


 The logo for SWENEXT features the letters 'swe' in a dark blue, lowercase, sans-serif font, followed by 'NEXT' in a larger, bold, blue, uppercase, sans-serif font. The letter 'E' in 'NEXT' is highlighted in a bright yellow-green color.


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## What is Aerospace Engineering?

Aerospace Engineering is centered around the development of aircraft and spacecraft. Development of craft involves all aspects, from design and manufacturing, to propulsion systems, satellite development, and field testing. Aerospace Engineers also develop leading-edge technologies that are integrated into aerospace vehicle systems, such as new communication, transportation or defense applications.

[Find out more of what Aerospace Engineers do!](#)

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## Innovations and Emerging Technologies in Aerospace Engineering

Aerospace Engineers contributed to emerging technologies in 2019 and continuing into 2020. The top five emerging technologies and innovations are the following:

1. [LightSail 2 by Planetary Society](#)
  2. [Deep Space Atomic Clock by NASA](#)
  3. [X-59 QueSST by Lockheed Martin and NASA](#)
  4. [Zero-Fuel Aircraft](#)
  5. [Structural Health Monitoring](#)
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## A Day in the Life of an Aerospace Engineer

Michelle is an Aerospace Engineer with Aerion Supersonic. Find out how she got there, the type of projects she's working on, and how you can #BeThatEngineer on [SWE's All Together Blog](#).




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## Benefits of Having a Mentor and Where to Find One

January is National Mentoring Month, a nationwide campaign to celebrate our mentors and spread awareness of the importance of mentorship. An old Chinese adage illustrates the power of mentorship best by stating, "Tell me and I forget, teach me and I may remember, involve me and I learn." A mentor provides their mentee an opportunity to get directly involved in a subject, such as a field of study or a career.

The following are five benefits of having a mentor by your side starting at high school and throughout your college and professional career:

1. **Mentors offer constructive criticism.** When asked about his mentors within the movie industry, director George Lucas noted that mentors have "a way of seeing more of our faults that we would like—it's the only way we grow." To hear honest feedback is the first step to improve weaknesses and ultimately become a better you in the process.
2. **Mentors offer encouragement and motivation.** Entrepreneur Oprah Winfrey stated, "A mentor is someone who allows you to see the hope inside yourself." Mentors are your home team cheerleaders, motivating you to not give up on your goals.
3. **Mentors are sounding boards.** If you have a pressing field of study question, or are struggling on a career path, use your mentors to bounce ideas off of and hear their unfiltered opinion. It helps to hear another's point of view before making decisions.
4. **Mentors have more experience.** Since you and your mentor are on the same team, you can use your mentor's past experiences on obstacles and mistakes to skip through potential heartbreak. The key is not to make the same mistake as your mentor before you.
5. **Mentors can be connectors.** Choose a mentor who is within the same field of study or career you would like to pursue. These mentors can provide access to other mentors/ future colleagues who can help you through your college journey and maybe land a future job.

Here are a couple mentorship programs to check out!

- [ACE Mentor Program](#)—for future architects and engineers
- [Million Women Mentors](#)—for STEM careers

SWE's Student Programs (SWENext) Committee is also running pilot Mentoring Programs in the greater Pittsburgh and Houston areas. If interested in participating,

reach out to [SWENext@swe.org](mailto:SWENext@swe.org).

Also, you can reach out to your local SWE section to ask to talk with a woman engineer or find a mentor. [Click here](#) to find your local SWE section with contact info.

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## Get Ready for E-week!—February 16-22, 2020

Engineers Week (E-week) is fast approaching—just a month away! E-week is an entire week dedicated to spreading awareness about engineering and getting involved in engineering activities. This year's theme is "Pioneers of Progress." Engineers, like all pioneers, use their knowledge, creativity, and knack for adventure to cross frontiers, such as outer space or the ocean floor. There are many ways to get ready for E-Week 2020— [check out the following link!](#)

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## 2020 SWENext Awards Season – Apply Now

Do you live within a couple of hours of **Buffalo or Des Moines**? Are you willing to travel to one of these cities early next year with your friends? If so, read on!

We are excited to announce the 2020 SWENext Awards and the DesignLab Community Engagement Challenge.

The **SWENext STEM in Action Award** recognizes girls in **grades 6-12** who are actively interested in STEM and doing something in their community about it (for example, raising awareness, mentoring students, participating in SWENext, etc.). STEM in Action Award recipients will attend the DesignLab event where they will meet women engineers, learn about careers in engineering, learn how to be a role model and watch the DesignLab presentations. They will also receive a certificate during the awards ceremony.

Juniors and seniors who apply for the **STEM in Action Award** will have an opportunity to be deemed a **Local Innovator**. They will also attend the DesignLab event where they will receive a SWENext trophy and a mentoring session with a SWE member. To be considered for the Innovator award, juniors and seniors must submit a three-minute video with their STEM in Action application discussing their involvement with STEM and what they are doing in their community.

Learn more and apply today!

**The DesignLab Event in Buffalo will be held on March 28, 2020.**

STEM in Action Award Application Deadline: March 1, 2020 - [STEM in Action Application](#)

**The DesignLab Event in Des Moines will be held on April 18, 2020.**

STEM in Action Award Application Deadline: March 22, 2020 - [STEM in Action Application](#)

The **DesignLab Community Engagement Challenge** will happen at the same time in the same cities as the STEM-in-Action Award. The Challenge asks teams of high school students to create a hands-on engineering activity for younger students that will help resolve a local issue. Teams who enter the challenge will gain experience with STEM outreach, project implementation and leadership.

The teams will present their proposal to a panel of women engineers at the **DesignLab Event for a chance to win \$1,000 to implement their project**. Winning teams then implement their project and create a video about it. The winner of the best project and video will **win an all-expense paid trip to SWE's annual conference, WE20, in New Orleans, Louisiana**.

The DesignLab Challenge provides students with:

- The opportunity to make an impact on your community using engineering.
- Serve as a role model and inspire the next generation of women in STEM.
- Engage with a woman engineer who will serve as the teams SWE Challenge Mentor to assist the team with program development and connect you to other SWE resources.

The first step is to let us know that you would like to enter the Challenge.

[Read the Proposal Brief Here](#). This will give you an overall understanding of the challenge objectives and requirements.

**Then, assemble your team and submit an Entry Form.** Your team must consist of 5 to 15 high school students and one faculty member. At least 50% of your team must identify as female. Once an Entry Form is submitted, your team will be paired with a SWE Challenge Mentor. [Click here to view the Entry Form](#).

**The deadline to submit an entry form varies by site:**

- Buffalo's deadline: January 27, 2020
- Des Moines' deadline: February 9, 2020

[Learn more about the DesignLab Challenge!](#)

If you have any questions, email [swenext@swe.org](mailto:swenext@swe.org). We hope to see you in Buffalo and Des Moines!

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**#SWENextChallenge - January Edition!**

What thing doesn't exist that someone needs to invent? Share some ideas and reasons why it needs to be invented. Bonus points if you share some sketches or pictures of your solution!

To enter this month's challenge:

1. Make sure to follow @SWENext on Instagram (if you're not already!)
2. Post a photo or video to your account with a caption that explains your submission/answering the question.
3. Mention us (@SWENext) and use the hashtag #SWENextChallenge in your caption.

Make sure to post before the challenge ends on January 28th (12pm CT). Winner will be announced at the end of the month!



130 East Randolph Street, Suite 3500  
Chicago, IL 60601  
[swe.org](http://swe.org) | #BeThatEngineer