

In Friend of OCW's October 2015 newsletter

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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Image by Faramarz Hashemi

Dear Friend of OCW,

Please consider supporting OCW for the long-term by [becoming an OCW Sustainer](#). Your monthly gift—in whatever amount you choose—can make a significant impact. For example:

- \$5/Month - Provides OCW to organizations in bandwidth constrained regions
- \$10/Month - Subtitles one lecture video or creates an image enabling publication under a creative commons license
- \$25/Month - Video records an interview with an instructor
- \$35/Month - Video records an hour-long lecture or class session

[Your gift](#) will be transferred each month from your credit card or bank account, and you can choose to change or suspend your contributions at any time.

Benefits of an OCW Sustainer:

- You have the satisfaction of knowing you are part of a community of supporters that makes OCW available to users everywhere to pursue their educational passions and learn.
- You will never receive a solicitation request while you remain an OCW Sustainer.
- You will be acknowledged on OCW as an OCW Sustainer.
- You will receive a beautiful animated illustration as our special thanks.

[Your monthly support](#) at any level makes a tremendous long-term impact.

Thank you in advance for your consideration.

If you have already contributed, we thank you for being a member of our community of supporters.

Sincerely,
Cecilia d'Oliveira '77, SM '79

Associate Dean of Digital Learning
MIT OpenCourseWare

New Courses



[15.772J D-Lab: Supply Chains](#)



[21A.445J Slavery and Human Trafficking in the 21st Century](#)

- [6.890 Algorithmic Lower Bounds: Fun with Hardness Proofs](#)
- [RES.8-004 Reducing the Danger of Nuclear Weapons and Proliferation](#)
- [STS.004 Science, Technology, & World](#)
- [WGS.645 Gender, Health and Marginalization Through a Critical Feminist Lens](#)

Updated Courses



[14.123 Microeconomic Theory III](#)



[21G.107 Chinese I \(Streamlined\)](#)

- [WGS.101 Introduction to Women's and Gender Studies](#)
- [21G.030 East Asian Culture: From Zen to K-Pop](#)

> [Find courses that interest you](#)

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New Feature: Interactive Video Transcripts

Great news for video fans!

OCW is introducing a new way to watch videos: by interacting with their transcripts. This innovative feature provides a powerful way to search videos and share clips.

The first course to receive this capability is [8.04 Quantum Physics I](#), whose lead instructor is Allan Adams.

Lecture 2: Experimental Facts of Life

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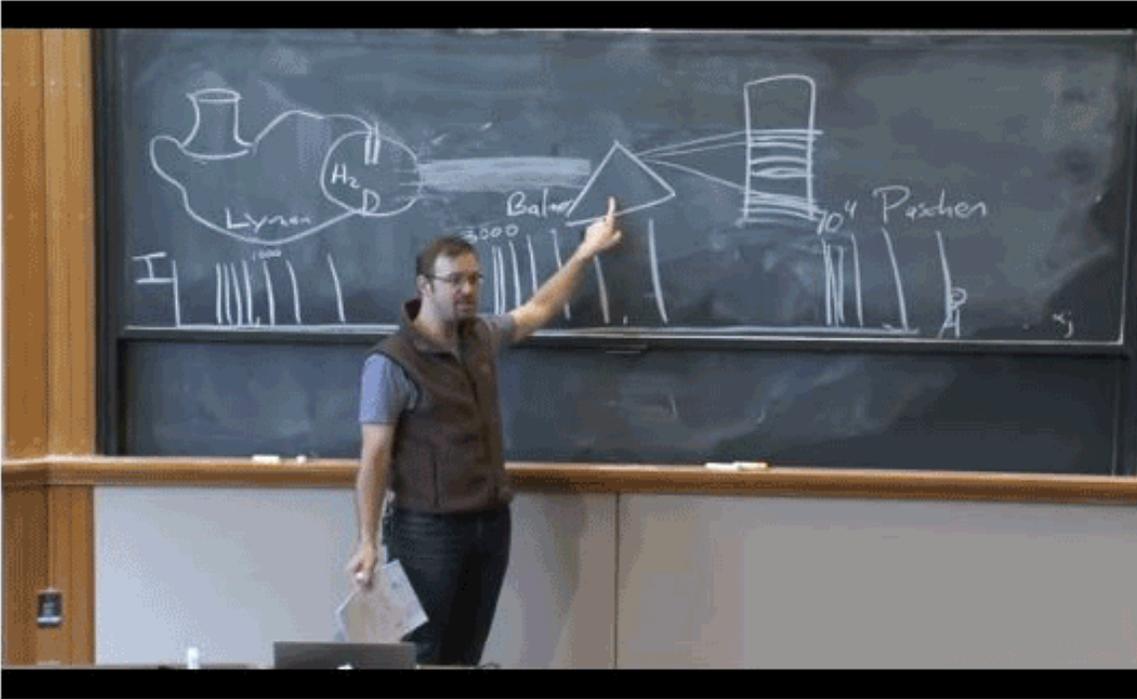
[STUDY MATERIALS](#)



☐
Interactive Transcript

Click here to see transcript

The interactive transcript appears as a light gray bar beneath the video window. Click the down-arrow to open it up.



Search this Video

... makes no difference. If you replace this prism by a different prism, it makes no difference to where the lines are. If you change this mechanism of exciting the hydrogen, it makes no difference. As long as it's hydrogen-- as long as it's hydrogen in here you get the same lines, mainly with different intensities depending upon how exactly you do the experiment. But you get the same position of the lines. And that's a really striking thing.

Now if you use a different chemical, a different gas in here, like neon, you get a very different

Interactive Transcript

With the transcript box opened, the text of the audio scrolls along as the video progresses.

Search

So it's now become a cornerstone of quantum mechanics.

quantum

very famous. He was already famous, but he became infamously famous. Just totally rejected this idea. OK. So it's now become a cornerstone of quantum mechanics. But he wasn't so happy about it.

And to give you a sense for how bold and punchy this paper by Einstein was that said, look, seriously. Seriously guys. e equals h/ν . Here's what Planck had to say when he wrote a letter of recommendation to get Einstein into the Prussian Academy of Sciences in 1917, or 1913. So he said. there is hardly one among the great problems in physics to which Einstein has not

Interactive Transcript

Type any word in the search box, and every occurrence of the word in that video will be shown on the timeline bar as a white stripe. In the example above, we've found 10 uses of the word "quantum." Mouse over any stripe, and a cluster of words at that point in the video will pop up, giving some brief context. Clicking on any stripe takes the transcript and the video itself to that moment in the video.

You can also click on any word in the interactive transcript window, and the video player will immediately jump to that moment.

Share

"There is hardly one among the great problems in physics to which Einstein has not made an important contribution. That he may sometimes have missed the target in his speculations, as in his hypothesis of photons, cannot really be held too much against him. It is not possible to introduce new ideas without occasionally taking a risk"

M. Planck, on recommending Einstein to the Prussian Academy of sciences (1915)

Einstein who subsequently went on to develop special relativity to prove the existence of atoms and the best measurement of the constant subsequently got the Nobel Prize. Not for Avogadro's Constant of atoms, not for relativity, but for photons. Because of guys like Planck, right. This is crazy."

So this was a pretty bold idea. And here, to get a sense for why it was bold because it's just sort of fun to see these guys scowling at each other.

SEARCH this Video

SHARE @ 38:15-38:36 X

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SHARE ON FACEBOOK

GET SHORTENED LINK

Supplementing this search capacity is the capacity to share favorite passages in the video via Facebook and Twitter. You can create links to specific places in a video and share them (or save them for later reference). Just highlight the passage in the transcript, click on the scissors icon located on the upper-right corner of the transcript box, and share away!

The interactive transcripts will be an additional capability on the OCW site and will not replace any of the familiar features, such as subtitles that appear in the video window (enabled by clicking on the "CC" box) and the capacity to download the course's transcripts in toto.

OCW will be rolling out interactive transcripts for many more courses, amounting to hundreds of videos, over the next six weeks.

So stay tuned!

Highlights for High School



Image courtesy of Jon Barron. Used with permission.

Many articles, blogposts, and tweets have lamented the lack of girls and women in the science, technology, engineering, and mathematics fields. However, one MIT alumna, Kristen Railey, decided to turn this problem into an opportunity by creating *Girls Who Build: Make Your Own Wearables Workshop*, specifically for high school girls. “I created the workshop to show girls that not all engineers resemble the stereotypical car mechanic or characters on the television show, *The Big Bang Theory*. I want girls to picture themselves as engineers,” Kristen explained.

To pique the girls' interest, Railey decided to offer a one day workshop that would allow girls to utilize mechanical engineering and computer science to create their own wearable electronics. Some argue that using fashion-related activities would reinforce gender stereotypes, but Kristen felt the workshop would attract “a sub-population of girls that might not otherwise realize their potential as engineers.”

We are pleased announce that the materials from the [Girls Who Build](#) workshop are available on the OpenCourseWare website. A wealth of materials is available including lecture notes, facilitator notes, lesson plans, and a particularly robust section for educators called “[This Workshop at MIT Lincoln Laboratory](#).” Here, Kristen provides in-depth insights and advice for instructors who wish to use these materials to create their own wearables workshop. She wants to “encourage educators to add on to the project we’ve started.”

Visit [Girls Who Build: Make Your Own Wearables Workshop](#) on OpenCourseWare.

MITx News



Pilot program reimagines admissions process, introduces “MicroMaster’s.”

Online courses + time on campus = a new path to an MIT master’s degree

MIT announced a pilot program allowing learners worldwide to take a semester’s worth of courses in its top-ranked, one-year Supply Chain Management (SCM) master’s program completely online, then complete an MIT master’s degree by spending a single semester on campus.

MIT also announced a new academic credential for the digital age: the “MicroMaster’s,” which can be earned through MITx by students who pass a comprehensive examination upon the successful completion of the same semester’s worth of online SCM courses. [Classes begin](#) on Feb. 10, 2016.

The announcement was made by MIT President L. Rafael Reif in an email to the MIT community. The pilot will be led by Professor Sanjay Sarma, MIT’s dean of digital learning, and by Professor Yossi Sheffi and Dr. Chris Caplice, who run the SCM program and its online offerings.

“The new combination of online courses and one residential semester will open the SCM program to many more learners,” says Sheffi, who is the Elisha Gray II Professor of Engineering. “The 50-some corporate members of the MIT Center for Transportation and Logistics, who are deeply involved with SCM students, enthusiastically embraced this effort, owing to the worldwide talent shortage in this field.”

“I am delighted by the potential today’s announcement presents to reach so many who share our passion for learning and bring them closer — whether digitally, physically, or both — to MIT,” Reif wrote.

Inverted admissions

The pilot will feature a new way of structuring admissions to a professional master's program at MIT. Learners worldwide with access to edX can take any of the first semester's worth of courses online. Those who do well in each course, and then score well on a subsequent comprehensive proctored examination, can earn an [MITx MicroMaster's](#), and their performance will significantly enhance their chances of being accepted to the full master's program, which they can then complete in a single semester on campus.

"Inverted admission has the potential to disrupt traditional modes of access to higher education," says Sarma, who is the Fred Fort Flowers and Daniel Fort Flowers Professor in Mechanical Engineering at MIT. "We're democratizing access to a master's program for learners worldwide."

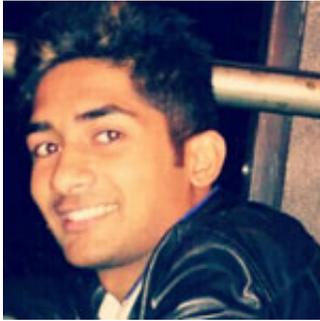
The MicroMaster's will have no admissions requirements, and will be open to anyone. The coursework will be available for free. Learners can qualify for the MicroMaster's by paying a modest fee for verified certificates and by passing a proctored exam.

For students who apply to the full master's program and are admitted to spend a semester on campus, the MicroMaster's will count toward a semester's worth of MIT credit. MIT will seek to partner with companies and other organizations to offer financial support to students in need who are admitted to the SCM master's program via the MicroMaster's path.

"Decades ago," Sarma says, "MIT reached students worldwide through faculty-authored textbooks. More recently, the availability of MIT course materials and lectures through OpenCourseWare and interactive courses from MITx broadened access to the Institute. Inverted admissions is the natural next step in MIT's engagement with learners worldwide."

[> Read more about this program](#)

Views From Our Supporters



"The first time I came across OCW was a few years ago. I was amazed at the material in the website and began regularly using it when I faced difficulty with my understanding of subjects.

I believe through education people can be empowered and can change their lives. Empowered people will change the world and make it a better place for one and all. A kind deed never goes unnoticed.

Hence, I want to support MIT OCW so that they can reach and touch millions of lives. This is my way of giving back to the world from which I have receive so much."

- Bikash, Independent Learner, Australia

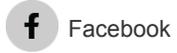
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