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Keeping up with SWENext DesignLab

Are you excited for the upcoming **SWENext DesignLab** season? This is a one-day engineering event that is coming soon to Tulsa, Phoenix, Milwaukee, Portland Oregon, and Providence RI. Keep your eye on this section of the SWENext newsletter each month for SWENext DesignLab updates and announcements.

Registration for SWENext DesignLab in Tulsa, Oklahoma on January 27 is open!

Micro-grant Alert

SWE plans to award $25,000 in micro-grants to support the participation of SWENexters in **eCYBERMISSION**, which is a web-based STEM competition for teams of at least 3-4 students in grades 6-9 grade. Register by **December 13** as an **eCYBERMISSION** team and stay tuned for a SWE email announcing the grant!

Register Today >>

Biomedical Engineering

Each month, we are featuring a different type of engineering. This month, it's Biomedical Engineering!

Biomedical Engineering is the integration of human biology with many different types of engineering, such as mechanical, electrical, chemical, materials, and computer science engineering. It's all about improving human health and health care! Biomedical engineers work with doctors, therapists, and researchers to design systems and products, such as artificial organs, artificial devices that replace body parts, and machines for solving medical problems like pacemakers.

Age has no limits in discovering your interests. Learn as Design Squad's Wes, a future engineer, uses engineering to make a 3D-printed hand for his teacher's son, Max.

If you are interested in exploring a career in Biomedical Engineering, **watch this video**

for a few more highlights.

A Day in the Life of Biomedical Engineer Kim Daloise

Meet Kim Daloise, a biomedical engineer who works for Bayer. Kim's biomedical engineering journey began at the University of Pittsburgh where she earned a Bachelor of Science in Bioengineering with a minor in Chemistry in 2015. Find out more about how she got to where she is now and how you can #BeThatEngineer on **SWE's All Together Blog**.

EngineerGirl Essay Contest

Do you like to write? Many women engineers do. If you do, read on!

Every year, the EngineerGirl website sponsors a contest dealing with engineering and its impact on our world. This year, the writing contest deals with ways to improve your community. **Visit here** to learn more about the writing contest. **The submission deadline is February 1, 2018.**

***Fly with Maya*, by Kate Slattery, Sparks an Interest in Engineering for Girls Around the World!**

Written by an engineer, ***Fly with Maya*** is an accessible and engaging story of a young girl who sets out on a global adventure and learns different engineering skills to solve problems she encounters along the way. To learn more about *Fly with Maya*, **visit here**. To purchase a copy of the book, **click here**.

SWENext Engineering Challenge with a Chance to Win a Freebie

This month's challenge has us thinking like Biomedical Engineers. We want to challenge you to

design a convenient way for someone using crutches or a wheelchair to carry small personal items. People who are wheelchair bound or on crutches have their hands occupied most of the time, so designing a carrier for them gives them the ability to move their items without as much outside help from others.

To start, consider the following:

- What items do people carry with them day to day?
- What are some different types of “carriers”? What kinds of “carriers” do you use every day?
- How could these “carriers” be adapted for use by people in wheelchairs or on crutches?
- Should your “carrier” be for crutches or for a wheelchair?
- How will you attach your “carrier” to the crutches or wheelchair?
- Now you can take a few minutes to sketch out your design on a sheet of paper, using a pencil and a ruler. After you make a sketch, go ahead and build your carrier from cardboard, construction paper, cardstock, paper cups, rubber bands, string, tape, or other materials you have around the house. Get creative!

Once your carrier is done, test it out. Think about how easy it is to use. Be proud of your design and new skills as a Biomedical Engineer!

Share a picture of your carrier and along with a sentence describing its best feature. Each month, a lucky winner will be selected from the submissions to win SWENext swag. Don't miss the chance! All it takes is a few minutes and a great picture.

Please email your entries to swenext@swe.org by November 30. For more instructions for this activity, **visit this site**.

Shout Out to Last Month's SWENext Engineering Challenge Winner

The lucky winner for October's monthly challenge is Angel, age 10. She observed that a plane without slits in its wings flew farther than a modified plane with slits. That’s because the slits increased the drag force acting on the paper plane.

Great job and congratulations, Angel! Your awesome freebie is on its way.

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www.swe.org | #BeThatEngineer