumni
Association

 [Play
Now](#)

**Oil, Security,
Environment, Technology**
Ernest J. Moniz, Professor of
Physics and Engineering
Systems

Director of Energy Studies
MIT Host: Alumni
Association

The Segway Alternative

Dean Kamen, Chairman of
Segway, LLC
Founder of For Inspiration
and Recognition of Science
and Technology (FIRST)

MIT Host: Alumni

your financial support.
Contributions will offset
our operating costs and
allow MIT World to grow
while remaining a free
and open presence on the
web. [More »](#)

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MIT World Usage Profile

◆ North America	51.46%
◆ Asia	24.73%
◆ Western Europe	15.45%
◆ Eastern Europe	3.51%
◆ South America	2.59%
◆ Australia	1.36%
◆ Africa	0.88%

China ranks #2 country, after USA, with 7.32%

3) Designing New Learning Environments



<http://www.xmaonline.co.uk/Images/Dorrington.jpg>
<http://web.mit.edu/newsoffice/tt/2001/dec12/teal.jpg>



8) MIT-Based Consortium for Global Learning

LINC:
Learning International Networks Consortium

- LINC's AITI, African Internet Technology Initiative
- Working with Tsinghua School of Continuing Education

Learning International Networks Consortium: Key Purposes

- ◆ To empower organizations within countries to design, create and operate top quality higher-education e-learning systems.
- ◆ To share educational materials, exercises and courses for the mutual benefit of learners across all participating countries.
- ◆ To become the top tier community of scholars and practitioners whose focus is technology-leveraged higher education internationally.

**Learning International Networks Consortium (LINC)
2nd Annual International MIT LINC Symposium & Workshop**

“Creating and Sustaining Learning Communities”

Massachusetts Institute of Technology
Cambridge, Massachusetts USA

**SYMPOSIUM: Tuesday and Wednesday, March 23, 24, 2004
WORKSHOP: Thursday and Friday, March 25, 26, 2004**

LINC is a community of individuals and organizations focusing on tertiary education in developing countries <http://ken.mit.edu/linc/>. By leveraging technologies of distance learning, LINC seeks to help these countries increase accessibility to quality university education. LINC offers an annual symposium plus various programmatic initiatives. This year's theme is “Creating and Sustaining Learning Communities”.

From 12 countries, we have over 20 outstanding speakers participating in our panels, including:

Prof. Abdel-Elah Al-Ayyoub, Arab Open University, Amman, Jordan
Dr. Tajul Arus, Provost, Malaysia University of Science and Technology (MUST)
Dr. Reuven Aviv - Open University of Israel, Tel Aviv, Israel
Dr. Ahmed Bawa - Ford Foundation Education Office, South Africa

**Prof. KANG Feiyu - Dep. Dean,
School of Cont. Education, Tsinghua University, Beijing, China**

Dr. Naveed A. Malik - Rector, Virtual University of Pakistan
Anne H Margulies - Executive Director, M.I.T.'s OpenCourseWare Program
Dr. Abdeldjebbar Lemnouar - Recteur de l'Université de la Formation Continue, Algeria
Prof. Sandy Pentland - Co-founder, M.I.T. Media Laboratory's Digital Nations Consortium
Dr. Milad Fares Sebaaly - Rector, Virtual University of Syria, Damascus
Dr. Honorio Silva - VP, Pfizer, Medical & Regulatory, Japan/Asia/Africa/MiddleEast/Latin America
Prof. Jack Wilson - (Acting) President of University of Massachusetts, Boston, Massachusetts
Dr. Etienne Wenger - International Expert in On-Line Communities of Practice

The hands-on training workshops will focus on four topics:

Web-based Technologies for Distance Learning - i.e. course management systems
New Pedagogical Models for Distance Learning
Achieving Competitive Advantage with Knowledge Ecosystems
Exemplary case study: Mexico

We invite you to attend and to bookmark the following URLs:

LINC website and event information: <http://ken.mit.edu/linc/>
On-line registration and hotel information: http://web.mit.edu/conf-serv/www/LINC/LINC_info.html
Contact: Ms. Carol Sardo linc2004@mit.edu

Wednesday,
March 24, 2004

**MIT
Releases
Free**

**Creating
and
Managing
Distance-
Education
Programs**



E-Learning in Rural China







Photo by Mr. LIU Fuchen

LINC Welcomes New Members!



Thank You!



Richard C. Larson
<rclarson@mit.edu>

from: <http://web.mit.edu/> and <http://web.mit.edu/afs/athena.mit.edu/org/o/orc/www/>