

swe **NEXT**



## What is Manufacturing Engineering?

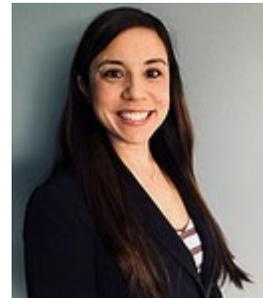
Almost everything you own has probably been manufactured. Someone designed not only the object, but the tools, process, machines and equipment to make it. A modern factory would consult or employ a Manufacturing Engineer. Not only does the factory need to produce a product, it also needs to produce it efficiently and be able to meet the demand for the product, and do so at the right cost, quality and delivery timeframe. Think about Henry Ford...where would we be without his invention of the assembly line to make cars in a factory?

[Check out this web page to learn more about Manufacturing Engineering.](#)

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## Day in the Life of a Manufacturing Engineer

Meet Elizabeth Walker, a Manufacturing Engineer for General Motors. Find out how she got there, the types of projects she's working on, and how you can #BeThatEngineer on SWE's [All Together](#) Blog.



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## Women's History Month

Happy Women's History Month! Throughout history, so many incredible women have made great contributions to our world, especially as engineers! Here are a few we think you should meet.

**Grace Hopper** ("Amazing Grace") was well respected in the programming and computing fields. She invented one of the first compilers and was a professor at Vassar. She also served in the Navy Reserves for much of her life.

Admiral Hopper was awarded a National Medal of

Technology as well as a Presidential Medal of Freedom, and she supported bringing more women into the programming field.

[Learn more about Grace Hopper.](#)

**Stephanie Kwolek** turned a love of fashion and fabric into a career of materials and chemistry. After starting a job at DuPont, she was tasked with finding materials that could withstand extreme conditions. She developed many such materials, including Kevlar, which is used in bulletproof vests.

Stephanie is a member of the National Inventors Hall of Fame, and is a recipient of the National Medal of Technology.

[Learn more about Stephanie Kwolek.](#)

**Anousheh Ansari** studied Electrical Engineering and Computer Science. She was involved in the founding of multiple technology companies. She is still the chairman and CEO of Prodea Systems.

In 2006, Anousheh became the first Iranian woman to go to space and the first ever female “space tourist”. She spent 9 days on the International Space Station running a few studies and has been awarded the Space Pioneer Award.

[Learn more about Anousheh Ansari.](#)

The next time you need to write a report on a historical figure, consider writing about a woman engineer!



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## Scholarships

It's the time of year when college acceptances are arriving in the mail and seniors are starting to make college decisions. Scholarships are an important part of the college

application process and can help make college much more affordable in a time of rising tuition costs. Even if you're not a senior right now, it's important to start thinking about what you can do to boost your chances at receiving a scholarship.

Colleges and universities have their own scholarships, but private foundations and organizations also offer support to students. Anyone offering scholarships will be looking for students who demonstrate commitment to their education, their community, and other activities. Some things to think about are:

- Taking challenging classes – Honors, Advanced Placement (AP), International Baccalaureate (IB)
- Your commitment to community service and other volunteer opportunities in your community
- Any awards you've won at school or any competitions you've competed in
- Membership in clubs especially if you've held a leadership position in any of them
- Extracurricular projects related to the field you hope to study

These are just some ways you can stand out among a pool of applicants. Good luck!

**High School Seniors:** The SWE Scholarship applications for incoming Freshmen (2019-2020) are now open! [Apply here!](#) And check your email for insider tips sent to you during February.

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## Awards, Awards, Awards!

We love recognizing talented SWENexters who are involved in STEM activities! We think it is very important to celebrate your accomplishments and provide further encouragement as you explore and pursue engineering as a career.

Our most recent award recipients were honored at WE Local conferences in Baltimore on February 9th and St. Louis on March 2nd during the SWENext DesignLab events.



The Community Award winners at the Baltimore DesignLab event were: Michaela James, 7th grade, Yabesra Ewnetu, 8th grade, Mera Seifu, 8th grade, and Elizabeth Kim, 11th grade, all from the Baltimore area, and Madison Kenney, 10th grade, from Atlanta, Georgia

The Local Innovator Award winner was Christina Patterson, 12th grade, from Pittsburgh, Pennsylvania. This is the second time Christina has won this award, with the first time being at WE Local Providence last year. [You can see Christina's submission video here.](#)

Christina wrote a blog post about her experience at the SWENext DesignLab event.

[You can read about it here.](#)

The Community Award winners at the St. Louis SWENext DesignLab event were: Paris French, 7th grade, Iva Lastarria, 8th grade, MacKenzie Williams, 8th grade, Makara Worthy, 8th grade, Madison Miles, 9th grade, Kristen Wallace, 11th grade, Rowan Dothager, 11th grade, all from the St. Louis area. Also winning the award were Madalyn Nguyen, 9th grade, from the San Diego area, and Brianna Bukowski, 10th grade, from the Chicago area.

Rowan also won a \$50 gift card for the Best Essay.

The Local Innovator Award winner was Aja Capel, 11th grade, from Urbana, Illinois.

[You can see Aja's submission video here.](#)

Congratulations to all of the winners! We are so very proud of you!

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## **SWENext Community Awards for the Bellevue Washington area – Apply before March 23**

Do you live near Bellevue, Washington? Are you a girl in 6th through 12th grade who is actively interested in STEM and is out doing something in your community about it, for example participating in a STEM competition or a SWENext club, raising awareness or mentoring students? If so, apply for a SWENext Community Award!

Winners will attend a SWENext event where they will meet and network with women engineers and engineering students, learn about how to get the most from your SWENext membership and about bias literacy, and receive a certificate of achievement and a commemorative shirt.

[Learn more and apply here.](#) The deadline for submitting your application is March 23, 2019. We can't wait to read about all the great things you are doing!

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## **SWENext Clubs Corner**

In Clubs Corner, we feature a SWENext Club every month. This month we are featuring the **Kennett High School SWENext Club**.

A handful of FIRST Robotics students from Kennett High School in Kennett Square, PA, thought it was about time that a club was formed where girls could learn about different engineering careers from current

professionals and prepare them to navigate challenges in college and the workplace that they may face. In December 2017, the SWENext Club at Kennett High School was born!



The Kennett SWENexters meet monthly. The leadership team invites young professional engineers to come and share their experiences. They discuss what they believe to be important qualities of a strong college engineering program and how their experiences at Kennett prepared them. SWENexters also learn about internships, extracurricular activities and opportunities of employment from these engineers.

Not only do the students learn all about engineering at their club meetings, they also take the time to give back through STEM Outreach in their community! Their club members volunteer at school district-wide Math Nights and Family STEM Night. Family STEM Night is an annual spring event that invites students K-8 to learn, build and create with their parents through over 25 different activities encompassing all aspects of STEM. Last year, the SWENexters created and hosted the Tower Station where families were challenged to build the tallest free standing tower with marshmallows and toothpicks. Parents and children alike enjoyed the challenge while learning a little physics along the way!

These SWENexters are making waves in their community and were even featured in [Philly Magazine](#)! Awesome work ladies!

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## Meet a SWENext Club Officer

Meet Jackie R. from California! She is the Founder and President of the West Ranch SWENext Club. She started the club because she noticed how little interest there is in STEM for girls at her school. She has made a ton of friends through her SWENext Club and learned just how many girls are actually interested in STEM. They just needed a community to foster it!

“I wanted to change that gender gap and bring

awareness about the endless possibilities in STEM. Without my club, there wouldn't be a place for girls to be encouraged into this field at my school."



Her most memorable experience was building and launching a rocket with her club! She says that SWENext has helped her gain leadership skills as she's been able to lead hands-on projects and influence others interested in STEM.

In addition to SWENext, she also runs cross country, plays piano, loves to read, bake and write in calligraphy! She aspires to one day be an Electrical Engineer or a Computer Scientist. Keep aspiring, advancing, and achieving Jackie and the West Ranch SWENexters!

Interested in having your SWENext Club or Club Officer highlighted in the monthly SWENext Newsletter? Email Haley, the SWENext Clubs Reporter, at [hla37@cornell.edu](mailto:hla37@cornell.edu)!

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## Wonder Park

The National Girls Collaborative Project (NGCP) is thrilled to be working with Paramount Pictures on the release of their latest animated feature film, [Wonder Park](#).

Wonder Park tells the story of a magnificent amusement park where the imagination of a wildly creative girl named June comes alive. One magical day, June is running through the woods to find her way home where she discovers an old rollercoaster car and climbs inside. She suddenly finds herself in Wonderland, an amusement park she had created in her mind and put aside. All of her rides and characters are brought to life but are falling into disarray without her. Now, with the help of her fun and lovable park characters, June will have to put the



wonder back in Wonderland before it is lost forever.

Celebrate #WonderPark by sharing the creative side of #STEM! Experience the wonder of imagination and #making when @WonderParkMovie hits theatres March 15th!

Ten NGCP Collaboratives will be hosting free screenings of WONDERPARK, each followed by an impactful “Girls and Women in STEM” panel facilitated by the NGCP WONDERPARK Film Screening Toolkit. Screening locations are as follows: Atlanta, GA; Austin, TX; Brooklyn, NY; Dallas, TX; Hartford, CT; Los Angeles, CA; New York, NY; Oakland, CA; Portland, OR; San Diego, CA. Registration links for these locations will be up soon on the [NGCP Events page](#), so check it out!

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## SWENext Social Media Challenge with a Chance to Win a \$25 Amazon Gift Card!

March is Women’s History Month, and all of us at SWE want to celebrate the impact women have had on the development of the field of engineering. **Which females have inspired you to pursue engineering and science?** Whether they’re people you see every day or women you’ve read about online, we want to know who has inspired you.

[Check out the Smithsonian’s slideshow](#) on notable women in science for this year’s Women’s History Month if you need some inspiration. And then share with us!

Post it by April 4th on our closed [High School SWENext Facebook group page](#). **#BeThatEngineer** The winning SWENext will be selected by random from all entries and will win a \$25 Amazon gift card.

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## Did you know? SWENext is on YouTube!

Subscribe at [SWENext YouTube Channel](#) to make sure you don’t miss any new upcoming videos.

Featured SWE member engineers this month on the SWENext YouTube Channel:

- [Allison Wright, Aerospace Engineer](#)
- [Rebecca Mohilo, Electrical Engineer](#)





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[www.swe.org](http://www.swe.org) | #BeThatEngineer