

## オープンコースウェアの最近の動向

宮川 繁

20097月10日

**MIT**OPENCOURSEWARE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY



## Unlocking Knowledge Vision

*"OCW expresses MIT's goal of advancing education around the world through a global community in which knowledge and ideas are shared openly for the benefit of all."*

— Susan Hockfield,  
President of MIT





## Surprises

- Content — range and depth
- Response from the global community — access, stories
- Benefits to the host institution
- Institutions around the world taking up the movement



# Unlocking Knowledge A Community Achievement

Covers:

- The entire undergraduate and graduate curriculum
- 33 academic departments

Voluntary contributions from:

- 78% of MIT faculty
- 2,600 members of the MIT community
- More than 5,000 individuals and organizations in total





# Unlocking Knowledge

## Open License

Obliges users to meet three use requirements:



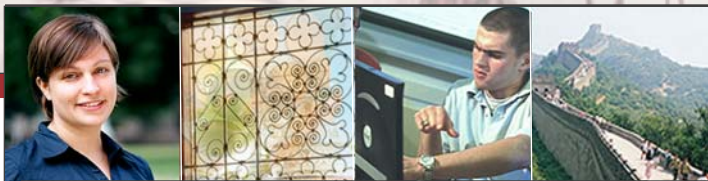
Use must be non-commercial



Materials must be attributed to MIT and original author or contributor



Publication or distribution of original or derivative materials must be offered freely under identical terms, or "share alike"

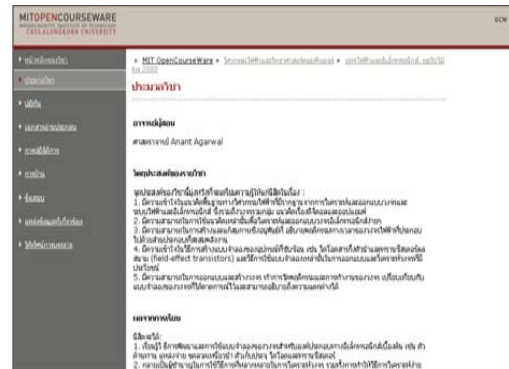
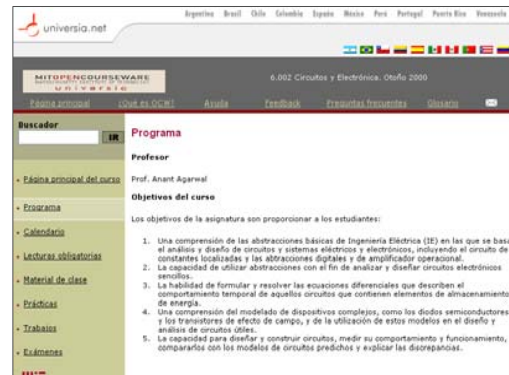


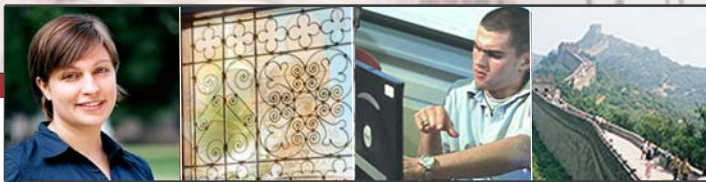
- [Architecture, MA&S, MAS.961 Seminar on Deep Engagement](#) (Hiroshi Ishii)
- [Material Science, A26 Freshman Seminar: The Nature of Engineering](#) (student projects, bird flying)
- Humanities, Arts, & Social Science
  - [Music and Theater Arts](#)
  - [Visualizing Cultures](#)
- [Sloan, 15.281 Advanced Managerial Communication](#), lecture notes, #8, also homework
- [Math, 18.06 Linear Algebra](#)
- [8.01, Physics I: Classical Mechanics](#)



# Unlocking Knowledge Translations

- Chinese (395)
- Spanish (99)
- Portuguese (95)
- Thai (15)
- Persian (44)





- 49 courses
- 1,085 total tracks

# Unlocking Knowledge iTunes U & YouTube

iTunes U MIT Main Page

**Linear Algebra, Spring 2005**  
Prof. Gilbert Strang  
Last Modified: Wed Jan 9, 2008  
Tracks in Video: 35  
[GET TRACKS](#)

**DESCRIPTION**  
This is a basic subject on matrix theory and linear algebra. Emphasis is given to topics that will be useful in other disciplines, including systems of equations, vector spaces, determinants, eigenvalues, similarity, and positive definite matrices.

Name	Time	Artist	Album	Price
Lecture 01: The Geometry ...	39:58	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 02: Elimination wit...	49:56	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 03: Multiplication ...	49:38	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 04: Factorization I...	50:20	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 05: Transposes, Pe...	47:48	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 06: Column Space ...	46:07	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 07: Solving $Ax = 0$ ...	43:25	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 08: Solving $Ax = b$ ...	47:20	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 09: Independence...	50:15	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 10: The Four Fund...	49:26	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 11: Matrix Spaces...	46:08	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 12: Graphs, Netwo...	48:03	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 13: Quiz 1 Review	47:53	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>
Lecture 14: Orthogonal Ve...	49:57	Gilbert Strang	MIT OCW: 18.06 U...	Free <a href="#">GET MOVIE</a>

iTunes U OCW Course Page

**MIT**  
Style: —  
Joined October 11, 2006  
Last Login: 9 hours ago  
Videos Uploaded: 51  
Subscribers: 1,564  
Channel Views: 11,183

**MIT OpenCourseWare: Highlights for High School**  
Highlights for High School features MIT OpenCourseWare materials that are most useful for high school students and teachers.

**Playlists**  
MIT 8.02 Electricity and Magnetism, Spring 2002 37 Videos  
Instructor: Walter Lewin

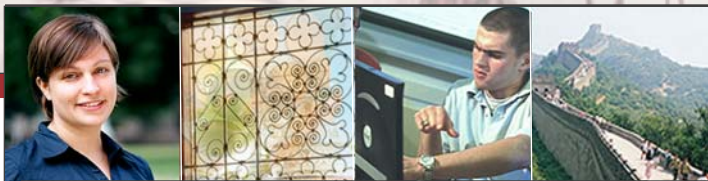
MIT YouTube channel main page





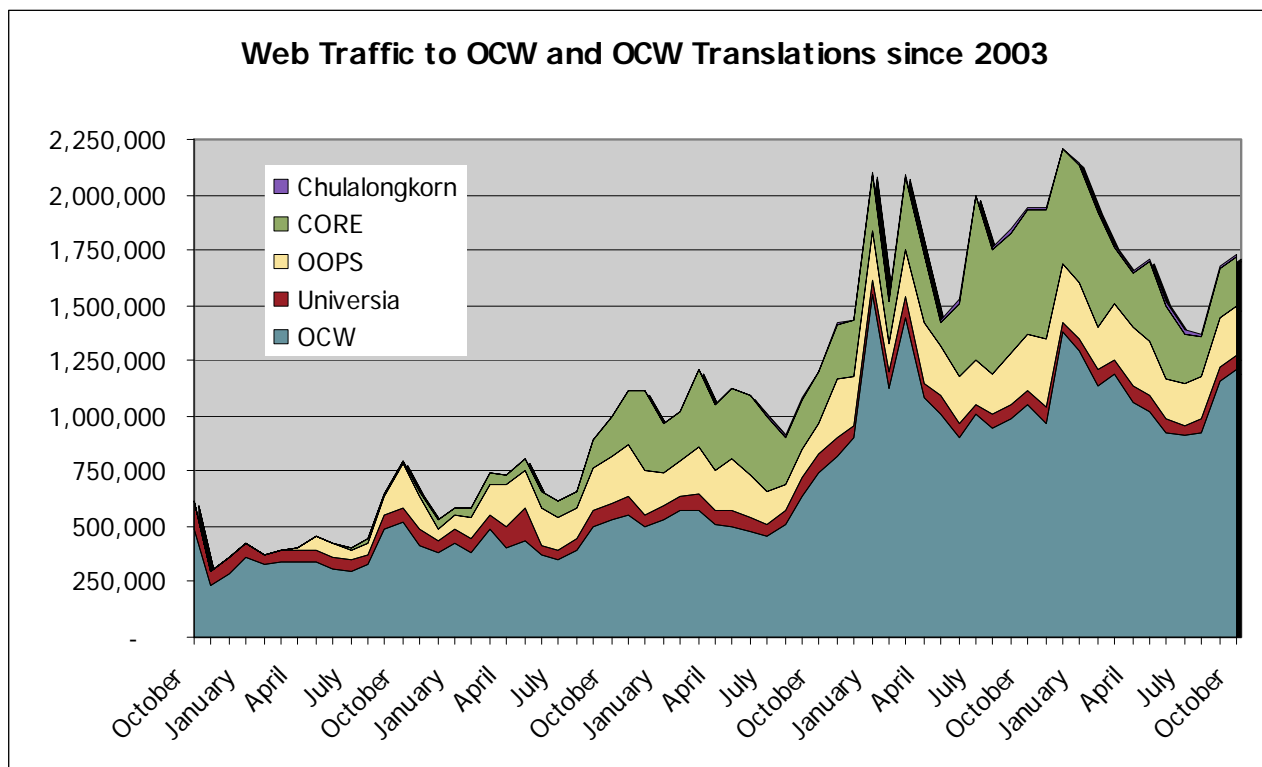
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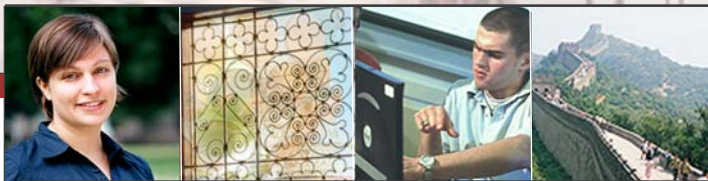


# Empowering Minds

## Visits to OCW and Translations

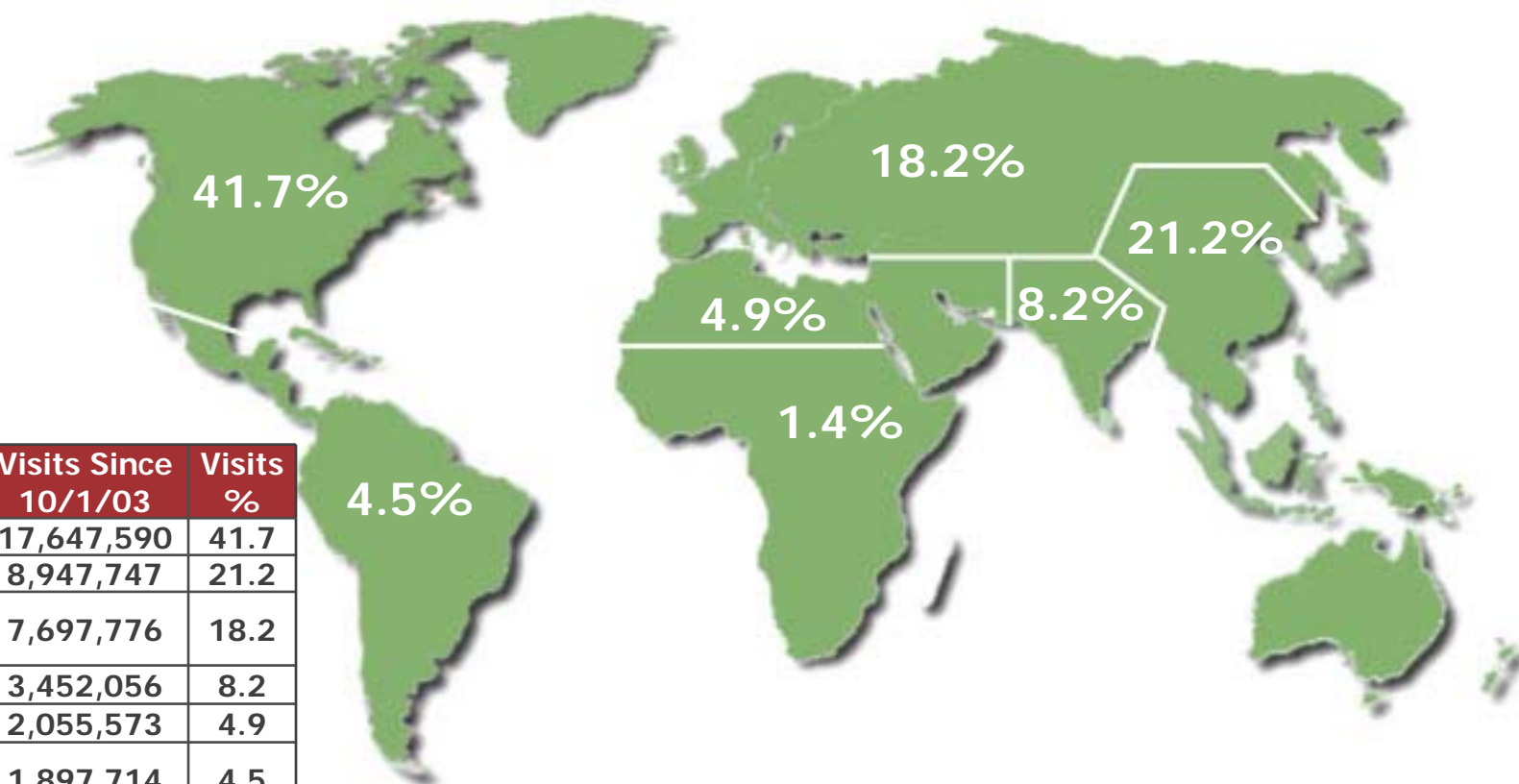


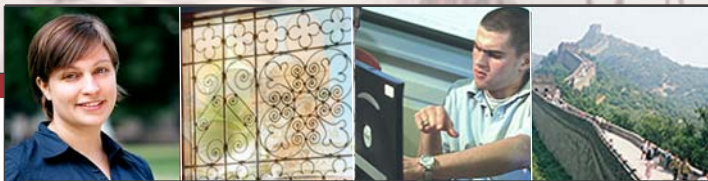
**Visits since 10/1/2003**



## Empowering Minds

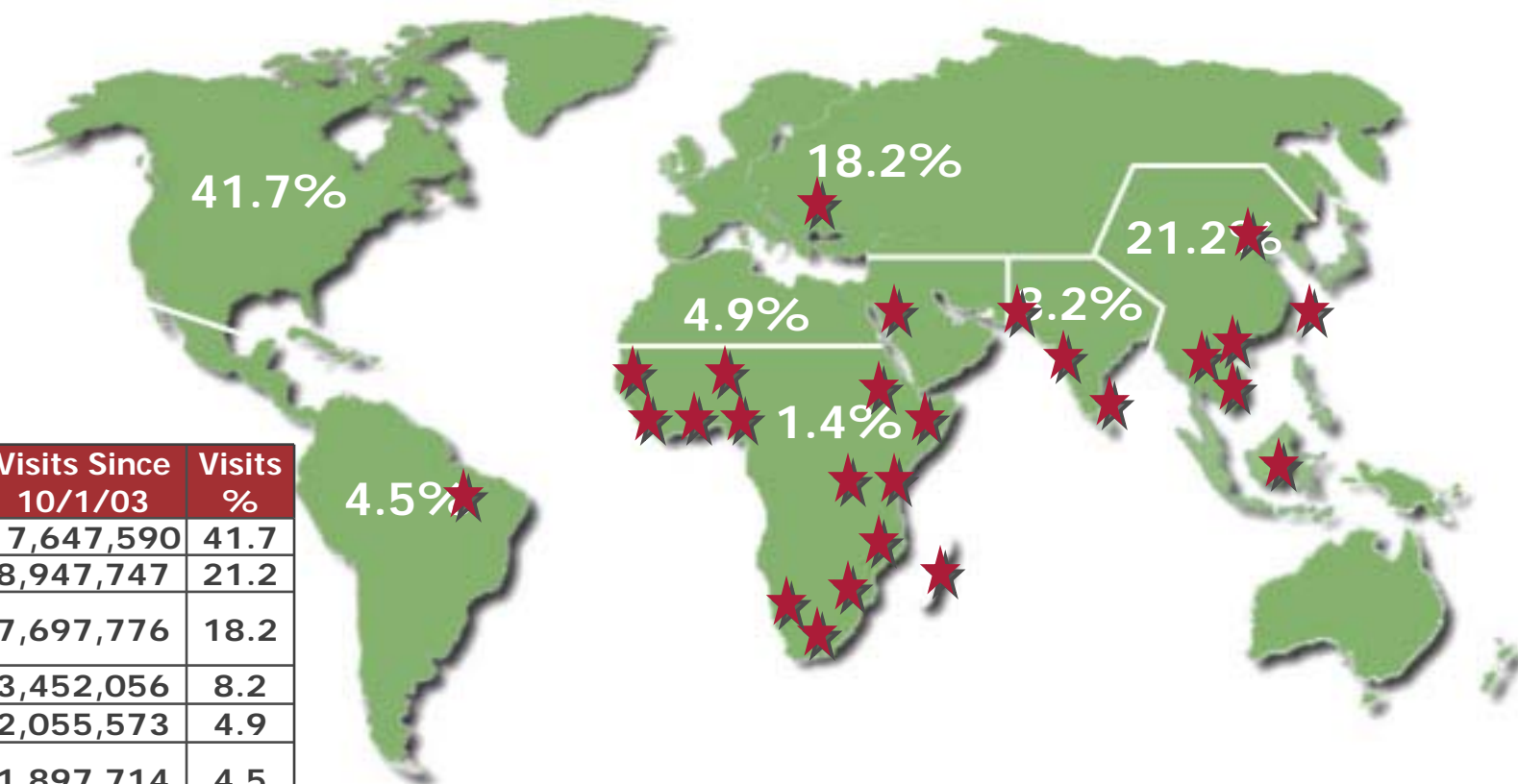
### Traffic by Region





## Empowering Minds

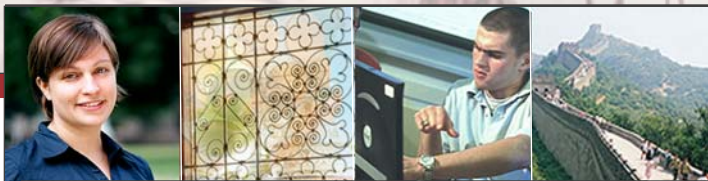
### Traffic by Region



Region	Visits Since 10/1/03	Visits %
North America	17,647,590	41.7
East Asia/Pacific	8,947,747	21.2
Europe/Central Asia	7,697,776	18.2
South Asia	3,452,056	8.2
MENA	2,055,573	4.9
Latin America/Caribbean	1,897,714	4.5
Sub-Sah. Africa	588,347	1.4
<b>TOTAL VISITS</b>	<b>42,286,803</b>	

Mirror sites — Approx. 209 around the globe





## Empowering Minds

### Traffic by Country – Oct 08

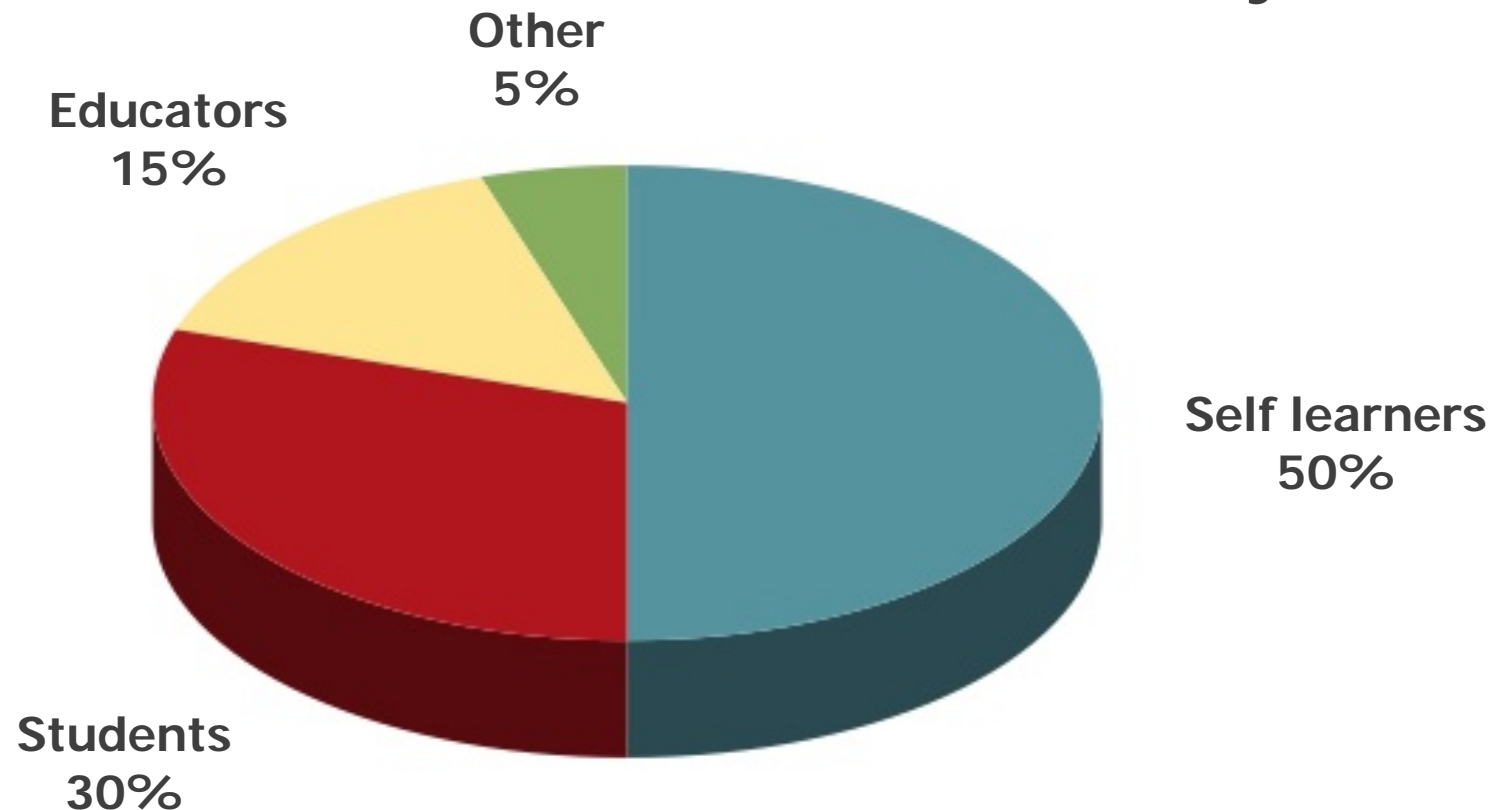
Country		Visits
1	United States	569,687
2	China	141,308
3	India	90,233
4	South Korea	60,763
5	Canada	42,820
6	United Kingdom	40,465
7	Iran	24,653
8	Turkey	24,651
9	Japan	24,557
10	Germany	22,832

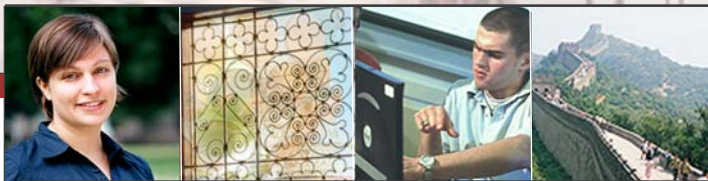
Country		Visits
11	Brazil	17,550
12	France	16,710
13	Australia	14,724
14	Italy	13,765
15	Egypt	12,871
16	Singapore	12,720
17	Spain	12,014
18	Pakistan	11,780
19	Mexico	9,564
20	Vietnam	9,020



## Empowering Minds

### Visitors by Role





## Empowering Minds

### Use by Role

Use Scenario		%
Educators	Enhancing personal knowledge	34%
	Learning new teaching methods	21%
	Incorporating OCW materials into teaching materials	18%
	Finding reference material for students	17%
Students	Enhancing personal knowledge	42%
	Complementing a subject currently taking	37%
	Planning course of study	18%
	Other	4%
Self learners	Exploring topics outside professional field/for personal enjoyment	40%
	Reviewing basic concepts in my professional field	18%
	Keeping current in latest professional field developments	17%
	Preparing for future formal study	16%





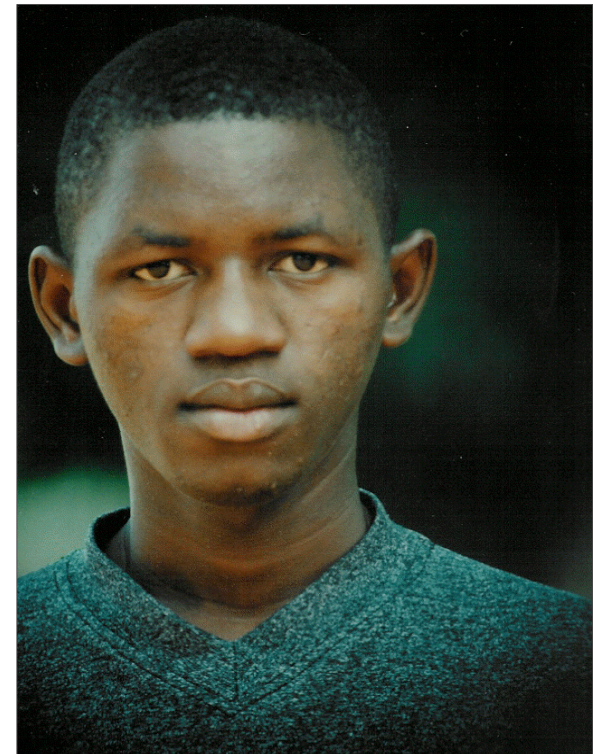


## Empowering Minds

### Student Use

### Kunle Adejumo

Engineering student at Ahmadu Bello University in Zaria, Nigeria, develops a deeper understanding of his class topics with OCW.

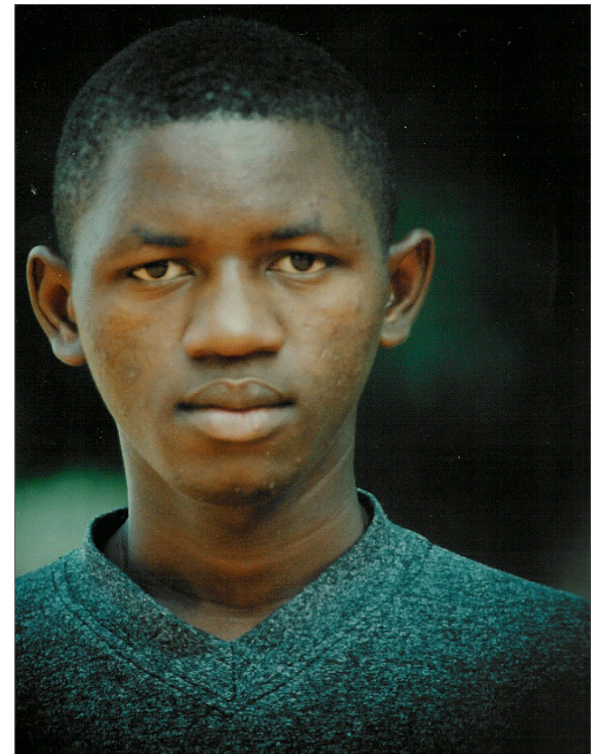




## Empowering Minds

### Student Use

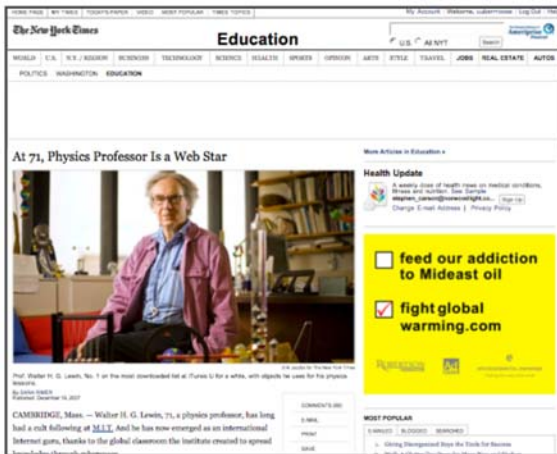
*"Last semester, I had a course in metallurgical engineering. I didn't have notes, so I went to OCW. I downloaded a course outline on this, and also some review questions, and these **helped me gain a deeper understanding of the material.**"*



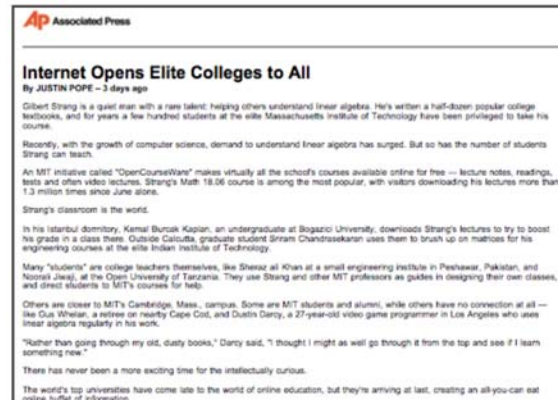


# Empowering Minds Curriculum Showcase

New York Times  
Page 1, 12/19/07



Associated Press  
200+ outlets, 12/31/07



Washington Post  
Page 1, 12/31/07



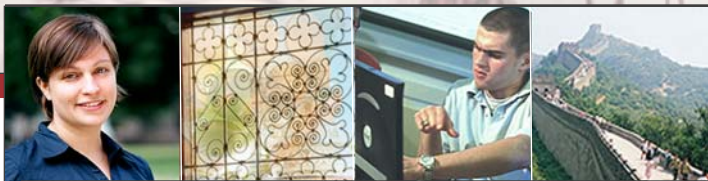




## Surprises

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- Response from the global community — access, stories
- **Benefits to the host institution**
- Institutions around the world taking up the movement





## Empowering Minds

### Benefits to MIT

- Connecting with students and alum; improving teaching/learning; fostering international engagement

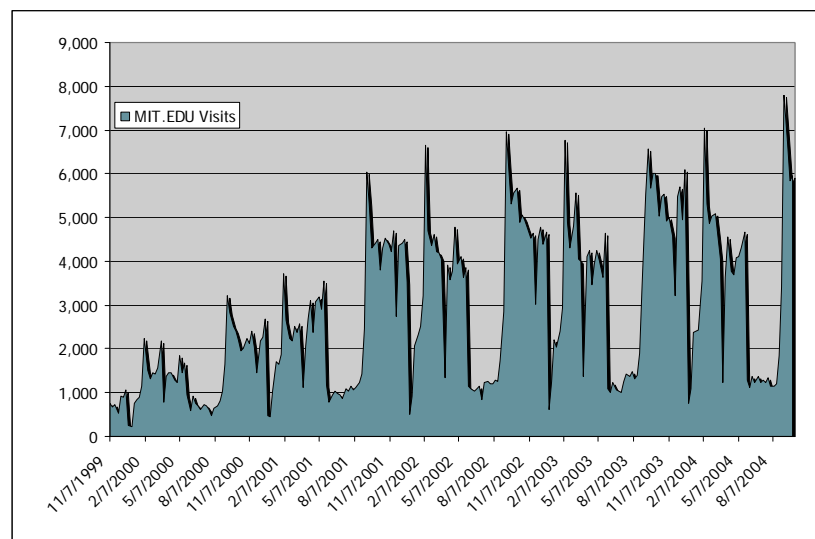
Among freshmen who knew of OCW before choosing MIT:

- 35% say OCW influenced their choice significantly

Used by:

- 90% of students
- 84% of faculty
- 50% of alumni and staff

Weekly visits from mit.edu domain since 10/03





## Empowering Minds Teaching and Learning

- Catalyzes improvements in teaching and learning
  - 30% of publishing faculty have improved course materials; a similar number are more comfortable using the Web
  - 84% of faculty use colleagues' materials on the site
  - 70% of students use the site to complement course materials; 46% use it to select courses; 39% for independent learning



## Empowering Minds

### MIT Faculty Use

#### **Professor Karen Willcox**

Teaches foundational course to MIT juniors in Department of Aeronautics and Astronautics





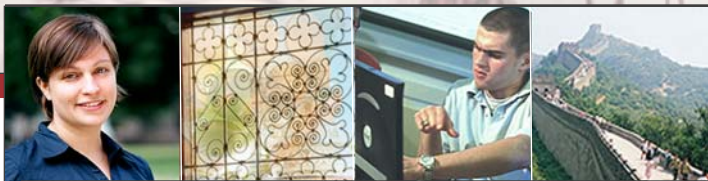
## Empowering Minds

### MIT Faculty Use

*"I realized there was this huge disconnect between the math department and the engineering department – who are the downstream users of the material that's taught in the math classes... I had no idea how or what was being taught."*







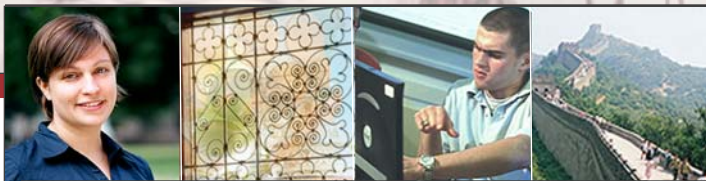
## Empowering Minds

### MIT Faculty Use

#### Mechanical Engineering

In teaching 10.492, I needed a mathematical tool for finding roots of non-linear equation systems. I knew that Ken Beers of our department had been teaching the 10.34 graduate course in applied mathematics. Hence, I went to the OCW site and discovered that he had included some useful bits of Matlab code. It wasn't too difficult to adapt it for my needs.

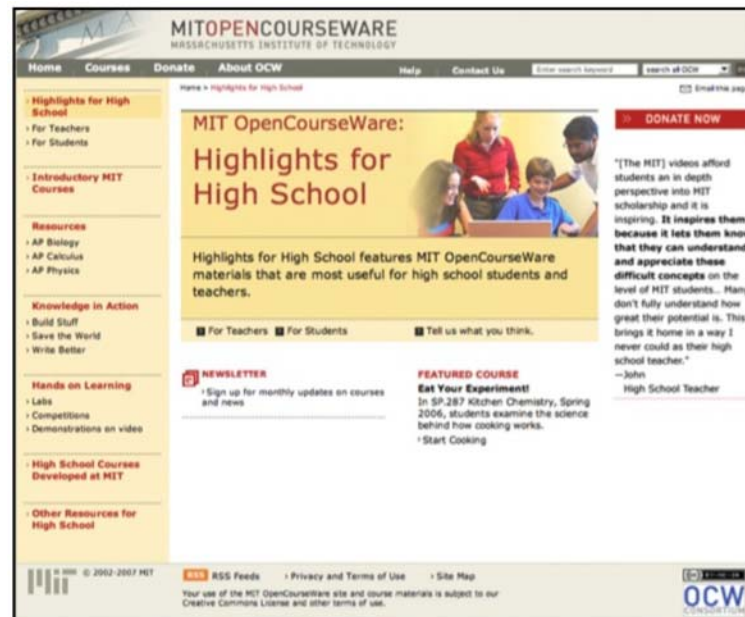
Barry Johnston



# Highlights for High School Innovate on the Platform

Highlights for High School - Nov. 28

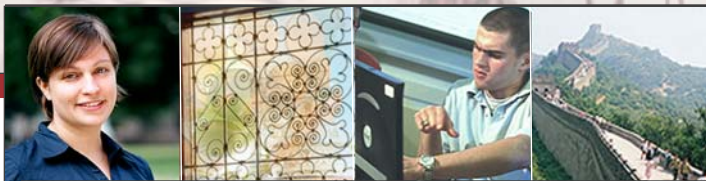
- Organizes ~70 introductory courses
- Maps ~2,600 resources to US AP curriculum
- Provides materials to inspire STEM study





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# The Global OCW Consortium

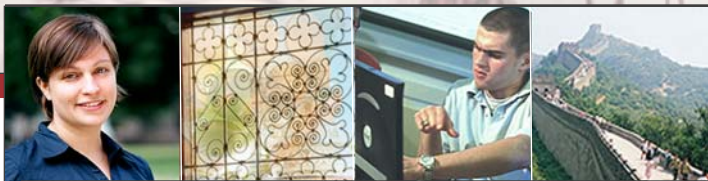
## Inspire a Movement

Other OCWs:

- 200+ institutions
- 100 live OCW sites
- ~6,400 courses





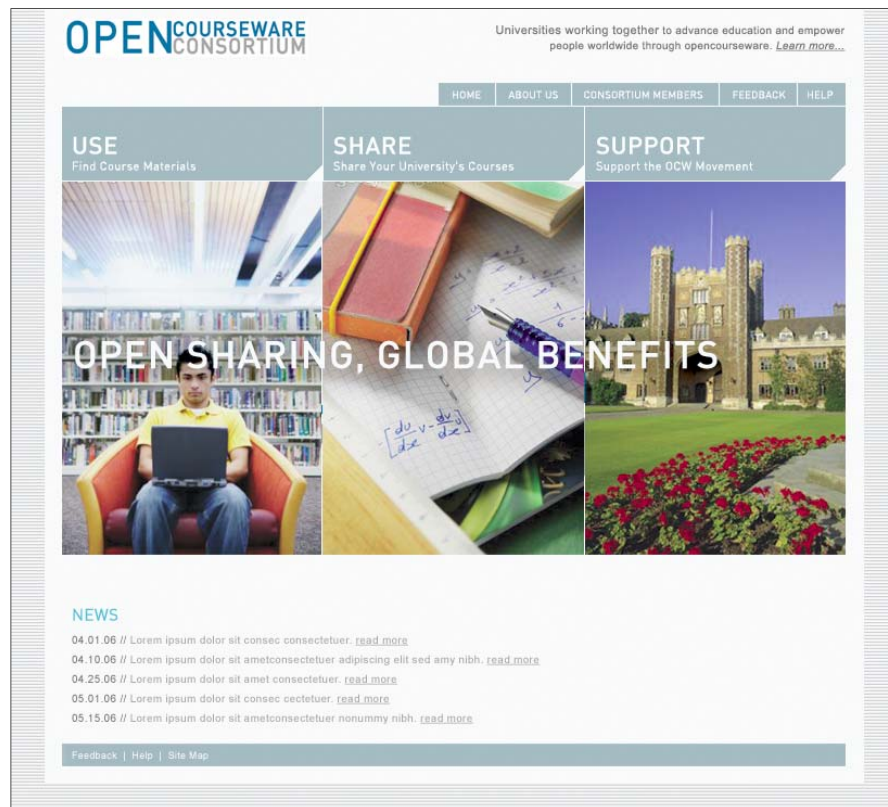


# The Challenge Ahead

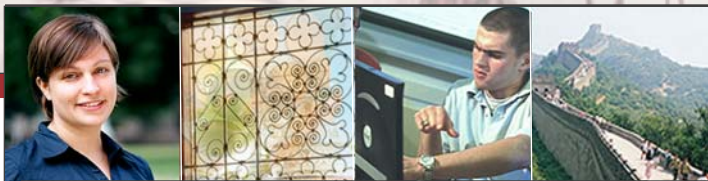
## Inspire a Movement

### The OCW Consortium

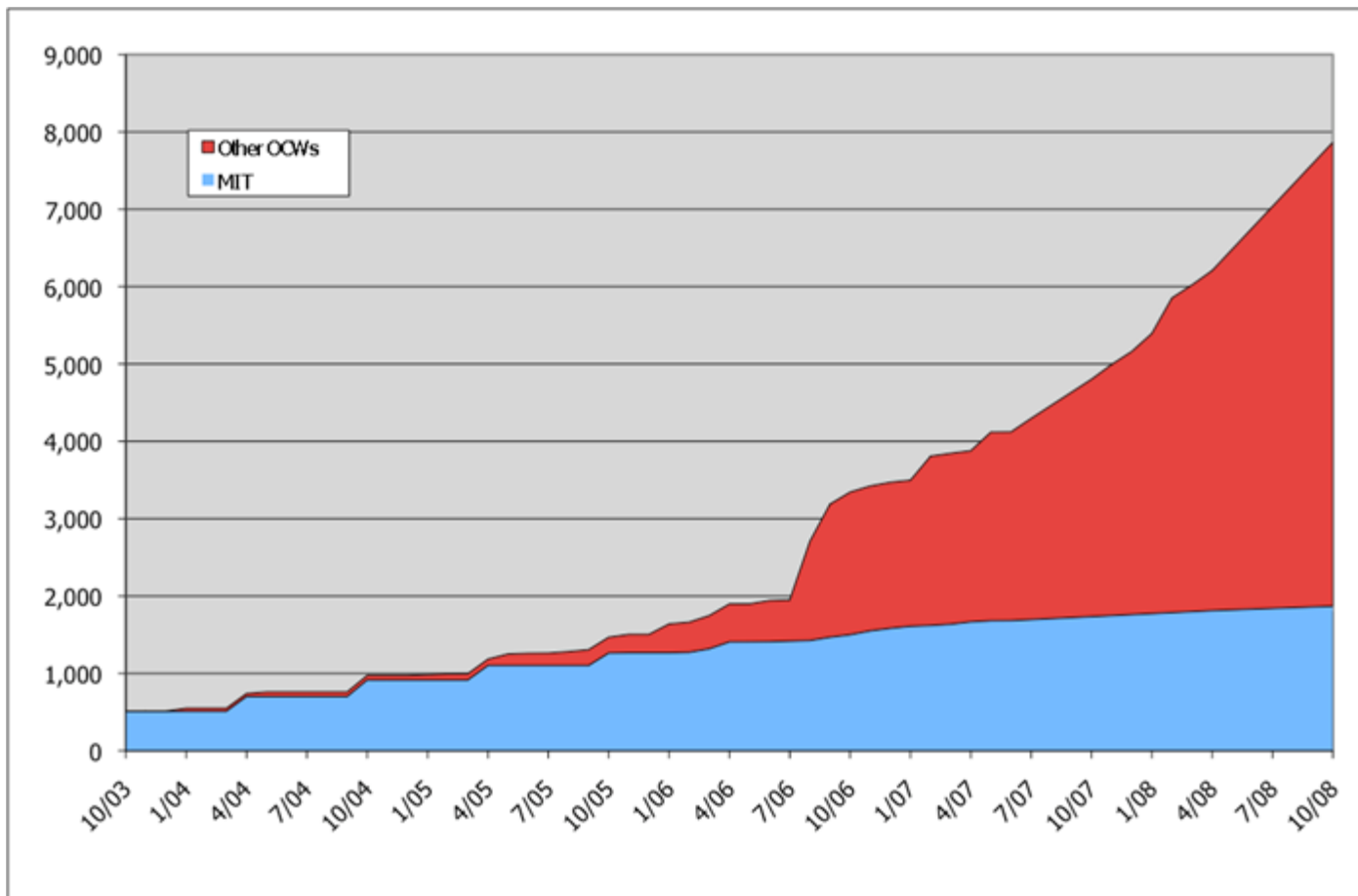
- Meets twice a year
- Independent 501(c)3 in early 2008



<http://ocwconsortium.org>



## OCW Courses World-wide





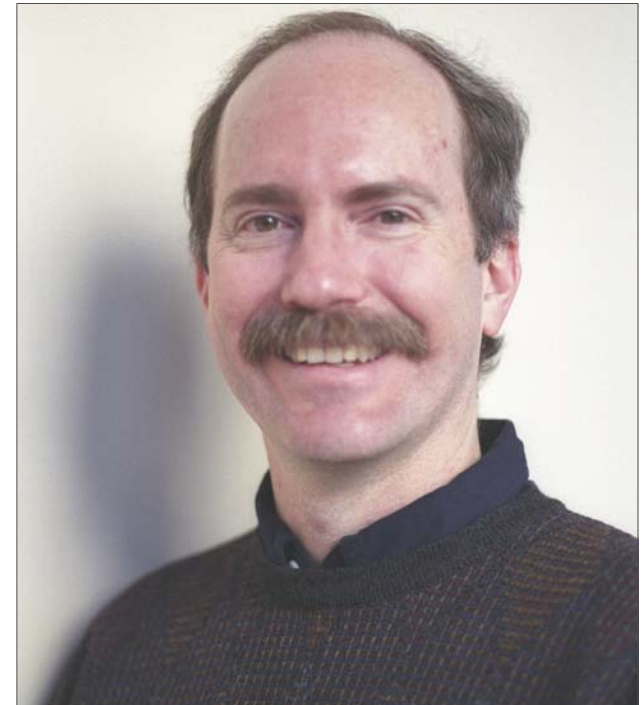
- [Kyoto Medical Department](#)
- [Open University](#)
- [Hokkaido University](#)



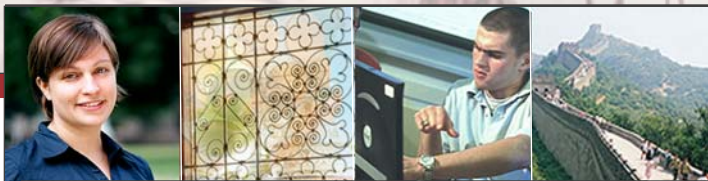
## Empowering Minds Showcasing Use

### Professor Charles Stewart III

Head of MIT's Political Science describes how OCW provides his faculty a mechanism for global exposure.



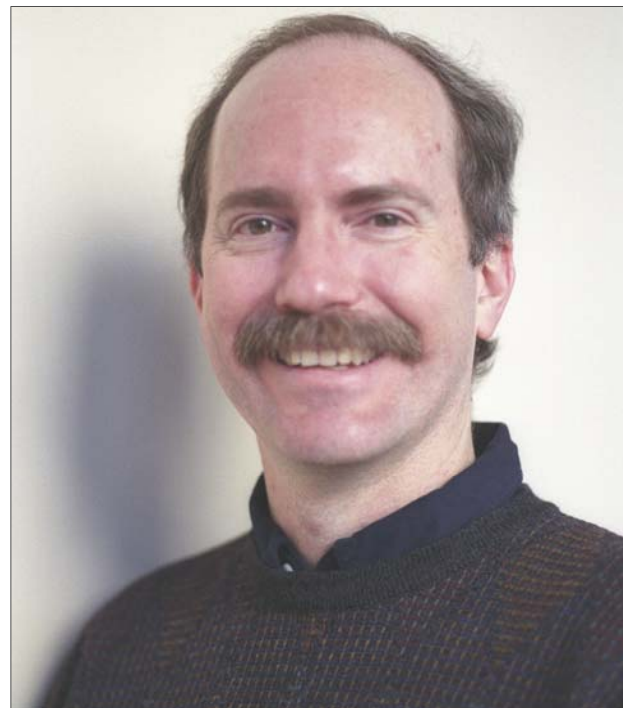




## Empowering Minds Showcasing Use

“For faculty at MIT, one of the things you’re supposed to do is establish that you are one of the world’s preeminent experts in a particular field. **OCW gives you a broader audience than just purely an academic audience.**

It gives you a lay audience from around the world.”





## Extending the OCW Model

[Stanford Engineering Everywhere](#)

[Yale Open Courses](#)

A smiling man with glasses and a grey button-down shirt is in the foreground. In the background is a large, classical building with many white columns, likely a university building. The image has a soft, slightly blurred background.

**Thank You!**

Visit MIT OpenCourseWare online at  
**<http://ocw.mit.edu>**

