



Teaching Engineering

February 4, 2026



Presenter:

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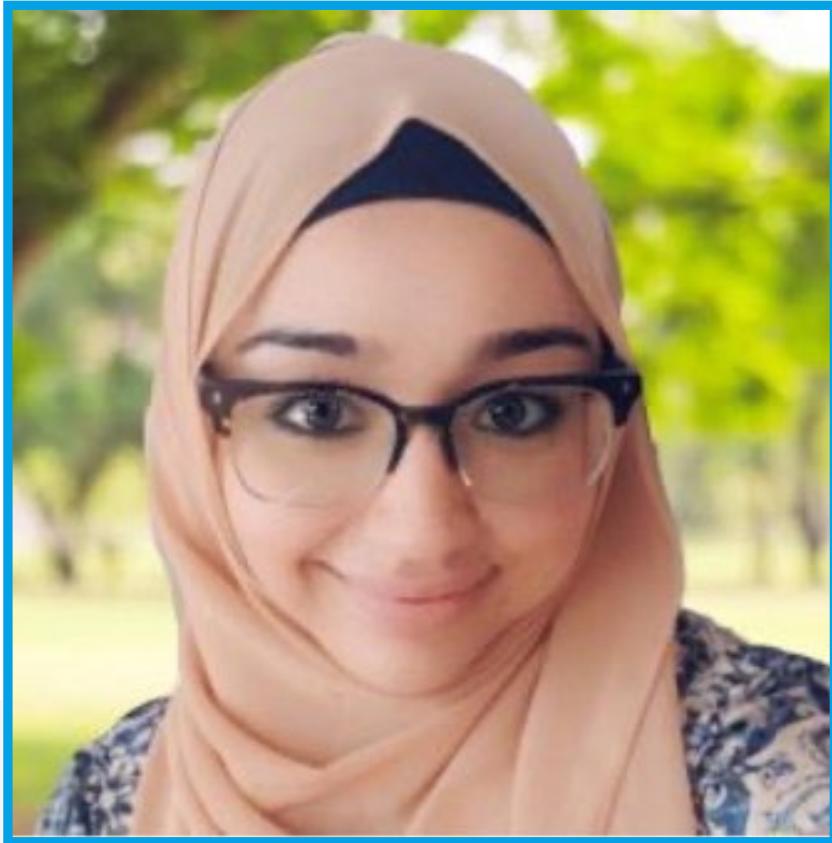
Presenter:

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TeachEngineering.org

NCWIT / CU Boulder



TEACHING ENGINEERING WEBINAR

Getting Started

- This webinar is being recorded and will be posted on DiscoverE.org. We will email the link to you one week after the webinar.
- Have questions? Type your question in the “Question” space on your control panel.

Who are you?



How do you support students?

What ages of students do you support?

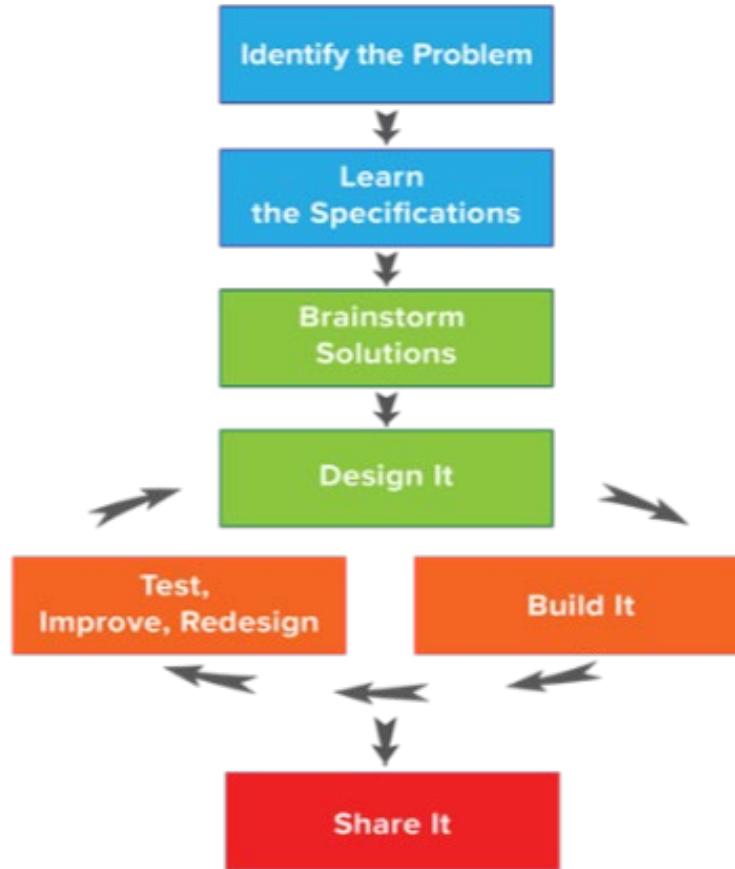


TEACHING ENGINEERING

Today's Agenda

- Overview of Engineering Design Process
- Hands-on Engineering Activity!
Controlling Sound
- Teach Engineering Resources
- DiscoverE Resources
- Q&A

Engineering Design Process



Problem: What problem am I solving

Specs: What resources do I have? What's the budget? How much time do I have? Who's on my team? Who's my client? How will success be measured? What are my constraints?

Brainstorm: What do I know I already know? What do I need to learn? What materials do I have? What have others done?

Design/Build/Test: What idea do I want to try first? Did it work like I thought it would? What didn't work? What can I improve?

Share: What worked, what didn't? What would you do differently? What are your favorite features. What did you like about other teams' designs?

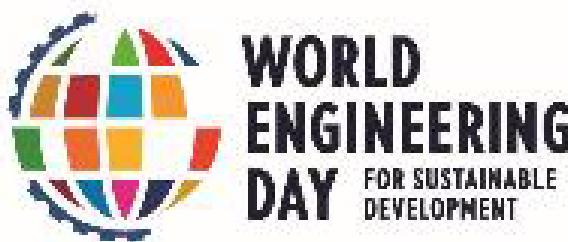
Who is DiscoverE?



We are the “E” in STEM

We support educators and volunteers to:

- Build Skills and Confidence
- Increase Interest and Knowledge
- Expand Opportunities



Resources

- 170 STEM Activities
 - Leader Notes
 - Student Instructions
 - Challenge Videos
 - Career Exploration
- Leader Training
- Outreach Grants

Formula for Success

Share positive engineering messages

+

Do Hands-on Activities & Active Facilitation

+

Support Interactions with STEM Role Models

= STEM Positive Students



Keys to Building a Student's STEM Identity

- Increase their interest
- Nurture curiosity with a positive attitude
- Help them see the value in STEM and how it aligns with their values and goals
- Build their confidence in their STEM skills
- Provide strong support networks
- Help them feel a sense of belonging



Finding STEM Volunteers

- Parents, neighbors, former students,
- Local Engineering Societies (SWE, ASCE, IEEE, ASME , CIE, etc)
- Local universities
- Local engineering firms





Goal: Celebrate engineers and inspire students

Ask: Volunteers and educators engage students & celebrate the work of engineers

Resources: STEM Activities
Training
Invite An Engineer Guide
Planning Guide
Certificates
Social Media Posts & Graphics

DiscoverE.org/EngineersWeek





Goal: Inspire girls to explore engineering

Ask: Engage girls in engineering – year round

Resources: Girl Day Planning Guide
Stickers
STEM Activities

DiscoverE.org/GirlDay



FREE Downloadable Resources

- Logos
- Ads
- Graphics
- Certificates
- Bookmarks
- ZOOM background
- Sample posts
- Customizable Language
- Spanish versions!

DiscoverE.org/downloadable-resources



DISCOVER E

CHATS WITH
CHANGE MAKERS

- Student host interviews engineers and technicians
- 45+ episodes available to stream
- Meet two new role models!
 - **Jan 26:** Robert Schomp, water resources engineer
 - **Feb 23:** Srimoyee Bhattacharya, chemical engineer & AI expert

DiscoverE.org/Chats



Meet Robert Schomp

- Robert is a water resources engineer who designs river habitats for salmon.

Premiering January 26!



Meet Srimoyee Bhattacharya

- Srimoyee is a chemical engineer and AI expert who leads a team of AI engineers and data scientists at Shell.

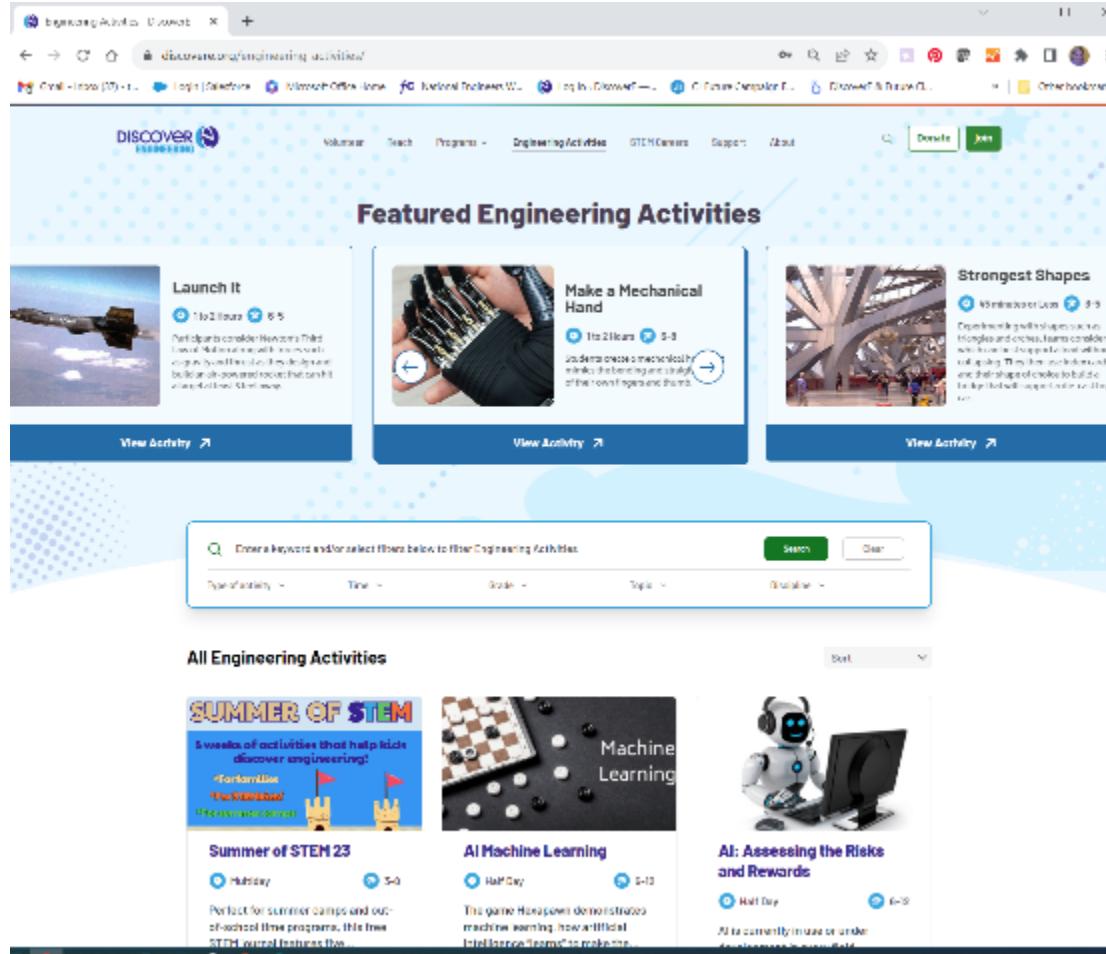
Premiering February 23!



What is Future City?

Middle and High School students work in teams to create cities that exist 100 years in the future based on an annual sustainability challenge.

Finding STEM Activities – DiscoverE.org



The screenshot shows the DiscoverE.org website. At the top, there's a navigation bar with links for Volunteer, Tech, Programs, Engineering Activities, STEM Careers, Support, and About. Below the navigation is a search bar with a magnifying glass icon and a "Search" button. The main content area features a section titled "Featured Engineering Activities" with three cards: "Launch It" (1 to 2 hours, 6-9), "Make a Mechanical Hand" (1 to 2 hours, 5-8), and "Strongest Shapes" (45 minutes to 1 hour, 3-5). Below this is a search bar with placeholder text "Enter a keyword and/or select filters below to filter Engineering Activities" and dropdown menus for "Type/activity", "Time", "Grade", "Topic", and "Difficulty". The bottom section is titled "All Engineering Activities" and shows two cards: "Summer of STEM 23" (Half Day, 5-8) and "AI Machine Learning" (Half Day, 5-8).



The screenshot shows a specific engineering activity page for "Windy City Tower" on the DiscoverE.org website. The page has a header with the DiscoverE logo and navigation links for Volunteer, Tech, Programs, Engineering Activities (which is underlined), STEM Careers, Support, and About. There's a search bar and a "Donate" button. The main content area has a title "Windy City Tower" with a subtext: "Participants learn about lateral forces, strong building designs, and wind tunnel testing as they plan out and make a paper tower that needs a structural design consultant and withstands as much wind as possible without falling or bending over." Below the title are four icons: "TIME 1 to 2 hours", "CAREERS Civil", "GRADE 3-5", and "TOPIC Create/Build Structures". There are three tabs at the bottom: "Leader Notes" (selected), "Student Instruction", and "Challenge Video". To the right, there's a "Print" button and a "Share this activity with your network!" section with a "Share Activity" button. At the bottom, it says "Challenge created by: ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS".

Spotlight: Challenge Videos

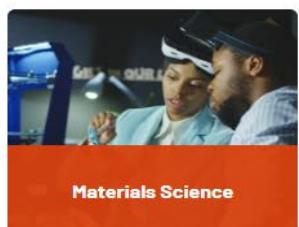


[DiscoverE.org/Challenge-Videos](https://www.discovere.org/challenge-videos)

A screenshot of the DiscoverE.org website. The page is titled 'Puff Mobiles' and features a sub-section for 'Student Instruction'. It includes sections for 'Materials', 'Introduce', 'Instructions', and 'Relevant Terminology'. There are also buttons for 'Print' and 'Downloads'. A sidebar on the right encourages users to 'Share this activity with your network!'.

A screenshot of the DiscoverE.org website showing the 'Puff Mobiles (Student Instruction)' page. It includes sections for 'Overview', 'Materials', and 'Instructions'. It also features a 'Related Assets' section for an 'Instructor Guide' and a 'Make a donation' button.

Types of Engineering Careers



[DiscoverE.org/Engineering-Careers](https://www.asee.org/careers)

Engineering Careers

- Career Overview
- Meet Change Makers
- Salary Info
- Job descriptions for Bachelor's and Associate Degrees
- Related hands-on activities

[← Back to STEM Careers](#)

[Explore all disciplines +](#)

Biomedical Engineering



Where would modern medicine be without the contributions of biomedical engineering? Imagine hospitals operating without X-rays, ultrasound, EKGs, and the thousands of high-tech procedures and devices that diagnose conditions, sustain health, and fight disease. With a career in biomedical engineering, you'll make a real difference in the lives of others. You might develop artificial lenses that restore sight to the blind, radiation treatments that fight cancer, or incubators that keep premature babies alive.

Meet Kameelah, an engineer and project manager at Merck who uses large machines to make the best medicines in the world.



Biomedical Engineering Overview¹



\$92,620

Median salary



19,300

Number of jobs in 2020



6%

Expected job growth in
next 10 years



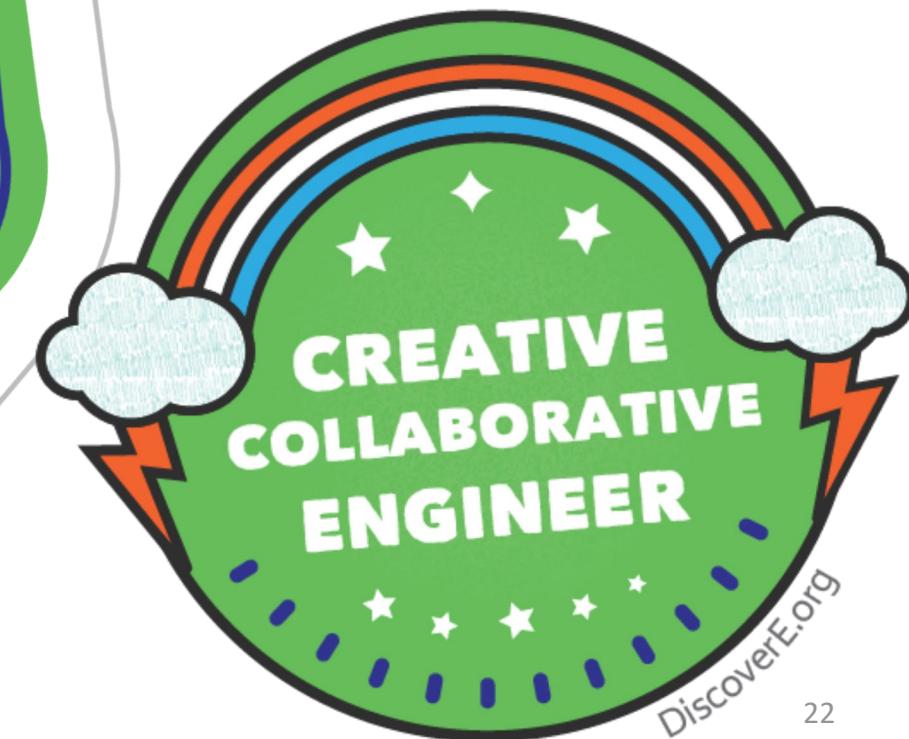
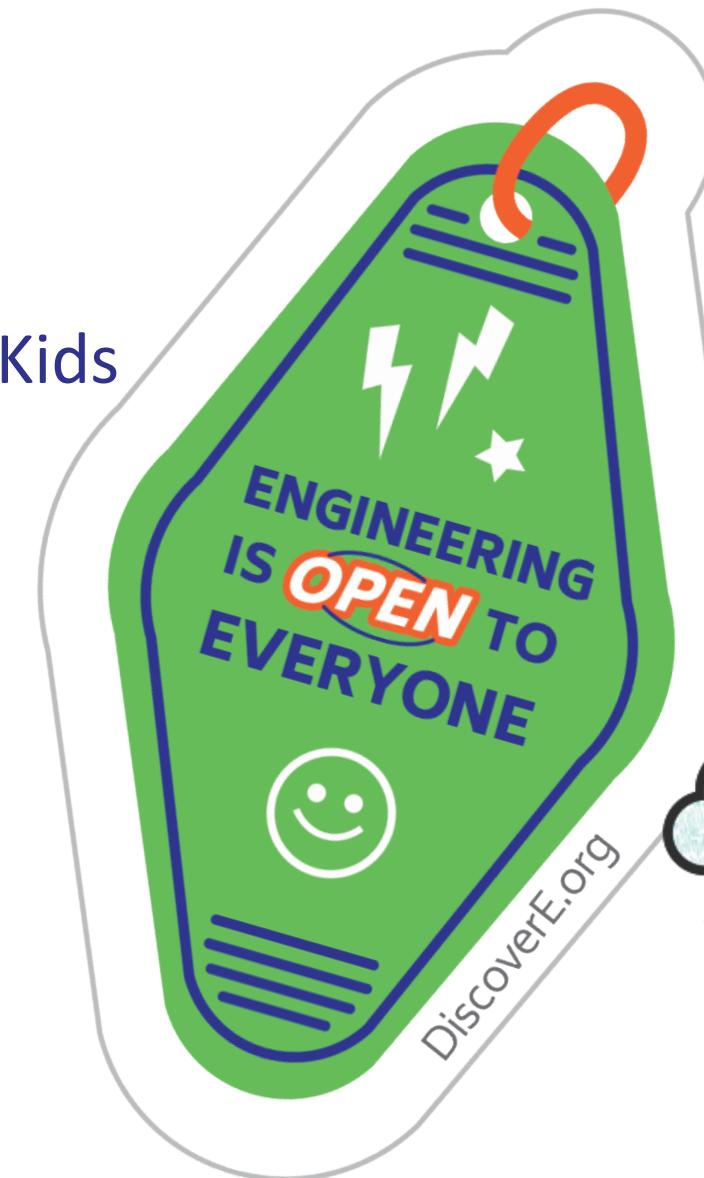
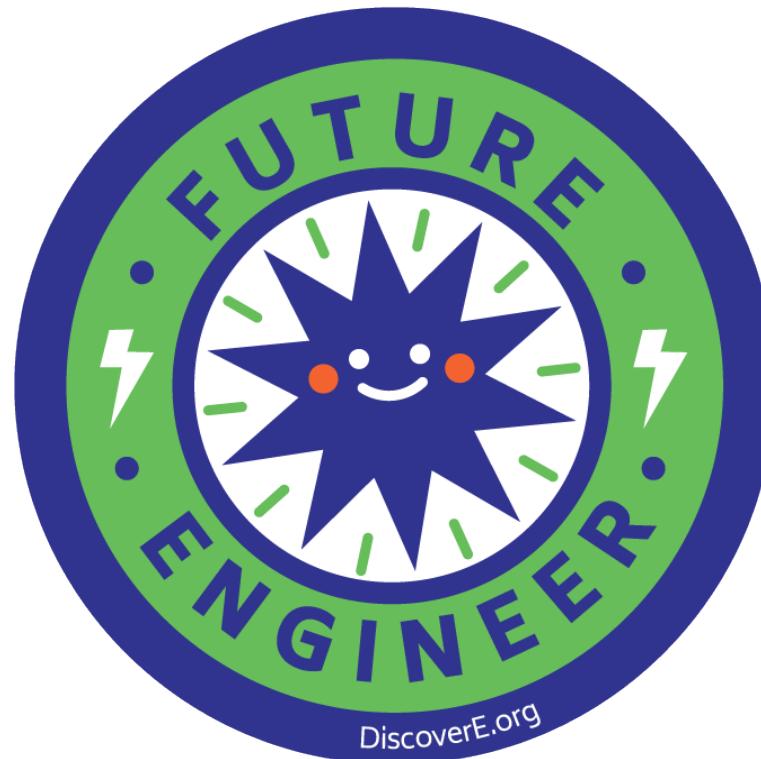
Explore more

American Institute for Medical and Biological Engineering
Biomedical Engineering Society (BMES)
Institute of Biological Engineering
Career Girls

Stickers!

store.discovere.org

10% Off Coupon: StickersForKids



STAY IN TOUCH

Email

Info@DiscoverE.org

Website

DiscoverE.org

Social Media



facebook.com/DiscoverE.org



[@DiscoverEorg](https://www.instagram.com/DiscoverEorg)