

# MathWorks is a proud sponsor of the MIT Science Trivia Challenge and wishes the teams good luck!





SCIENCE TRIVIA CHALLENGE!



Wednesday, April 19, 2023 Broad Institute of MIT & Harvard

Sponsored By: MathWorks web.mit.edu/trivia facebook.com/MITtrivia MITtrivia Live Tweet using #MITtrivia23

#### Middle School Challenge

King Philip Middle School	King Philip Middle School	1
WMS	Watertown Middle School	2
Pascals	Madeline English School, Everett, MA	3
WinTeam	McCall Middle School, Winchester, MA	4
Science Kids	Science Kids	5
The Vectors	BB&N Middle School	6
Pike School Science Trivia Club	Pike School	7
Club	Science Kids	8
IDK	McCall Middle School, Winchester, MA	9
High School Challenge		Table
WHS1	Winchester High School	1
Newton South #1	Newton South High School	2
Nirminator	Braintree High	3
Cambridge Rindge and Latin School	Cambridge Rindge and Latin School	4
Newton South #2	Newton South High School	5
WHS2	Winchester High School	6
NSHS Blorange Lions	Newton South High School	7
Cambridge Rindge and Latin School	Cambridge Rindge and Latin School	8
TBD	TBD	9

Table

#### **General Rules**

- This competition is for fun, so play fair!
- No outside references are allowed, including books, cheat sheets, informative t-shirts, computers, handheld devices, etc. Pencils, pens and blank paper are allowed and are provided.
- Team members may confer within their team on each question, but neither team members nor audience members are allowed to shout out answers or offer any other distractions while teams are considering questions.

Like us on Facebook to see/add photos from tonight at <u>http://www.facebook.com/MITtrivia</u>

Interested in helping next year? Contact us at: sciencechallenge@mit.edu or web.mit.edu/trivia



## Thank you to all of our volunteers!

COMMITTEE MEMBERS & VOLUNTEERS: Bob Ferrara (MIT '67), Co-Chair; John McGoldrick\* (MIT '73), Co-Chair; Alisha Weight\* (MIT '13), Co-Chair; Bonny Kellermann (MIT '72), Co-Chair; Meghan Jendrysik (MIT '97), Co-Chair; Chris Dippel\* (MIT '75), Co-Chair; Chris Santos\* (MIT '74), Co-Chair; Flora Su (MIT '18), Co-Chair; Tahsin Alam (MIT '04), Catherine Cooper (MIT '00), Orville Dodson (MIT '68), Emily Edwards (MIT '11), Stephen Friedenthal (MIT '92), Joshua Guo (MIT '26), Young-Jae Kim (MIT '82), Jennifer Lam, Jianghong Lu (MIT '90), Francesca Macchiavello Cauvi (MIT '21), Somesh Mohapatra (MIT '22) Sanjay Patnaik (MIT '89), Devjani Ray, Dana Rosenfarb (MIT '22), Alexandra Scott, Leslie Scott (MIT '19), Karen Seo (MIT '75), Mobolaji Williams (MIT '13), Jennifer Won (MIT '99), Yaotang Wu (MIT '92), Eric You (MIT Grad student)

\*These contributors also served as question editors.

Thank you to our Prize Sponsors! Museum of Science, Boston Discovery Museum of Acton MIT Museum MIT COOP Cell Press

Let us know how we did! Take our brief survey!





# **Middle School First Place**

#### Prizes

Everyone here is a winner. Thank you for participating! **All participants** receive one free pass each to: the Museum of Science, the Discovery Museum of Acton, MA, and the MIT Museum. The **Runners-Up** team members will each receive a MIT t-shirt from the MIT Coop.

# **High School First Place**

Tour of The Self-Assembly Lab at MIT with Associate Prof. Skylar Tibbits

Located in MIT's Morningside Academy for Design (MAD), the Self-Assembly Lab at MIT (https://selfassemblylab.mit.edu/) is a cross-disciplinary lab where researchers are building materials that can coalesce on their own to form structures. The Lab is composed of designers, scientists, and engineers inventing self-assembly technologies aimed at reimagining the processes of construction, manufacturing, and assembly at all scale-lengths. Projects include programmable materials, rapid liquid printing, active textile tailoring, liquid printed products and pneumatics, and self-folding proteins.

Skylar Tibbits SM '10 is the founder and co-director of the Self-Assembly Lab. He is also Associate Professor of Design Research in the MIT Department of Architecture and director of MIT's design major and minor programs.

Tour of the MIT Edgerton Center with Ed Moriarty

Founded in 1992 to honor the legacy of Harold "Doc" Edgerton — inventor, entrepreneur, explorer, and MIT professor — the Edgerton Center (edgerton.mit.edu) offers subjects in engineering and imaging, supports student clubs and teams; manages student machine shops, upholds MIT's expertise in high-speed and scientific imaging; and offers a year-round K-12 program. Whether students use our shops to build an electric racecar, use our high-speed imaging equipment to measure the motion of a butterfly wing, or use our curriculum to explain the shapes and interactions of proteins and DNA, we cultivate an overarching ethos of building, learning, and sharing.

The experience will be tailored to the winning team, whether meeting with students and staff, tinkering in our shops, taking strobe photos, or whatever strikes our interest.

Ed Moriarty has been with the Edgerton Center since 2000. He is the instructor for the fall EC.A790 Engineering, Art, and Science First Year Advising Seminar (co-taught with Diane Brancazio) and is involved in the high school levels of the Center's K–12 outreach program, initiating programs and partnerships from Florida to Alaska that inspire in young students a love for engineering.





# **Schedule of Events**

5:00 PM - 6:00 PM Light supper, demos and discussions, lobby exhibits,
6:00 PM - 6:05 PM Welcome and introductions in Auditorium
6:05 PM - 7:05 PM Middle School Challenge
7:05 PM - 7:25 PM Intermission
7:25 PM - 7:30 PM A Word from our Sponsor, Mathworks
7:30 PM - 8:30 PM High School Challenge
8:30 PM - 8:45 PM Awards and Closing Ceremony

## Our Moderator, Martin Culpepper

Martin Culpepper is a Professor of Mechanical Engineering at MIT. His research and education activities encompass invention and design of high-performance machine systems that make (rapid prototyping, fixtures), move (robotics, motion stages), or measure (instruments, telescopes). He combines creativity and engineering science to enable new technologies wherein conventional technology is insufficient or impracticable. Culpepper is a recipient of the National Science Foundation Presidential Early Career Award (PECASE), two R&D 100 Awards, a TR100 award, a Joel and Ruth Spira Teaching Award, and he is a Fellow of the American Society of Mechanical Engineers. Outside MIT, he likes to cycle (road, mountain, fat biking), enjoy nature (hiking, fishing, hunting), work on his vehicles (Mustangs and Ducati Monster), and cook (brewing beer and gourmet cooking).





# Meet a Radiologist



Jerry Ackerman is Associate Professor of Radiology at Massachusetts General Hospital and Harvard Medical School. He develops novel technology for MRI scanning and conducts research on bone and calcified tissues.

## **Chemistry Magic Show**

MIT's ClubChem would like to present an interactive chemistry booth about colors! Many, disappearing, and falling colors; we got them all! We will also have a panel of MIT students there to chat. Hope you stop by!

Panel:

Kevin Liu, Undergraduate in 5-7 (Chemistry and Biology) Vivian Hir, Undergraduate in 6-7 (Computer Science and Molecular Biology) Andy Fong, Undergraduate in 10-ENG (Chemical Engineering) Shirley Chen, PhD Candidate in 5 (Schlau-Cohen Lab)

Acknowledgments That Made This Possible Adeena Khan, Undergraduate in 10-B (Chemical-Biological Engineering) Justin Airas, PhD Candidate in 5 (Zhang Group) Tara Sverko, PhD Candidate in 5 (Bawendi Group) ClubChem and MIT Chemistry

