

## **UMass Women in Engineering Extravaganza for High School Students Tuesday, October 20<sup>th</sup> – Friday, October 30<sup>th</sup>**

Website: <https://tinyurl.com/UMass-CareerDay2020-WebPage> [will launch Oct. 14<sup>th</sup>]

While we're packing the two weeks with opportunities to make connections with awesome women engineering undergraduate and graduate students as well as women alumni and friends working in the field, ALL students are welcome, either as individuals or through your classrooms.

See following pages for details on the dates/times/events. We're working on a few more to add!

*LIVE events will be via Zoom, but we'll be posting everything in a platform called Hopin.to, where you'll be able to access recordings "on demand" from October 21st - 23rd and 28th - 30th.*

### **About Hopin.To:**

Drop-in to Hopin.to to learn more about UMass Engineering and see if engineering is a career path for you. You'll be able to explore engineering student clubs and organizations through their Expo booths. We'll post recordings of all the live panels and design challenge launches from the week in case you missed them. Some of our departments will also post messages. We'll be updating the site throughout the three days as information becomes available, and we'll open the site up again during week 2!

**REGISTER HERE (FREE) TO ACCESS OUR HOPIN.TO PLATFORM:**

<https://hopin.to/events/women-in-engineering-days>

### **Engineering Challenges:**

We have a number of engineering challenges that will launch October 20<sup>th</sup> – 22<sup>nd</sup>. We'll have lots of support for you over the two weeks to work on your challenges, and a "report back" on Friday, October 30<sup>th</sup> for you to share what you've learned. Descriptions are at the end of this document.

Register Interest in Challenges: <https://tinyurl.com/2020EngineeringDaysChallenges>

**Questions? Email Us! [engindiversity@umass.edu](mailto:engindiversity@umass.edu)**



# Welcome to UMass Amherst Women in Engineering Extravaganza

## Week 1

### Monday, October 19

1 PM & 6 PM **Intro to [Hopin.to](https://hopin.to) (tutorial), especially for teachers**

*The Women in Engineering Career Extravaganza will feature videos and other information of the Hopin.to platform. This session will help you learn how to explore the platform.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

### Tuesday, October 20

1 - 2 PM **SWE Student Experience Panel**

*Come join a panel of female undergraduates in biomedical and mechanical engineering. They will discuss their experiences, give their suggestions, and answer questions.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

4 - 5 PM **Drop in chat/help with SWE's Mary Gerace**

*Come chat with Society of Women Engineering President, Mary Gerace. Mary will be available to share her story and to answer questions.*

Join: <https://umass-amherst.zoom.us/j/94463521506>

6 - 6:30 PM **Lending a Hand Design Competition Launch**

*Come Learn about the Lending a Hand design competition. Join this session to learn more about the design constraints and criteria..*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

## **Wednesday, October 21**

### **11 AM - noon Drop in chat/help with SWE's Ally Davis**

*Come chat with Society of Women Engineering member, Ally Davis. Ally will be available to share her story and to answer questions.*

Join: <https://umass-amherst.zoom.us/j/2559831383>

### **2 - 3 PM Drop in chat/help with SWE's Sophia Chang**

*Come chat with Society of Women Engineering member, Sophia Chang. Sophia will be available to share her story and to answer questions.*

Join: <https://umass-amherst.zoom.us/j/4612155209>

### **5:15-5:45 PM Plume Project Launch**

*Come Learn about the Plume Project activity. Join this session to learn more about the explorations and experiments that students will be conducting as part of this project.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

### **6 - 7 PM GWIS Panel: Pathway to Engineering**

*Come Learn hear women graduate students in engineering share their experiences and give their guidance for entering the pathway to success in engineering.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

## **Thursday, October 22**

### **10 - 11 AM Drop in chat/help with SWE's Alex Lazarovs**

*Come chat with Society of Women Engineering member, Alex Lazarov. Alex will be available to share her story and to answer questions.*

Join: <https://umass-amherst.zoom.us/j/alexlazarov>

### **11:30 AM - 12:30 PM Drop in chat/help with SWE's Anna Boloyan**

*Come chat with Society of Women Engineering member, Anna Boloyan. Anna will be available to share her story and to answer questions.*

Join: <https://umass-amherst.zoom.us/j/7613345852>

4 - 4:30 PM **Bridge Design Launch**

*Come Learn about the Bridge Design challenge. Join this session to learn more about the design constraints and criteria.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

6 - 7 PM **SWE Student Experience Panel**

*Come join a panel of female undergraduates in biomedical, chemical, and mechanical engineering. They will discuss their experiences, give their suggestions, and answer questions.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

7 - 8 PM **SWE GBM!!!**

*Come to chat and join in games with members of the Society of Women Engineerings.*

Join: <https://umass-amherst.zoom.us/j/96643786449>

**Friday, October 23**

1 - 2 PM **GWIS Panel: Success in College**

*Come Learn hear women graduate students in engineering share their experiences and give their guidance for getting into the college of your college and going on to excel.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

2:30-3:30 PM **Drop in chat/help with SWE's Dan Nguyen**

*Come chat with Society of Women Engineering member, Dan Nguyen. Dan will be available to share her story and to answer questions.*

Join: <https://umass-amherst.zoom.us/j/dannguyen>

**Week 2**

## Monday, October 26

- 1 - 2 PM **Drop in chat/help with SWE's Ashwini Allada**  
*Come chat with Society of Women Engineering member, Ashwini Allada. Ashwini will be available to share her story and to answer questions.*  
Join: <https://umass-amherst.zoom.us/j/95419282517>
- 6 - 7 PM **Keynote Speaker Ivette Perez-Franco, Johnson & Johnson**  
*Come hear our keynote speaker, Ivette Perez-Franco. Ivette will share her story of going from a high school student uncertain of her future, to a successful engineer at one of the nation's leading businesses.*  
Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>  
Passcode: 441628

## Tuesday, October 27

- 4 - 5 PM **Drop in chat/help with SWE's Mary Gerace**  
*Come chat with Society of Women Engineering President, Mary Gerace. Mary will be available to share her story and to answer questions.*  
Join: <https://umass-amherst.zoom.us/j/94463521506>

## Wednesday, October 28

- 11 AM- noon **Drop in chat/help with SWE's Ally Davis**  
*Come chat with Society of Women Engineering member, Ally Davis. Ally will be available to share her story and to answer questions.*  
Join: <https://umass-amherst.zoom.us/j/2559831383>
- 11 AM - noon **SWE Student Experience Panel**  
*Come join a panel of female undergraduates in biomedical, chemical, and civil/environmental engineering. They will discuss their experiences, give their suggestions, and answer questions.*  
Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>  
Passcode: 441628
- 2 - 3 PM **Drop in chat/help with SWE's Sophia Chang**  
*Come chat with Society of Women Engineering member, Sophia Chang. Sophia will be available to share her story and to answer questions.*  
Join: <https://umass-amherst.zoom.us/j/4612155209>
- 6 - 7 PM **Community Engaged Research**

*Come join a panel with doctoral students Cielo Sharkus and June Lukuyu. They will discuss their paths to becoming doctoral students in engineering, they will present their community engaged research projects, and they will answer questions.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

## **Thursday, October 29**

### **10 - 11 AM Drop in chat/help with SWE's Alex Lazarov**

*Come chat with Society of Women Engineering member, Alex Lazarov. Alex will be available to share her story and to answer questions.*

Join: <https://umass-amherst.zoom.us/j/alexlazarov>

### **11:30 AM - 12:30 PM Drop in chat/help with SWE's Anna Boloyan**

*Come chat with Society of Women Engineering member, Anna Boloyan. Anna will be available to share her story and to answer questions.*

Join: <https://umass-amherst.zoom.us/j/7613345852>

### **6 - 7 PM Engineers Without Borders**

*Come join a panel of members of UMass Amherst's Engineers Without Borders. They will discuss the amazing work of Engineers Without Border organization and they will describe the ways they are using engineering to support communities in other parts of the world.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

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## **Friday, October 30**

### **TBA Design Challenge Report Backs**

*All students who have participated in design challenges will come to share their work with other students. Prizes will be awarded.*

Join: <https://umass-amherst.zoom.us/j/98414170322?pwd=cEcwaG5MRzMrZ2JzZ3JsY0JvM1FQQT09#success>

Passcode: 441628

## **Panel and Design Challenge Details**

### **Undergraduate Experience in Engineering – A Chat with SWE members**

Join us to chat with members of our UMass chapter of the Society of Engineers to hear about why they chose to study engineering, if engineering has been what they expected, and what life as an engineering student is like. Questions are encouraged! We'll have different panelists representing different majors each session. If you are interested in one you miss don't worry! All will be recorded and posted in our event exposition center.

All via Zoom ID: 984 1417 0322 Passcode: 441628

Tuesday, October 20<sup>th</sup>, 1:00 PM

- Erin Newhall and Alex Lazarov – Biomedical Engineering
- Mary Gerace – Mechanical Engineering

Wednesday, October 21<sup>st</sup>, 4:00 PM

- Olivia Harris – Civil & Environmental Engineering
- Madelyn Wright – Electrical Engineering
- Meghan Muloy – Biomedical Engineering

Thursday, October 22<sup>nd</sup>, 6:00 PM

- Celia Neveu – Mechanical Engineering
- Anna Boloyan – Chemical Engineering
- Sophia Change – Biomedical Engineering

Wednesday, October 28<sup>th</sup>, 11:00 AM

- Maria Mountziaris – Chemical Engineering
- Vanaalika Vaid – Biomedical Engineering
- Alanna Jacchim – Civil Engineering

### **Lending a Hand: Designing a simple assistive device –**

Challenge yourself to think about how to utilize materials around your house to design a simple assistive device – a mechanical hand. Learn about forces, moments, torques, and mechanical advantage. How can you translate an axial force, or forces, into torques at three different locations along each of 5 fingers? How do you use mechanical advantage to control the compressive force of the hand's grip? How do you make a robust design? How do you provide stability? Your final design will be “judged” in terms of 4 criteria: aesthetics (is it pleasing to the eye), ease of use (can you use with one hand?), dexterity (can it pick up small objects? big objects?), and capacity to do work (how much can it lift?).

Ideal for physics and engineering classes, as well as students interested in mechanical or biomedical engineering.

*Materials you may find useful, but you're welcome to come up with others:*

- Glue gun, glue, tape,
- Scissors,
- Sharp point,
- Straws, other tubing,
- String or yarn.

### **A Plume Problem – A contaminant transport exploration**

**Launching on October 21<sup>st</sup> at 5:15 PM (Report Back October 30<sup>th</sup> time TBA)**

Zoom Link: 984 1417 0322 Passcode: 441628

Register Your Interest: <https://tinyurl.com/2020EngineeringDaysChallenges>

Learn about groundwater contamination and transport through independent research and simple spatial data analysis. Along the way, just for fun, we'll intersperse simple experiments to learn more about the properties of water. Launch date 21<sup>st</sup> October 5:15 pm.

*Materials needed:* A computer (for research, access of materials, and Zoom participation), a printer and colored markers or pens (ideal, but can do electronically as needed), coins, fork, several paper clips, pepper, a soup bowl with water in it, clear glass or cup, eye dropper (or straw or pen/pencil that could be used to make droplets of water), a tray or a surface water can spill on without doing damage, and towels for cleaning up spilled water.

Ideal for environmental science classes and students interested in environmental or water resources engineering, hydrology, environmental conservation and geosciences. May also be of interest for chemistry classes.



## **Spanning the Divide: A bridge design challenge –**

**Launching on October 22<sup>nd</sup> at 4 PM (Report Back October 30<sup>th</sup> time TBA)**

Zoom Link: 984 1417 0322 Passcode: 441628

Register Your Interest: <https://tinyurl.com/2020EngineeringDaysChallenges>

Learn about how materials behave in compression, tension, and bending and learn about the underlying design principles for a number of famous (and not so famous) bridges. You'll then leverage that knowledge to design, build, test and re-design a simple bridge out of materials readily found in your house. Your structure will need to meet a set of design constraints.

Ideal for physics and engineering classes, as well as students interested in the structural side of civil engineering, building construction technology, or architecture.

*Materials needed (you may want double for re-design!):*

- Printer paper (~20 sheets),
- Paper clips (~30),
- Scotch tape (~a roll),
- Straws (20), preferably without the bendy part
- Simple string (~12 feet),
- Chopsticks (8) or pencils,
- 16 oz plastic cups (4),
- Sand, rocks, or equivalent material (volume equal to 3 of your cups maximum)
- Tape measure or measuring stick,
- Glue gun (optional)