

Energy Is Everywhere!

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



STEM Mentoring

January 15, 2015



Webinar Series sponsored by
Housing and Urban Development,
Department of Energy and
Department of Education

- Welcome and Intro to Webinar Series (DOE)
- STEM Mentoring Cafes as a Model
- FabFems Project
- US2020 Finding and Resources for Mentoring
- Q & A

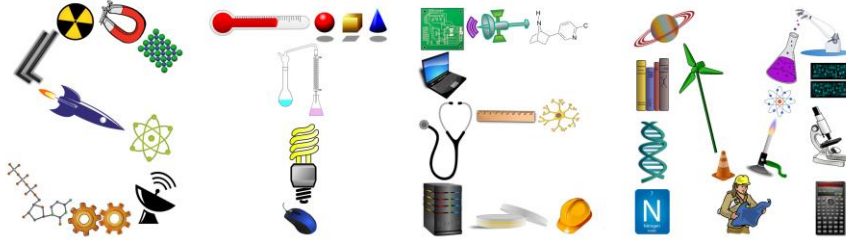
You are on mute! Use your webinar bar to fill out poll or chat to send in a question.



Email Erin.Twamley@ee.doe.gov about
the

Energy is Everywhere Webinar Series

- STEM mentoring is key to increasing diversity in STEM careers
- Resources are key to mentor and mentee relationships
- STEM Mentoring Cafes can serve as a model for engaging STEM professionals and middle school youth in STEM
- Housing and Urban Development (HUD) and Department of Energy (DOE) are excited to provide you with these STEM mentoring resources



www.energy.gov/STEM

POC: annemarie.horowitz@hq.doe.gov

Mentoring Café











- We recruit 5th through 8th grade students and their teachers to spend a few hours engaged in quick show-and-tell chats with federal employees in STEM careers.
- The federal STEM professionals move table to table to share how they got their start in STEM, what interests them the most about their job, what exciting projects they have currently, and why STEM matters to our society.
- Teachers are given take-home material to continue STEM learning in the classroom.
- Federal participants **commit to serving** an additional 20 hours annually as a mentor to students in their community.



Join a STEM Mentoring Cafe


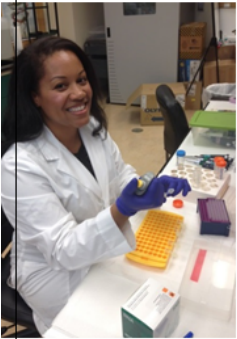

Location	Federal Mentors
Denver Museum of Nature and Science (Denver, CO)	National Renewable Energy Laboratory
Chicago Museum of Science and Industry (Chicago, IL)	Argonne National Laboratory
Children's Museum of Houston (Houston, TX)	NASA Johnson Space Center
Columbia REACH (Tri-Cities, WA)	Pacific Northwest National Laboratory
National Museum of Nuclear Science and History (Albuquerque, NM)	Sandia National Laboratory
Intrepid Sea, Air, and Space Museum (New York City, NY)	NASA Goddard Space Center
TBD, Washington. D.C.	17+ federal agencies
Museum of Science and Industry (Tampa, FL)	TBD

Role Model Toolkit Focus Areas

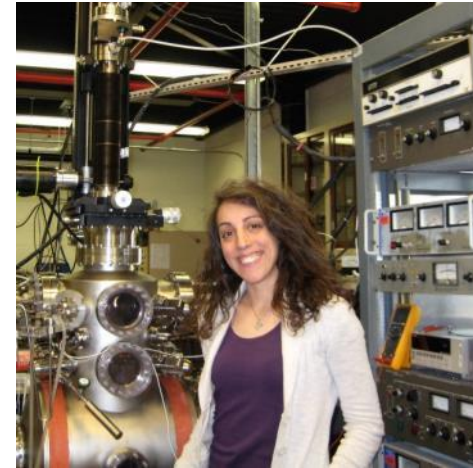
			
The Role Model Impact	Breaking the Ice	Sharing About You	STEM Messaging
			
Technobabble	Crowd Control	Engineering Design Process	Career Exploration
		Check back soon for new materials!	
The Art of Questioning	Giving Girls Feedback		

<http://techbridgegirls.org/rolemodelsmatter/>

Follow up Resources

	<p>Dell, Rebecca</p>	<p>Rebecca.dell@hq.DEPartmentofEnergy.gov</p>	<p>Department of Energy</p>	<p>Work in energy policy, training in climate science</p>	
	<p>Dunams, Detiger</p>	<p>Detiger.dunams@ars.usda.gov</p>	<p>Agricultural Research Service, USDA</p>	<p>Molecular Biology, Microbiology, Genetics, Parasitology</p>	
	<p>Durham, Latisha</p>	<p>Latisha.durham@navy.mil</p>	<p>NAVAIR</p>	<p>Program Management/System Engineering, background in Computer and Systems Engineering</p>	

Over 230 profiles of women who work in STEM at the Department of Energy, sharing their personal stories.



www.energy.gov/womeninSTEM



You Can Make A Difference!

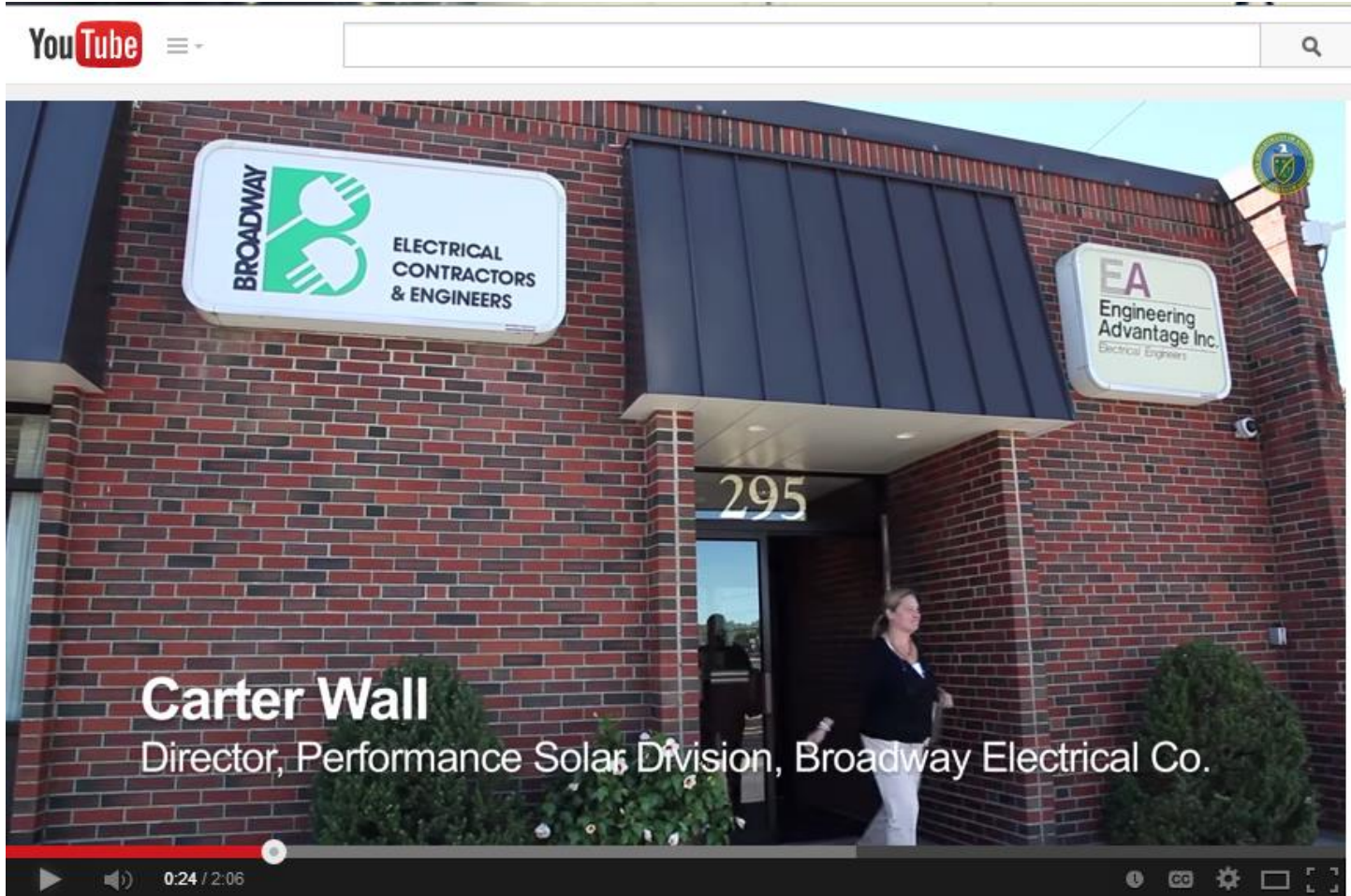
Read Suzanne Singer's story and find STEM role models in our Women @ Energy series:
www.energy.gov/womeninstem





"It is motivating to have professionals in STEM fields that we can relate to. The Women @ Energy project is doing a great job publicizing successful women who pursued STEM career paths, and reinforcing the reality that diverse experiences and thinking is needed to cultivate new and creative ideas."

Suzanne Singer

- 1) What inspired you to work in STEM?
- 2) What excites you about your work at the Energy Department?
- 3) How can our country engage more women, girls, and other underrepresented groups in STEM?
- 4) Do you have tips you'd recommend for someone looking to enter your field of work?
- 5) When you have free time, what are your hobbies?



Women in STEM -- Why We Need All Hands on Deck

 U.S. Department of Energy


5,718

 35  0

The FabFems Project



*Nimisha Ghosh Roy, Network Manager
January 15, 2015*



Share your past. Spark a future.

The **National Girls Collaborative Project (NGCP)** brings together organizations that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).

www.ngcproject.org



Share your past. Spark a future.

FabFems Website

FabFems is an international, online, searchable directory of women STEM professionals interested in outreach to girls

Audience:

- Role Models
- Girl-Serving Programs
- Parents and Girls

www.fabfems.org



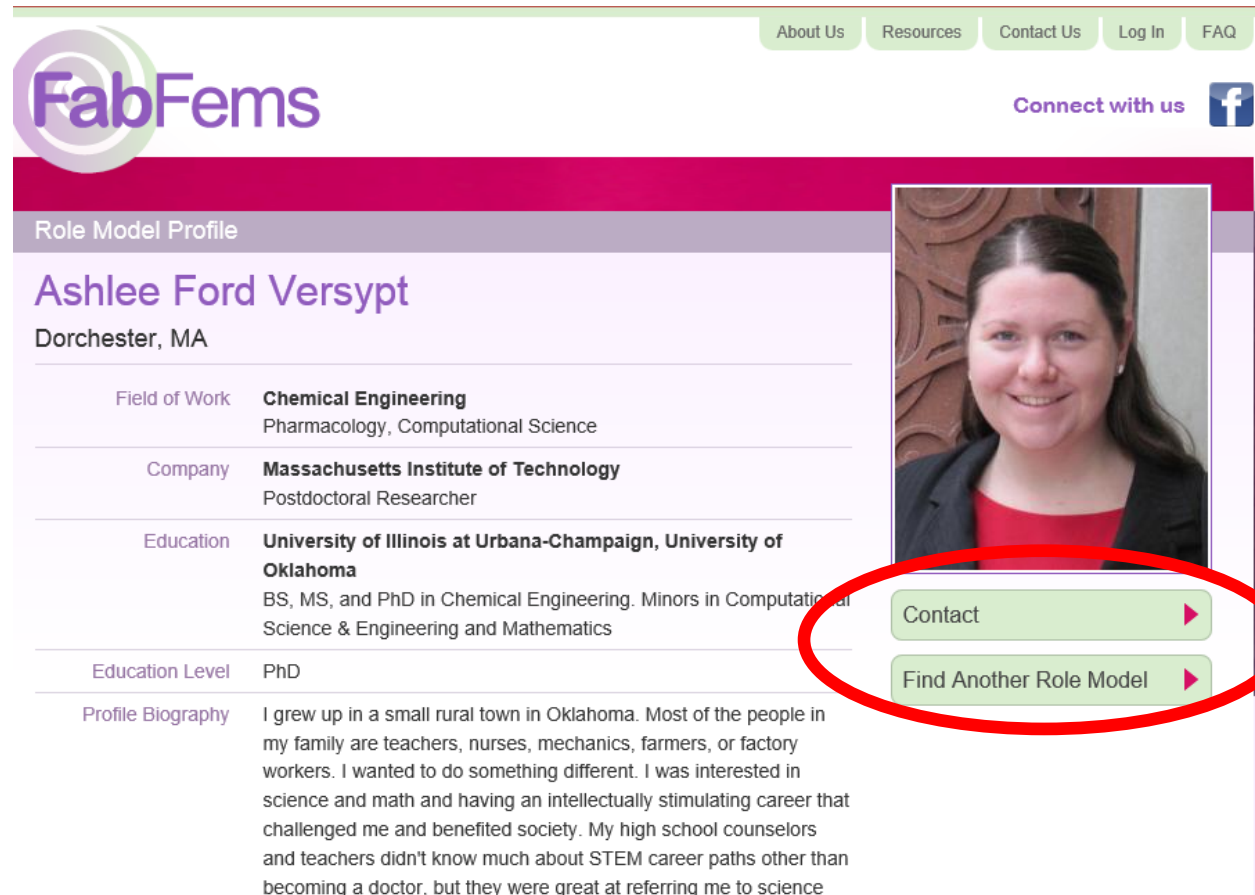
The screenshot shows the FabFems website homepage. At the top, there is a navigation bar with links for "About Us", "Resources", "Contact Us", "Log In", and "FAQ". The FabFems logo is prominently displayed on the left. To the right, there is a social media link that says "Connect with us" next to a Facebook icon. The main content area features a large purple background with the text "Share your past. Spark a future." in white. Below this text are two buttons: "Find a Role Model" and "Become a Role Model", both with right-pointing arrows. On the right side of the main area, there is a photograph of a smiling woman with dark hair, wearing a purple shirt, holding a green folder. Below the main area, there is a section titled "About FabFems" with a small image of two women in a lab setting. The text in this section describes FabFems as a directory of women in STEM professions and encourages users to create profiles to help girls. A link "Learn More About the FabFems Project" is provided at the bottom of this section.



Share your past. Spark a future.

Search & Connect

- Keyword
- City
- State
- Interest
- Ethnicity
- Student Age
- Field of Work
- Type of Visit
- Affiliations



The screenshot shows the FabFems website interface. At the top, there is a navigation bar with links for 'About Us', 'Resources', 'Contact Us', 'Log In', and 'FAQ'. The FabFems logo is on the left, and a 'Connect with us' button with a Facebook icon is on the right. The main content area features a 'Role Model Profile' for Ashlee Ford Versypt, located in Dorchester, MA. The profile includes a photo of Ashlee and a table of her background information:

Field of Work	Chemical Engineering Pharmacology, Computational Science
Company	Massachusetts Institute of Technology Postdoctoral Researcher
Education	University of Illinois at Urbana-Champaign, University of Oklahoma BS, MS, and PhD in Chemical Engineering. Minors in Computational Science & Engineering and Mathematics
Education Level	PhD

Below the table is a 'Profile Biography' section with a paragraph of text. To the right of the profile is a photo of Ashlee. At the bottom right of the profile, two buttons are circled in red: 'Contact' and 'Find Another Role Model', both with right-pointing arrows.



Share your past. Spark a future.

Various Ways to Engage



- Online (Email, Skype, Google Hangouts, etc)
- Job shadowing
- Field trips
- Visits to your site/location

Next Steps

- **Review** the FabFems [Resource](#) page
- **Connect** with FabFems
- **Invite** female STEM role models to join the directory
- **Stay connected** via FabFems [Facebook](#) page and the NGCP [e-newsletter](#)



info@fabfems.org



Share your past. Spark a future.

US2020

Igniting Moments of Discovery

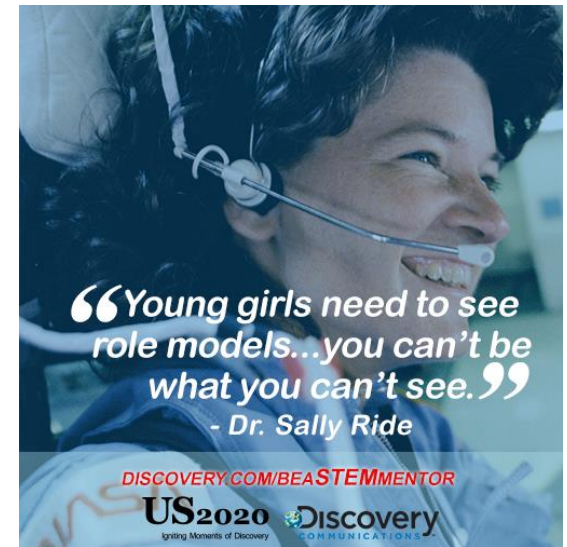
US2020 – STEM Mentoring

US2020 Founding Partners



Case for the STEM Mentoring Movement

- By 2022, the U.S. will need more than nine million STEM professionals to fill projected job openings.
- The country's STEM workforce remains 74% male and 85% White/Asian.
- Most teens do not know anyone who works in STEM and do not understand what people in STEM careers do.
- Minority girls have less exposure to STEM and less adult support for pursuing STEM fields.



US2020: Our Mission

To dramatically scale the number of STEM professionals mentoring and teaching students through hands-on projects, with a focus on serving underrepresented youth.



High Impact STEM Mentoring

1. Experiential

Students interested in STEM are more likely to have participated in hands-on STEM activities.

2. Sustained

The positive benefits of a mentoring relationship grow the longer the relationship is sustained.

3. Focused on underrepresented students

Black and Hispanic students are much less likely to know someone in a STEM career.

“...US2020 aims to stimulate a movement – a cultural shift – that generates millions of moments of discovery for millions of underserved students. We hope you will join with us in bringing this vision to life.”

Sanjay Mehrotra - CEO of SanDisk
(US2020 Co-Investor)

US2020

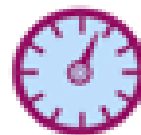
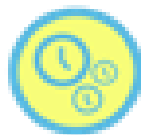
High Impact STEM Mentoring

4. Measurable

Gains in student interest in STEM subjects persist long after hands-on activity participation has ended.

5. Led by STEM professionals

Students engaged with STEM professionals have more confidence in their capabilities and more knowledge of STEM careers.



Public Housing Authority STEM Mentoring Resources

Volunteer Recruitment

- [US2020 Matching Platform](#)
 - Program Posting Link --
https://us2020.org/create_program

Other Potential Partners

- [Boys and Girls Clubs of America](#)
- [FIRST](#)
- [Girl Scouts of USA](#)
- [4-H](#)
- [STEM Premiere](#)
- [MentorNet](#)

STEM Mentoring Training Tools

- [TechBridge Toolkit](#)

US2020 Platform – Zip Code Search

94118

Mentorship opportunities near you



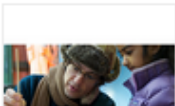
Citizen Schools-Teach what you know and ...

Apprenticeships are hands-on learning projects led by experts, like you. Alongside an educator, you will transform kids into scientists, architects, engineers, etc. These projects transform lives, inspire careers, and set students on a path of learning.



Project Lead The Way-Partner with educat...

In the Controls unit, students learn to do basic programming to design and control mechanisms, concluding with student teams designing a unique solution to a given problem. Mentors will guide students by helping with project planning and execution.




Maker Ed-Maker Ed's mission is to develo...

Mentors engage with students on a student-chosen project, which range from LED tutus to a pedal-powered trolley and mobile spy

Twitter

Tweets Follow

 **US2020 RTP** @STEMinthePark now
Thanks for giving great advice to mentors!
bit.ly/1wbcm4U @movementofyouth
@helloworldskies @ncfirstrobotics @US_2020
@durhamtech
Retweeted by US2020
Expand

 **US2020** @US_2020 1h
Visit US2020.org to become a #STEM mentor, and be #SomeoneWhoMatters in a young
Tweet to @US_2020

US2020 Platform – Mentoring Opportunity

Mentoring Opportunity

Count Me In!

Teach an Apprenticeship with Citizen Schools

Teach what you know and love as a Citizen Teacher!



Impact Badges

[Learn more](#)



What

Apprenticeships are hands-on learning projects led by experts, like you. Alongside an educator, you will transform kids into scientists, architects, engineers, etc. These projects transform lives, inspire careers, and set students on a path of learning.

Who

Anyone with a passion or expertise they want to share with young people can become a Citizen Teacher. You will have a group of ~20 students who will range in age from 10 to 14 years old and may be in the 6th, 7th, or 8th grade.

When

Typically 90 minutes a week over the course of 10 weeks. With options on Tuesday, Wednesday, or Thursday, starting between 3:30 and 4:30 pm.

Where

Opportunity Hosted by



Citizen Schools

Help students reach their potential, volunteers make a difference, and schools and communities re-imagine what's possible.

Citizen Schools partners with public middle schools in low-income communities to provide a longer learning day. Citizen Schools develops deep partnerships with schools that put young adults on track to succeed.



US2020

Thanks You

SCIENCE TECHNOLOGY ENGINEERING MATH

Thank you!

- Join us for our next webinar on February 19th at 3 pm ET
 - How to join the Better Buildings Challenge