

SWE NEXT



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Welcome back to another exciting year of SWENext! I'm Fiona Redmond, Electrical Engineer, returning as the SWENext Newsletter reporter for the 2018-2019 school year.

This year we'll continue to promote STEM opportunities for you and explore more fields within engineering, including some you may not be as familiar with! Hopefully this will help broaden your knowledge and interest within engineering. Don't forget to join our SWENext Facebook Group and look for the monthly social media challenges!

What is Marine/Ocean Engineering?

How many of you spent time at the beach this summer? It's a great place to relax, play, and enjoy the cool water in the summer heat. But while you were enjoying your vacation, did you consider the way engineering connects to the ocean?

There is so much unknown to us about the world under the sea, but thanks to Ocean and Marine Engineers we have been able to learn more. Ocean Engineers can work on a variety of projects. Some design and build ships and other sea craft, while others design instruments that can help us study and explore the ocean. Still others work to optimize



the coastline and prevent pollution from the nearby communities. [Check out this site](#) or [here for additional information](#).



A Day in the Life of an Ocean Engineer

SWENexters: Meet Eva Roche, a civilian Ocean Engineer for the U.S. Navy. Find out how she got there, a project she's working on, and how you can #BeThatEngineer on SWE's [All Together](#) Blog.

Register for Invent it. Build it.

High school SWENexters: now's the time to [register for Invent it. Build it.](#), our largest hands-on engineering event that takes place in Minneapolis, MN on October 20, 2018. Everyone will learn about engineering clubs, camps, after-school programs, colleges, and competitions at the STEM EXPO. [See our 2018 exhibitors here.](#) High school girls will create a robotic hydraulic arm with women engineers lead by [Ariel Biggs](#).



[Register today >>](#)

Happy National Hispanic Heritage Month!

This month we celebrate National Hispanic Heritage Month. The theme for 2018 is "Hispanics: One Endless Voice to Enhance our Traditions." Let's celebrate by learning about a few Hispanic Women who have made great contributions in engineering and technology.

Dr. Ellen Ochoa earned her Ph.D. in Electrical Engineering from Stanford University and has three patents in the field of optics and image processing. While working for NASA, she was selected as an astronaut. She was the first Latina in space, and flew in space four times, logging nearly 1,000 hours in orbit. She is currently the Director of the Johnson Space Center, the first Hispanic director. Learn more about this awesome engineer by [reading her bio here.](#)



Vanessa Galvez works as a Civil Engineer in New York City. She is working on a project to effectively manage runoff in the city with a network of 'bioswales.' She studied Civil



Engineering at New York University and was inspired to this work after seeing the tragedy of Hurricane Katrina. You can also [learn more about her work here](#).

Last year, the *All Together* Blog featured Scarlin Hernandez who works on the James Webb Telescope project for NASA at the Space Telescope Science Institute in Baltimore. She helps test ground system software used to command and control the spacecraft in orbit. Revisit her story by [reading her interview here](#).



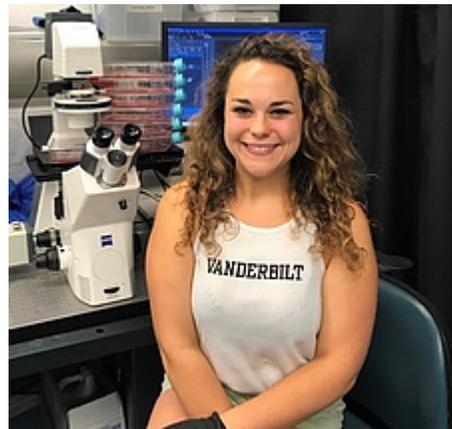
Stephanie Castillo is the Executive Director of [Latina Girls Code](#), a Chicago-based program providing education and resources to young Latinas (between the ages of 7 and 17) interested in technology. With workshops, hackathons, and weeks-long programs on technology languages and entrepreneurial skills, Latina Girls Code aims to fill the diversity gap in STEM.

[Gain additional details on Hispanic Heritage Month by visiting here.](#)

SWENext Clubs Corner

Hi! Welcome to a new monthly feature, SWENext Clubs Corner! My name is Haley Antoine and I am the SWENext Clubs reporter. I am a senior majoring in Biomedical Engineering and minoring in English at Cornell University in Ithaca, New York.

I am originally from San Diego, California where my love of engineering flourished on an all-girls FIRST Tech Challenge team that I founded at my high school. I had incredible female mentors that inspired me to continue pursuing engineering in college.



At Cornell, I joined the Society of Women Engineers (SWE) section there because of my desire to be surrounded by a group of like-minded women, committed to getting out into the community and sharing STEM with young students. I've held leadership positions in Cornell SWE such as Girl Scout Day Chair and Co-Outreach Director, and I am now one of the Co-Presidents. I also mentor two local FIRST Robotics Competition teams and am a Club Advisor for three local SWENext Clubs.

I'm not focused on engineering, all the time, though. I am also a competitive Irish dancer, and love hiking, being outdoors, singing, reading, and my dog!

My advice to a future leading lady in STEM is this: You have to be your own advocate. Being in a STEM field isn't easy, it takes hard work, and you have to be the one to push yourself along. Seek out and take opportunities when they come to you. Don't forget to remind yourself that you are riding on a smoother road that groundbreaking women paved before you. So don't forget to lift others up as you go along your path. And when you get to where you want to be, return to the communities who built you up—your high school, your soccer team, your robotics team, your Girl Scout Troop, etc.—to make sure that no girl gets left behind.

Here's the first club we are featuring: **Clovis North High School SWENext Club.**



What do video games, robotics, computer-aided design (CAD), 3-D printing, the Intel Museum, and the NASA Ames Research Center all have in common? They were all a part of the "STEM Camp for Girls" that Clovis North High School SWENext Club in Fresno, California organized for girls in grades 6th through 8th this past July!

This SWENext Club was founded in 2016 to encourage young women to explore STEM fields. Computer science teacher and club advisor, Mary Allen, noticed that young ladies comprised merely 20% of computer science courses and the school's robotics team. "SWENext was a natural fit to increase those numbers," according to Mary, and she was right.

The club now has 36 members spread out over grades 8 through 12. One of the most exciting aspects of this club is the opportunity for club members to interact with their industry partner, Bitwise, which facilitates collaboration between start-up companies and small businesses in engineering and technology. SWENexters are inspired by female company leaders and entrepreneurs who are forging their way in fields traditionally dominated by men. One SWENexters even got the chance to work for Bitwise while attending college!

Interested in having your SWENext Club highlighted in the monthly SWENext Newsletter? Email Haley at hla37@cornell.edu!

How to Start a SWENext Club

Many of you may be wondering how you can start a SWENext Club in your area, and we want to make that easy for you. Check out [SWENext Clubs 101](#) to learn more.

To register for a SWENext Club, you must have a SWE member as an advisor. Your teacher can serve as an advisor by joining SWE for a reduced rate as an [Educator Member](#). Or find your [local SWE section](#) to contact SWE members near you.

Questions about SWENext Clubs? Contact us at swenextclubs@gmail.com.

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

Hispanic Heritage Month runs from September 15 to October 15. SWE does a lot of work to support the success of women of all backgrounds in engineering, and we'd love to know about the great work Hispanic engineers you know are doing.

Is there a Hispanic female engineer that you've read about or met that is doing great technical or STEM outreach work? Tell us about her!

Post it by September 28 on our closed [High School SWENexter Facebook Group](#). Don't forget to use #BeThatEngineer. The winning SWENexter will be selected by random from all entries and will win a \$25 Amazon gift card.

Shout Out to June's SWENext Social Media Challenge Winner

The lucky winner for June's Social Media Challenge is Kaitlyn S. We challenged you to take a photo with and/or share a story about a time you interacted with a professional or collegiate SWE member.

Kaitlyn posted this story and picture:

"I have spoken with Jonna Gerken (FY18 president of SWE) several times about her experiences as a woman in engineering, both in person and over Skype. I interviewed Jonna for my APUSH final project on women in STEM. We discussed her journey in becoming an engineer and problems faced by women in STEM fields today. I also spoke with many members of SWE at the WE Local Providence event where I was able to participate in the SWENext Design Lab as an Engineer's Assistant!"



Congratulations, Kaitlyn! Your \$25 Amazon Gift Card is on its way!

Did you know that SWENext is on YouTube!

Subscribe at SWENext YouTube Channel to make sure you don't miss any new upcoming videos.



130 East Randolph Street, Suite 3500
Chicago, IL 60601

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