



# K-12 STEM Education MIT Club Volunteer Briefing



# Why K-12 STEM Education?

- Significant alumni interest:
  - 2008 MIT study indicates that 75% of alumni surveyed believe that alumni involvement in STEM education is important.
- Potential to engage new audiences:
  - Family friendly and education activities will inspire parenting age alumni involvement. In addition, young alumni and the cardinal & gray alumni are enthusiastic participants

# What should we do?

- Name a K-12 “Inspire Volunteer” for the Club.
- Select from a menu of K-12 activities and/or create your own, meeting the needs of the local market.
- Gather interested alumni to determine the right programs and begin implementation.

# Tools for Volunteers

Volunteer Job Description	
MIT Club of _____	
Title:	K-12 STEM Education "Inspire" volunteer
General Description:	The Inspire volunteer is the club representative who connects MIT K-12 student and teacher training and recognition programs to the local community.
Specific Tasks and Duties:	<ul style="list-style-type: none"> <li>• Supports the MIT Inspirational Teacher Award Program by helping the local club recognize and honor inspirational teachers selected in their area.</li> <li>• Promotes the Science and Engineering Program for Teachers (SEPT) and may recruit a local teacher to attend; may also raise funds to support the teacher or the SEPT program.</li> <li>• Promotes FIRST to local alumni and encourages them to participate as spectators, mentors and judges.</li> <li>• Promotes the Lemelson-MIT Invent@MIT High School Invention grants initiative in the local community.</li> <li>• Promotes the OpenCourseWare Highlights for High School Portal and may establish mentoring/ tutoring or study group programs in support of students using the portal.</li> <li>• Connects local teachers and students with other K-12 programs available at MIT</li> <li>• Organizes local alumni into groups or committees focused on K-12 STEM education and outreach; monitors K-12 STEM Education Volunteer Network in Infinite Connection for local alumni sign ups.</li> <li>• Attends Alumni Leadership Conference.</li> </ul>
Sample Expected Outcomes:	<p>An outreach goal of contact with _____ schools is set for FY _____</p> <p>A goal of _____ volunteers is set for FY _____</p> <p>A fundraising goal of \$ _____ for SEPT or Scholarship support is set for FY _____</p>
Training and Support:	The Inspire Volunteer reports to the local club Board of <u>Directors</u> . The volunteer will receive training/ support from the assigned Alumni Affairs Officer
Time Commitment:	The Inspire volunteer position requires a time commitment of 1 to 2 hours per week
Qualifications:	The Inspire volunteer must be a current member of the Club. Knowledge of and contacts in the local community school system is preferred. Multiple alumni contacts in the area and strong networking skills are helpful
Benefits:	High visibility position with MIT Club. <u>Access to MIT materials for Club officers, such as the volunteer publications "Volunteer View," (an e-newsletter).</u>

- K-12 STEM Online Toolkit
  - <http://tinyurl.com/yjc3bkkp>
- K-12 STEM Education Network
  - Sign up online, get customized reports of alumni in your club area
  - <https://alum.mit.edu/k12/signup-mentor.dyn>
- K-12 STEM Education Network on Facebook
  - Become a fan at <http://tinyurl.com/yh4b8d5>
- K-12 STEM Education Network on Linked In
  - <http://tinyurl.com/yk5jat7>

Follow us on Twitter  
 @MITK12STEM

# Programs



- FIRST Robotics (<http://usfirst.org>)
  - Hands-on education for 6 to 18 year olds
  - mission is to inspire young people to be science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.
  - Clubs can host special events at regional FIRST programs, such as MIT VIP receptions
  - Clubs can work with local FIRST staff to organize alumni gatherings with topic of “How to Form a FIRST Team”
  - FIRST can be Club’s community service effort

# Programs



- MIT Inspirational Teacher Award
  - The MIT Inspirational Teacher Award recognizes outstanding secondary school teachers who inspire in their students a love of learning, encourage them to pursue excellence, and give them the skills and enthusiasm they need to make a positive difference in the world.
  - Clubs can encourage undergrads from their area to nominate teachers.
  - Clubs can celebrate teachers locally both at the teacher's school and at a club event.

# Programs



- Lemelson-MIT InvenTeams

- The InvenTeam initiative, created by the Lemelson-MIT Program, offers an unparalleled opportunity for high school students to cultivate their creativity and experience invention. InvenTeams are teams of high school students, teachers, and mentors that receive grants up to \$10,000 each to invent technological solutions to real-world problems. Each InvenTeam chooses its own problem to solve.
- Clubs can encourage local high school students to apply.
- Clubs can mentor a team selected in their area.
- Club can provide funding for a team to attend EurekaFest! on campus.

# Programs

- Science and Engineering Program for Teachers



- mission: to show teachers the latest developments in biology, chemistry, physics, mathematics, technology and engineering; to provide them with a perspective on the interface of science, technology and society; and to help spark a lifelong interest in science in their students
- Clubs can sponsor teachers from their local area.
- Clubs can start a SEPT Fund and raise money to support teachers from alumni.

# Programs

MIT OpenCourseWare:  
Highlights for  
High School



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

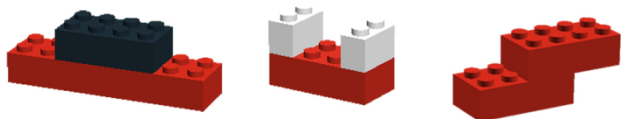
- Highlights for High School
  - Highlights for High School is a guide to MIT courses selected specifically to help high school students prepare for AP exams, learn more about the skills and concepts they learned in school, and get a glimpse of what they'll soon study in college.
  - Clubs can promote to local high schools and teachers.
  - Clubs can sponsor study groups utilizing the online materials.

# Many More MIT Programs

# SCRATCH

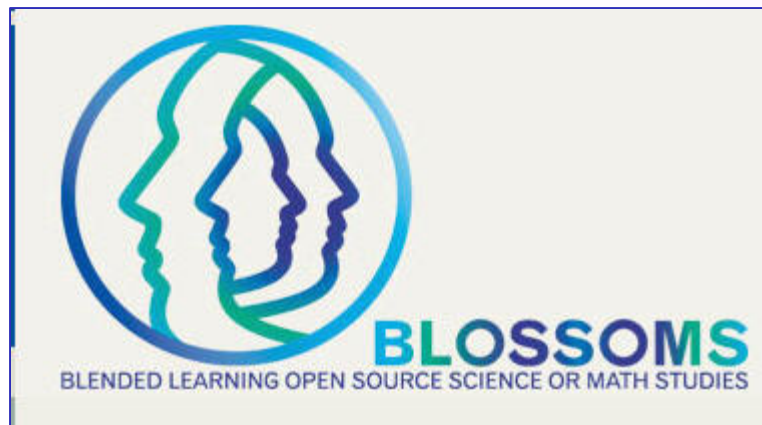
imagine • program • share

## LEGO® Atoms and Molecules Kit



LEGO models and lessons created by Kathleen M. Vandiver, Ph.D.  
Funded and tested by the MIT Edgerton Center © 2009 MIT

LEGO, the LEGO logo, and the brick and knob configuration are trademarks of the LEGO Group, used here with permission. All Rights Reserved.



*Many programs are web-based or can be initiated locally.  
Clubs can also encourage local students and teachers to attend on-campus programs.*

Find out more at <http://web.mit.edu/outreach/>

# Other Opportunities

- Clubs can create their own programs for tutoring, mentoring or in-classroom activities; or partner with local science fairs and competitions
- Clubs may want to partner with organizations leading K-12 STEM opportunities, such as National Lab Day.  
<http://www.nationallabday.org/>

# Support and Giving

**MIT K-12 Educational Outreach Programs**  
 MASSACHUSETTS INSTITUTE OF TECHNOLOGY

**K-12's giving opportunities:**

**Class of 1992 UNCF Fund** [Add to my gift form](#)  
 Funds added to this project will support the education of one or more underserved students pursuing research through the Undergraduate Research Opportunities Program with a preference for students coming in the area of U.S. education.

**Edgerton Center Fund** [Add to my gift form](#)  
 "To keep the pipeline of the innovation economy flowing, American children have to get the message that science and math are exciting and important. And this requires that they get first-rate teaching in these fields. Universities can help."  
 --President Susan Hockfield

**LEGO Project/Edgerton Center Gifts** [Add to my gift form](#)  
 Gifts of supplies and funds to support the Lego Project at the Edgerton Center.

**Leonstein MIT Invention Teams Support Fund** [Add to my gift form](#)  
 Invention Teams at the Leonstein MIT Program introduce young inventors to STEM environments among high school students. Teams composed of students, teachers and mentors search for a problem to address with an invention and receive grant and other support.

**MIT Club of Boston SEPT Fund** [Add to my gift form  
 An exclusive fund to support the cost of attendance of Boston area teachers, as nominated by the MIT Club of Boston, in the MIT Science and Engineering Program for Teachers \(SEPT\).](#)

**MIT Club of Cape Cod SEPT Fund** [Add to my gift form](#)  
 Gifts of members of the MIT Club of Cape Cod to support the cost of attendance of Cape Cod area teachers, as nominated by the MIT Club of Cape Cod, in the MIT Science and Engineering Program for Teachers (SEPT).

**MIT Club of Delaware Valley Fund** [Add to my gift form](#)  
 Gifts to provide support for the Science and Engineering Program for Middle and High School Teachers for teachers nominated by the MIT Club of Delaware Valley.

**MIT Club of Hartford SEPT Fund** [Add to my gift form](#)  
 Gifts of members of the MIT Club of Hartford to establish an endowment fund to support the cost of attendance of Hartford, Connecticut area teachers, as nominated by the MIT Club of Hartford, in the MIT Science and Engineering Program for Teachers (SEPT).

**MIT Club of Hawaii SEPT Fund** [Add to my gift form](#)  
 Gifts of members of the MIT Club of Hawaii to help meet the cost of attendance at the MIT Science and Engineering Program for Teachers (SEPT) of a teacher at a Hawaii State Department of Education School (DOE) or a school which is a member of the Hawaii Association of Independent Schools (HAIS). The fund shall be used only for expenses, such as, but not limited to, registration fees and travel expenses.

**MIT Club of Northwest Ohio Fund** [Add to my gift form](#)  
 To help meet the cost of attendance of Northwest Ohio area teachers, as nominated by the MIT Club of Northwest Ohio (NWO), in the MIT Science and Engineering Program for Teachers (SEPT).

**MIT Club of Princeton SEPT Fund** [Add to my gift form](#)  
 To help meet the cost of attendance of NJ and PA area teachers (as well as other clubs), as nominated by the MIT Club of Princeton, in the MIT Science and Engineering Program for Teachers (SEPT).

**MIT Club of San Diego Fund** [Add to my gift form](#)  
 To help meet the cost of attendance of San Diego California area teachers, as nominated by the MIT Club of San Diego (SD), in the MIT Science and Engineering Program for Teachers (SEPT).

**MIT Club of Southeastern Texas SEPT Fund** [Add to my gift form](#)  
 Gifts of members of the MIT Club of Southeastern Texas to support the MIT Science and Engineering Program for Teachers (SEPT).

**MIT Club of Southwest Florida Fund** [Add to my gift form](#)  
 Gifts to support attendance costs for teachers in the MIT Science and Engineering Program for Teachers as nominated by the MIT Club of Southwest Florida.

**MIT Museum Education Fund** [Add to my gift form](#)  
 Supports education programs for K-12 students, teachers, and families, including underserved audiences.

**Scratch Labs** [Add to my gift form](#)  
 Scratch Labs supports the continuing development of Scratch software.

**William H. Ramsey '51 MITES Fund** [Add to my gift form](#)  
 Gifts for an endowed fund for teaching assistance with preference for the Society Introduction to Engineering (SITE) program.

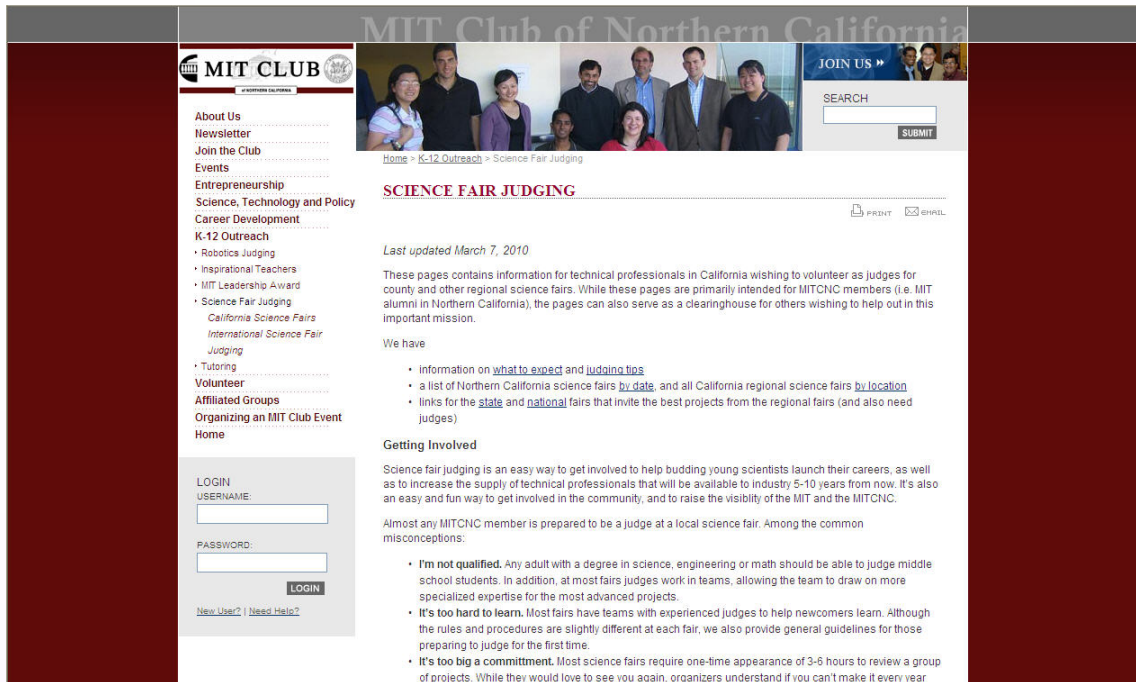
**Search for a specific fund:**  
 Search the full catalog of fund names. Search by fund name or number, or use a keyword that matches a description.  
 Search by fund name or number

**MIT** MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
 77 Massachusetts Avenue, Room 500, Cambridge, MA 02139-0002  
 giving@mit.edu | 617.253.2128  
 © 2007 MIT. All Rights Reserved.

- Alumni can contribute to K-12 STEM education research and outreach programs at MIT  
 – <http://giving.mit.edu/k-12/index.html>
- Clubs can encourage giving among local alumni

# Volunteers in Action

- MIT Club of Northern California



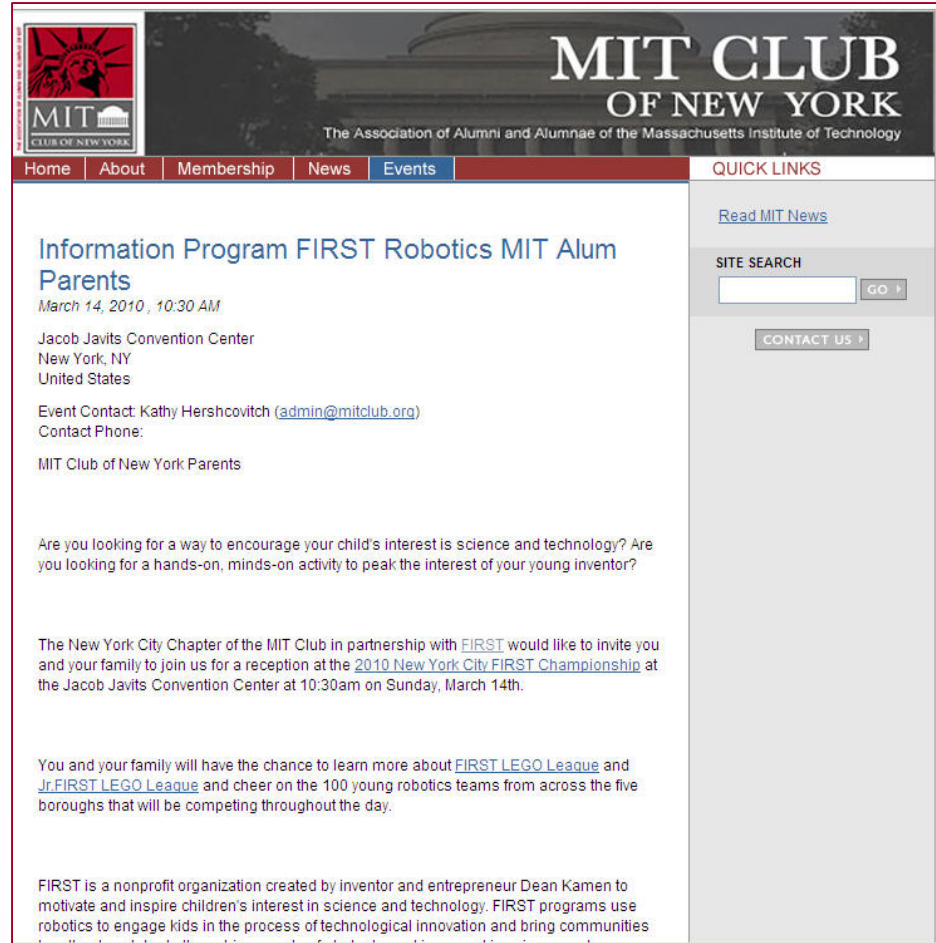
Multi-faceted program including science fair judging, local high school award, and involvement in FIRST Robotics

<http://tinyurl.com/yg9q8vw>

# Volunteers In Action

## MIT Club of New York

- Several events supporting mentoring with FIRST Robotics
- MIT VIP Alumni event at FIRST Regionals
- Supporting MIT Inspirational Teacher Program



The screenshot shows the website for the MIT Club of New York. The header includes the MIT Club of New York logo and the text "The Association of Alumni and Alumnae of the Massachusetts Institute of Technology". The navigation menu includes "Home", "About", "Membership", "News", and "Events". The main content area features an event announcement titled "Information Program FIRST Robotics MIT Alum Parents" dated "March 14, 2010, 10:30 AM". The event location is "Jacob Javits Convention Center, New York, NY, United States". The event contact is "Kathy Hershcovitch (admin@mitclub.org)". The announcement text reads: "Are you looking for a way to encourage your child's interest in science and technology? Are you looking for a hands-on, minds-on activity to peak the interest of your young inventor? The New York City Chapter of the MIT Club in partnership with FIRST would like to invite you and your family to join us for a reception at the 2010 New York City FIRST Championship at the Jacob Javits Convention Center at 10:30am on Sunday, March 14th. You and your family will have the chance to learn more about FIRST LEGO League and Jr.FIRST LEGO League and cheer on the 100 young robotics teams from across the five boroughs that will be competing throughout the day. FIRST is a nonprofit organization created by inventor and entrepreneur Dean Kamen to motivate and inspire children's interest in science and technology. FIRST programs use robotics to engage kids in the process of technological innovation and bring communities

QUICK LINKS

[Read MIT News](#)

SITE SEARCH

# Volunteers In Action

## MIT Club of San Diego – Survey of Local Alumni

### 1. MIT Club Of San Diego K-12 STEM Education Survey

Thank you for your interest in completing the following brief survey of alumni attitudes toward K-12 STEM Education support. The MIT Club of San Diego is considering enlisting alumni volunteers to help improve K-12 education and stimulate more pre-college students to choose a career in science and technology.

MIT has engaged in a variety of K-12 educational activities, including student outreach, teacher training, and curriculum development. MIT alumni could volunteer to support these initiatives and develop programs that would engage young minds in their local communities.

The purpose of this survey is to determine if there is sufficient and serious interest locally in a K-12 project that would engage alumni to participate.

This survey is entirely voluntary. You may answer as few or as many questions as you wish. Your responses will be confidential only. At the end of the survey, you can provide your name if you would like to see the results. Please be assured that your response of interest, and is not a commitment at this time. Unless you provide your information at the end of this survey, giving us permission to contact you.

We estimate this survey will take five minutes or less to complete.

Add Question Here

Edit Question Move Copy Delete Add Logic

1. To what extent do you think it is important for MIT alumni to be involved in advancing science and math by influencing K-12 education?

- not at all important
- not very important
- somewhat important
- important
- very important

**From:** BLUMBERG, BOB  
**Sent:** Wednesday, March 24, 2010 3:07 PM  
**Subject:** Making Contact

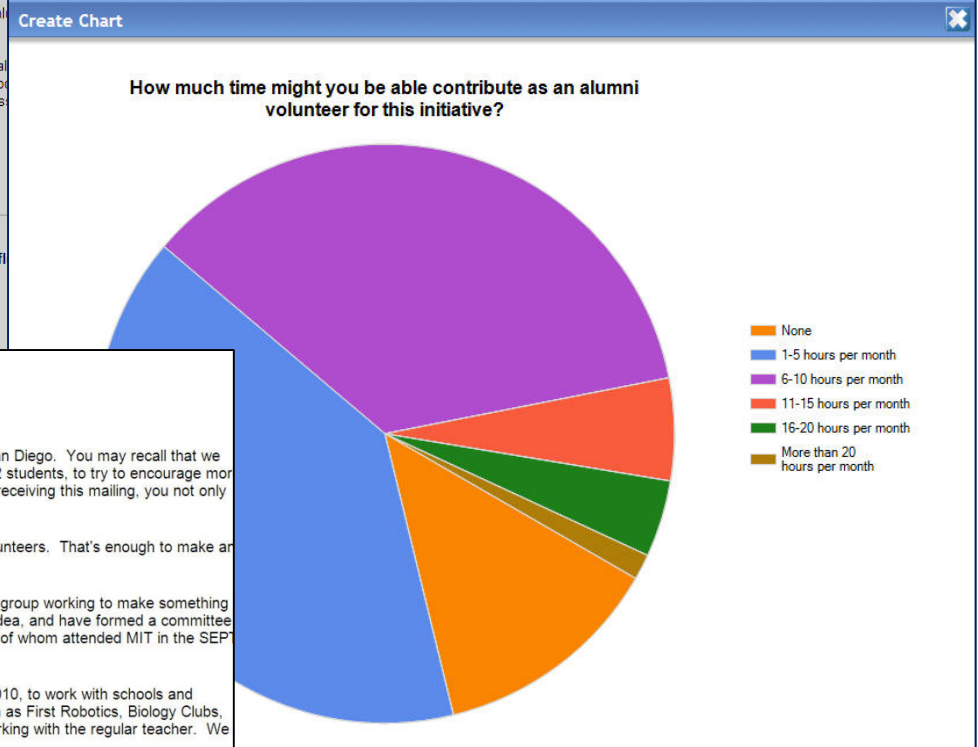
Hi! Let me introduce myself. I'm Bob Blumberg, an alum of MIT ('64 SB and '65 SM), and local to San Diego. You may recall that we sent out a survey a few weeks ago, concerning possible interest in working with local schools and K-12 students, to try to encourage more kids to follow an educational path in STEM (Science, Technology, Engineering, and Math). If you are receiving this mailing, you not only responded, you indicated you are interested in learning more, and perhaps volunteering to participate.

Thank you! We are very excited that we got 55 folks who wanted to hear back, and were possible volunteers. That's enough to make an impact!

We wanted to get back to you, to let you know that we appreciate your interest, and there is an active group working to make something happen here. Who are "we"? Several of us who are active in the local MIT Club started pushing the idea, and have formed a committee to organize--there's really a lot of preparation necessary. We've also had some local teachers join, all of whom attended MIT in the SEP program, to further develop their ability and enthusiasm to teach STEM subjects.

Our goal is to be ready with volunteers (hopefully including you) when school starts this September, 2010, to work with schools and students in one of the three modes available, either as a tutor, working with after-school activities such as First Robotics, Biology Clubs, etc., or bringing some MIT-designed and age-appropriate hands-on experiments to the classroom, working with the regular teacher. We will honor your preferences from the survey.

That's all for now. We just wanted to keep you informed, and let you know that work is underway. We'll try to communicate often, as long as we have made some progress to talk about. Next message will introduce the other Committee Members, tell you how we are getting



# Volunteers In Action



[Home](#)  
[About the Award](#)  
[Winners Showcase](#)  
[Our Sponsors](#)  
[Contact Us](#)

**For Students**  
[Nomination Form](#)  
[FAQ](#)  
[Alumni Clubs](#)

**For Alumni Clubs and Educational Counselors**  
[Celebrating Inspiring Teachers](#)  
[Inspirational Teacher Award](#)  
[Volunteer Toolkit](#)  
[Alumni Clubs](#)

**For Teachers**  
[MIT Opportunities for High School Teachers](#)  
[Winners Response Form](#)

**For School Administrators**  
[Comment Form](#)

## PAST WINNERS SHOWCASE - MIT Inspirational Teachers



Hans De Gry of Lakeside School, Seattle, Washington, accepting the MIT Inspirational Teacher Award from Cynthia Starr of the MIT Alumni Club of Puget Sound.



Zawadi Lemayian '09 with her award-winning teacher Lawrence Njoroge of Alliance Girls' High School, Kikuyu, Kenya.



Karl Sivek of West Chester East Senior High School, West Chester, Pennsylvania, is congratulated by Dr. Lucile Wilkens of the MIT Alumni Club of the Delaware Valley.

Clubs recognize  
their local MIT  
Inspirational  
Teachers

# Contacts

- William Reenstra '72, Member, K-12 STEM Education Working Group, and Founder, MIT Inspirational Teacher Award  
[wreenstra@alum.mit.edu](mailto:wreenstra@alum.mit.edu)
- Joshua Schuler SM '00, Member, K-12 STEM Education Working Group, and Executive Director, Lemelson-MIT Program
- MIT Alumni Association Staff
  - [k12stemalumni@mit.edu](mailto:k12stemalumni@mit.edu)



# K-12 STEM Education MIT Club Volunteer Briefing

