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## What is Architectural Engineering?

Looking around any major city, you'll notice buildings of all shapes and sizes. Some maintain a typical box-like structure, while others take on more unique styles. Some are over 100 stories high!

Buildings can be major feats of engineering. After architects develop their dream design, Architectural Engineers make it happen. They determine how to maintain the structural integrity of the building while bringing the architect's design to life.

Architectural Engineers need to have a good understanding of available materials. This allows them to determine which materials are appropriate for the design in question, or whether adjustments to the design need to be made. There are only about 20 Architectural Engineering programs in the US, but without them, we wouldn't be able to create the beautiful skylines we know and love today. [Click here to learn more about Architectural Engineers.](#) You can also find more on the [UT Austin School of Engineering website.](#)

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## Day in the Life of an Architectural Engineer



Meet Lauren Boyle, an Architectural Engineer with Southland Industries. 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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## SWENext Community Awards – Apply now!

Do you live near St. Louis, Denver, or 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.

### Deadlines for submitting your application:

- St. Louis: Application due February 9, 2019 - [Apply here.](#)
- Denver: Application due February 23, 2019 - [Apply here.](#)
- Bellevue, WA: Application due March 16, 2019 - [Apply here.](#)

We can't wait to read about all the great things you are doing!

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## Happy Black History Month!

This month we celebrate Black History Month. The theme for 2019 is **Migrations**. Let's celebrate by learning about three black women who are making their own history through contributions in engineering.

### **Kameelah Samar Majied, PMP**

Kameelah Samar Majied is the Associate Director of Project Management for Merck & Co. Inc. She earned both a Bachelors of Engineering in Mechanical Engineering and a Masters in Management Science from Stevens Institute of Technology in Hoboken, NJ. Over her 18-year career, Kameelah has also worked for Bristol-Myers Squibb, L'Oreal USA, Limitedbrands (Bath & Body Works), Astor & Black Custom Clothiers and Johnson & Johnson.



Kameelah holds her Project Management Professional (PMP) Certification. She credits her career path to having a transferable skill set that is deeply rooted in engineering fundamentals. Her multi-industry career – pharmaceuticals, luxury cosmetics, consumer products/retail and high-end apparel industries – makes her a highly sought-after industry professional.

Kameelah has been a member of SWE for 20 years, and is an active speaker and workshop presenter at SWE conferences. Her other professional affiliations include the National Society of Black Engineers (NSBE), the Project Management Institute (PMI) and Blacks in Retail Action Group (BRAG).

Kameelah enjoys traveling globally, mentoring students, being the favorite aunt to her niece/nephews, supporting friends and living out her life's purpose.

### **Whitney Gaskins, Ph.D.**

Dr. Whitney Gaskins is the Assistant Dean of Inclusive Excellence and Community Engagement at the University of Cincinnati College of Engineering and Applied Science. Dr. Gaskins is the only African-American female faculty of the College of Engineering. She earned a B.S. in Biomedical Engineering, an M.S. in Quantitative Analysis, and a Ph.D. in Biomedical Engineering and Engineering Education from the University of Cincinnati.



As Assistant Dean, Dr. Gaskins revamped the summer bridge program to increase student support

and retention, and strengthened partnerships with local school districts. She went into engineering education because she realized that students, especially women and minorities, are under an elevated level of stress that the educational system needs to fix. Working in education allows her to use her training to work on her passions of helping the community and fighting injustice.

In 2009, she founded The Gaskins Foundation, a non-profit, whose mission is to educate and empower the African American community. She was named the 2017 K12 Champion by the National Association of Multicultural Engineering Program Advocates. And during Black History Month, Dr. Gaskins is being recognized as a leader by the Cincinnati Chamber of Commerce as part of their “We are Making Black History” series.

**[See and hear Dr. Gaskins talk about this honor.](#)**

### **Abena Kwakyi**

Abena Kwakyi is an Overtime & Performance Analyst in the Aviation Department for the Port Authority of New York & New Jersey. Abena has a B.S. in Manufacturing Engineering from Boston University and a Masters of Engineering in Integrated Product Development from the Stevens Institute of Technology.



Abenda grew up in Georgia and Ghana. At first, she wanted to be an astronaut, but she also loved solving problems and designing, which led her to decide to pursue engineering.

One of her favorite projects as an engineer was working with the electrical maintenance staff at an airport to increase efficiency during their daily work. She interviewed management and maintenance supervisory staff regarding areas for improvement, and she accompanied the electricians and learned of all the work they do. Through this study she was able to recommend changes and implement best practices to increase ease and efficiency during the maintenance tasks and mitigate overtime.

She participates annually in Remembrance through Renewal, where employees give back to the NY/NJ communities through service projects in memory of 9/11. She also volunteers with Getting Out, Staying Out which is a non-profit organization fighting recidivism in New York. And at least once a month, she attends a soca and afro-beat workout dance class because she loves to dance.

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## **Happy Engineers Week!**

This month we celebrate Engineers Week, from

February 17th through 23rd.



The theme for this year's Engineers Week is **"Engineers: Invent Amazing."** This is a reminder of all the amazing contributions engineers have brought to our world, from cars, to rockets, to medical technology and much more. What amazing inventions do you see in your daily life?

[Click here to learn more about Engineers Week >>](#)

Here are two things you can do from your own home to celebrate Engineers Week:

- **Girl Day Capitol Hill Briefing:** Hear from a panel of role models, college students, and girls about messages that inspire, and learn why young women persist in engineering. **Date: Wednesday, February 13th from 12:00 to 1:00pm (ET, USA) - [RSVP today!](#)**
- **Future City's 2019 Finals:** Tune in and watch the top five teams compete for the championship. Be inspired by the teams' creative solutions to this year's challenge: Powering Our Future. You'll be amazed by their clever ideas and compelling presentations. The winners will be announced at approximately 12:00pm. **Date: Tuesday, February 19th from 8:30am to 12:30pm (ET, USA) - [RSVP today!](#)**

[Check out some of the cool events going on in your area >>](#)

Hope you have an amazing Engineers Week!

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## SWENext Clubs Corner

In Clubs Corner, we feature a SWENext Club every month. This month we are featuring the **Gems of STEMM SWENext Club**.





The SWENexters of Chaminade Julienne Catholic High School in Dayton, Ohio, really know how to shine! The Gems of STEMM SWENext Club was founded in August of 2018 by Grace, an outstanding senior at the school, as her Girl Scout Gold Award project.

The 7th through 12th grade girls participate in semi-monthly meetings featuring a local engineer or STEMM professional who speaks about their own educational and career background, then interacts with the girls who attend to do a hands-on activity related to her career field. Some of the professionals that have come to visit the GEMMs have been [Industrial Engineers](#), [Materials Engineers](#), Biologists, Chemists, Geologists, Paper Scientists, [Software Developers](#) and more! During [National Engineers Week](#), a program is also offered to explore engineering at their local Metro Library.

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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## **Are You an EngineerGirl Ambassador? – Admission Deadline is March 1st!**

An EngineerGirl Ambassador designs, develops and implements a project in her local community that will encourage younger girls – particularly those with little access to engineering role models – to think about engineering and engineering careers and give them practical experience in engineering design.

An EngineerGirl Ambassador is a female, U.S. high school student who is actively involved in promoting engineering to younger students in her community. She has participated in engineering-related lessons or activities and is confident about

explaining engineering principles to younger students. Ambassadors receive training and support from the National Academy of Engineering (NAE) in collaboration with the Society of Women Engineers (SWE) through the EngineerGirl website.

Potential EngineerGirl Ambassadors [submit detailed information about their proposed project](#) along with [supporting documents](#). Ambassadors are selected by the EngineerGirl steering committee based on the feasibility, potential impact and evidence of support for their proposal.

The submission deadline is March 1, 2019. [Learn more here.](#)

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

February is Black History Month, and we want to celebrate the work of black engineers and scientists. One notable black woman in STEM was Marie M. Daly, who was the first African American woman to receive a Ph.D. in chemistry in the United States. She studied how foods and diet can affect heart and circulatory system health.

What notable black scientists and engineers have inspired you, whether they're famous, or you know them personally? Share with us!

Post it by March 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:

- [Alexis Burns, Biomedical Engineer](#)
- [Lorna Holt, Mechanical Engineer](#)





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