

Women In Energy Presentation



U.S. DEPARTMENT OF
ENERGY

Office of Economic
Impact and Diversity



DOMESTIC OVERVIEW
April 11, 2018

Kimberly C. Ballou

Rome, Italy

- **Expose, Engage, and Inspire** historically underrepresented and underserved populations in STEM fields for economic empowerment, especially in the energy fields
- Employ Girls of Energy, STEM Mentoring Cafés, STEM Role Model training, and Smartphone Microscope as tangible tools to translate the science and technology at our National Labs to educators, students, and communities

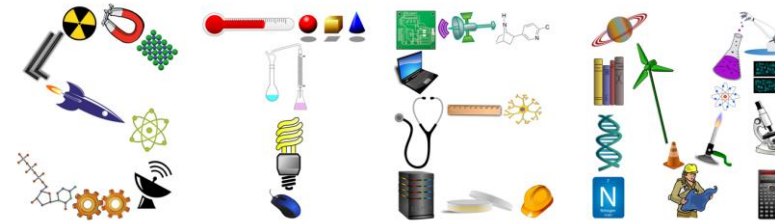


STEM Mentoring Cafés

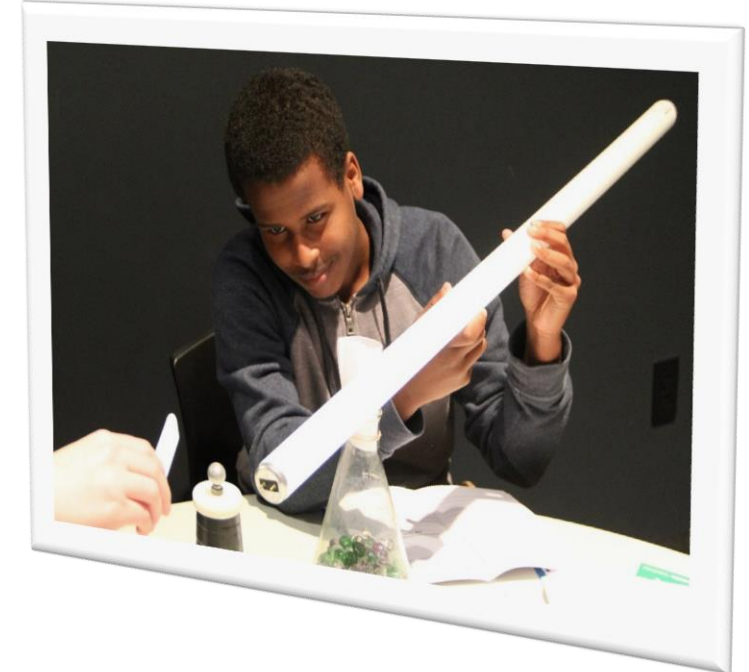


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Mentoring Café



energy.gov/diversity/stem-mentoring-cafe
melinda.higgins@hq.doe.gov

Purpose:

The primary purpose of the STEM Role Model Training is to empower STEM professionals from across the Department of Energy to effectively prepare colleagues to serve as confident role models, particularly for historically underrepresented students in STEM fields.

It will also provide a space for building cross-Department connections and relationships that may be useful in future STEM outreach-related activities.

Facilitators will equip participants with research-based training, tools and strategies to take back and apply in their communities.



Goodall's research has left an enormous impact on such fields as primatology, anthropology, and human physiology.

Images on the left/right: STEM professionals at the U.S. Department of Energy

<https://energy.gov/diversity/listings/women-energy>

#girlsofenergy



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Come explore, learn,
and change our
world.

Mission-related Outreach



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Energy Challenges



Girls of
Energy



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#microSTEM

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INNOVATIVE TECHNOLOGIES CHALLENGE



HOW CAN YOU MAKE A SMARTPHONE INTO A MICROSCOPE?

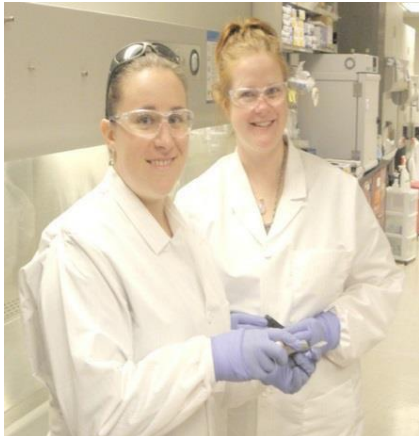


Photo from Pacific Northwest National Laboratory

Summary: This activity exposes students to a new technology called a Smartphone Microscope. Students will gain an understanding of the historical context of microscopes and their function, collect data (images) and brainstorm how this technology might be used in all STEM (science, technology, engineering and math) disciplines and careers.

Background: At the heart of innovation, creativity meets function. How did two of our engineers at the Department of Energy's Pacific Northwest National Laboratory located in Richland, Washington come up with their design for a Smartphone Microscope? Well—they were trying to solve a problem!

- Compare and contrast the terms reflection and refraction
- Use the microscope and collect data (images), experiment with different types of specimens and analyze the different structures from patterns in the data
- Brainstorm other uses for the microscope
- Identify STEM careers that could use this microscope as a tool (Be sure to check the Women@Energy site to investigate different STEM careers at <http://energy.gov/diversity/listings/women-energy>)

Introduction: In the mid 1600's, van Leeuwenhoek (pictured) used his imagination and curiosity to construct a single lens microscope. Most microscopes we use now are called compound microscopes which mean they use more than one lens to magnify an



<https://availabletechnologies.pnnl.gov/technology.asp?id=393>