



@ Bloomfield High School

Girls Gone Wild For Science!

Girls Gone Wild For Science

"I want every little girl
who's told she's bossy,
to be
told
instead
that she has
leadership
skills."

~ Sheryl
Sandberg



Unique
Teaching
Resources

Friday May 26th, 2017
8 AM to 2 PM



WESLEYAN
UNIVERSITY



UConn
SCHOOL OF ENGINEERING





Girls Gone Wild For Science

Harris Sr. AgriScience and Technology Center

May 26th, 2017

8:00a.m. Welcome & Registration

8:30am - 9:20am Workshop

Group A - Session 1 - Prosthetic Limbs: UConn Engineering (LeBlond's Room) (20 Students)

Group B - Session 1 - App Inventor—Southern CT Club (Rodrigues's Room) (20 Students)

Group C - Session 1 - Everyday Chemistry (Aquatics Lab) (20 Students)

Group D - Session 1 - Dressing Up With DNA (Wesleyan University Physics Department (Animal Lab)(20 Students)

Group E - Session 1 - Coffee Shop Crime - Forensic Investigation - EAST CONN (McMillan's Room) (20 Student)

9:25am - 10:15am Workshop

Group B - Session 2 - Prosthetic Limbs: UConn Engineering (LeBlond's Room) (20 Students)

Group C - Session 2 - App Inventor—Southern CT Club (Rodrigues's Room) (20 Students)

Group D - Session 2 - Everyday Chemistry (Aquatics Lab) (20 Students)

Group E - Session 2 - Dressing Up With DNA (Wesleyan University Physics Department (Animal Lab)(20 Students)

Group A - Session 2 - Coffee Shop Crime - Forensic Investigation - EAST CONN (McMillan's Room) (20 Student)

10:20am - 11:10am Workshop

Group C - Session 3 - Prosthetic Limbs: UConn Engineering (LeBlond's Room) (20 Students)

Group D - Session 3 - App Inventor—Southern CT Club (Rodrigues's Room) (20 Students)

Group E - Session 3 - Everyday Chemistry (Aquatics Lab) (20 Students)

Group A - Session 3 - Dressing Up With DNA (Wesleyan University Physics Department (Animal Lab)(20 Students)

Group B - Session 3 - Coffee Shop Crime - Forensic Investigation - EAST CONN (McMillan's Room) (20 Student)

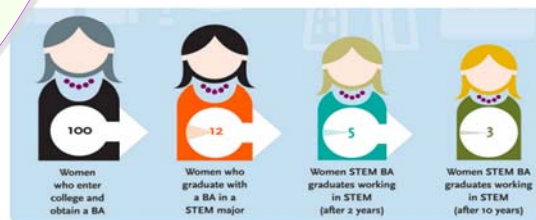
11:20am –11:55am Lunch (AgriScience Lobby)

BHS Auditorium

12:15pm - 12:30pm Elaine Choung-Hee-Lee Ph.D—Department of Kinesiology, UConn

12:35pm - 1:05pm Keynote Speaker - Dr. Linda Barry, MD, FACS - Dept. of Surgery - UConn Health

1:20pm - 2:00pm Panel Discussions - Presenters and Community Professionals



Our Vision and Theory of Action Drive Everything We Do in Bloomfield Public Schools

Vision Bloomfield Public Schools will be a high-performing district with a positive climate of inclusion, an expectation of competitive academic achievement, and a culture of meaningful parent and community engagement.

Theory of Action The Bloomfield Public Schools will successfully implement a comprehensive and collaborative accountability system characterized by data-supported planning and decision-making practices at every level, leading to strengthened adult work throughout the district. As a result, learning for all students will substantially improve, and will be sustained over time.

Workshop Descriptions

App Inventor : The Computer Science Club provides a unique and fun environment for people interested in learning about new technology, programming, or any aspect of the digital world. How did Flappy Bird get so popular so quickly? Think you can make a better version of Angry Bird? Try this app workshop and see if you can build an app your friends can use.

Coffee Shop Crime :Uncover the wonderful world of forensics science. Students will be introduced to forensics science while examining physical evidence from a "coffee shop crime" to reveal the criminal. In addition, students will learn about the various aspects of forensics and the many career options in the field.

Dressing Up With DNA : See the normally invisible substance of life and begin to comprehend the meaning of their own genetic makeup. In this activity, students will extract their DNA and make a cool helix-shaped necklace. From cell structure to genetics to the chemistry of life, molecular biology is in everyone's past, present, and future.

Everyday Chemistry : Ever wonder what the C₆OH... or the phenyl... labeling is on your conditioner means or how you get the shine in your favorite gloss. Everyday Chemistry will show you how its done. The periodic table just got sexier.

Prosthetic Limbs : Student teams investigate biomedical engineering and the technology of prosthetics by creating lower-leg prosthetic prototypes using various materials. Each team demonstrate its device's strength and consider its pros and cons, giving insight into the characteristics and materials biomedical engineers consider in designing artificial limbs

Keynote Speaker

DR.Linda Barry, MD, FACS - Assistant Professor UConn Health - Dept. of Surgery



Linda K. Barry, M.D., FACS is a board certified liver and pancreas surgeon with a unique background in both clinical and basic science research. As an Assistant Professor of Surgery, Dr. Barry practices and teaches at the University of Connecticut Medical School, as well as holds the position of Assistant Director and Chief Operating Officer of the Connecticut Institute for Clinical and Translational Science (CICATS) at the University of Connecticut, Co-Director for the CICATS Pilot Program for Collaborative Translational and Clinical Research, Director of the Young Innovative Investigator Program, and Director of the CICATS M1 Mentorship Program. Dr. Barry's professional experience and life's work has been in addressing health disparities in health care delivery and research. Her experience as a clinician and researcher enables her to understand the need for translating scientific research into measurable, improved patient outcomes. As Co-Managing Editor of the Journal of Racial and Ethnic Health Disparities, she promotes the academic approach to developing solutions to

address health disparities. She is involved in several such endeavors and community engagement initiatives that promote health and well-being of the underserved populations around the U.S. and within the Greater Hartford region. Her current focus is on the use of mobile technology to address health disparities and to empower patients in order to improve health outcomes. Throughout her career, she has been dedicated to mentoring and recruiting women and underrepresented students into medicine and the field of surgery in particular. Dr. Barry recently received the 2015 Petit Foundation Women in Science Leadership Award awarded to a Connecticut woman working in science, technology, engineering or math (STEM) who also makes a substantial contribution to supporting other women and girls in STEM fields. She cofounded and coordinated the first National Women in Surgery Symposium, which has grown into an international forum now in its sixth year. She has received recognition for her work in promoting STEM educational opportunities for underrepresented students including the 2016 Legends and Leaders Awards -The Edythe J. Gaines Award for Inclusive Education awarded by the Commission for Human Rights and Opportunities and West Indian Foundation Education Award. Dr. Barry has successfully obtained NIH grant and extramural sources of funding for her research as well as published several peer-reviewed articles. She also serves on various academic and community-based committees. Dr. Barry holds a B.A. from Yale University in Psychobiology, and a M.D. from Cornell University Medical



Elaine Choung-Hee Lee, Ph.D. , UConn Department of Kinesiology

Dr. Elaine C. Lee is a tenure-track, Assistant Professor in the Department of Kinesiology, and the Associate Director of the Human Performance Laboratory at the University of Connecticut. Dr. Lee completed her undergraduate and graduate work at the University of Connecticut in Nutritional Biochemistry and Exercise Science. She completed two postdoctoral fellowships at Yale University and Mount Desert Island Biological Laboratory before taking her dream job position as a professor at her alma mater. Dr. Lee's interest in sports and nutrition come from her career as a track and rowing athlete at the Division I NCAA level.

Cassandra Cousins , Clinical Researcher, Regional Medical Center, Hartford Hospital, and Atria Cancer

Research center



Graduate of Morgan State University in Baltimore, MD with a degree in Biology. Initially wanting to become an emergency room physician she discovered a field more intriguing. While interning, and later working for Peninsula Region Medical center in Salisbury MD, she met her first terminally ill cancer patient. Intrigued with the disease and its progressiveness, she began studying the disease and the patient's family and health history which became a pivotal moment in finding her calling. Continuing to work at the hospital as a lab assistant, Cassandra became more familiar with different diseases particularly cancer, HIV/AIDS, Alzheimer's and diabetes.

In 2002 she attended Texas A&M University and acquired a degree in clinical research. Since then she has worked at Peninsula Regional medical center, Hartford hospital, and Atria Cancer Research center. I am determined to help find cures for incurable diseases. *One day at a time, one disease at a time.*" Cassandra Cousins

Amal Abd El-Raouf Ph.D, Professor, Computer Science Southern Connecticut State University



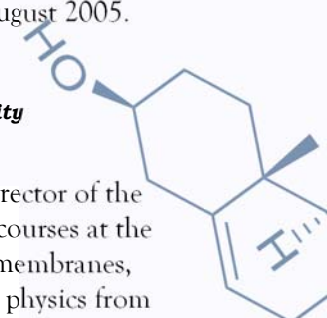
Currently an associate professor in the Computer Science Department, Southern Connecticut State University. She is a member of the Parallel Processing Group, Information and System Department, Electronic Research Institute (ERI), and a member of the Greater Hartford ACM Chapter. Her research interests include Software Engineering, Software Quality, Real Time Systems, Parallel and Distributed Computing, Object Oriented Systems, and Computer Networks. She is a published author in several journals and international conferences in the field of Software Engineering. She received her PhD in Computer Science and Engineering in June 2005 from the University of Connecticut and joined Southern Connecticut State University in August 2005.

Francis Starr, Professor of Physics, Director of the College of Integrated Science Wesleyan University



Francis Starr is a Professor of Physics and Molecular Biochemistry, and is the Director of the College of Integrative Sciences at Wesleyan University. Francis teaches courses at the intersection of physics, biology, and engineering. His research focuses on lipid membranes, glass formation, DNA, polymers, and supercooled water. Francis has a Ph.D. in physics from Boston University, and has published more than 100 scientific research articles.

WOMEN IN SCIENCE - "Science remains institutionally sexist. Despite some progress, women scientists are less represented than similarly qualified men. This discussion will help young ladies understand the gender gap from the cl





Dr. Stacey Watson, STEM Education Specialist & STEM Lab Coordinator, EASTCONN

Currently a STEM Lab Coordinator and STEM Education Specialist at EASTCONN, one of the RESC alliance in Connecticut. Stacey's primary responsibilities include implementing and developing professional development for teachers in the Sciences as well as writing STEM curriculum and coordinating the movement of the mobile STEM Lab. She recently received her PhD in Higher Education Administration with a dissertation focusing on the persistence of minority students in STEM education. Stacey plans on continuing her work in education and believes the more exposure minority student have to STEM education the more prepared students will be for higher education.



Johneilia Bariffe, Chemical Engineering Student, University of Connecticut

Bloomfield High school graduate, and rising junior pursuing a degree in Chemical Engineering at the University of Connecticut, Ms. Bariffe is currently researching different formulas for flame retardants and their abilities to withstand different levels of heat, in a Chemical Engineering lab. Ms. Bariffe is a member of the National Society of Black Engineers, the Pre-Engineering Program as well as other Engineering Diversity and Outreach Center programs, the Louis Stokes Alliances for Minority Participation (LSAMP) Program and the West Indian Student Organization.



Sidney Wimberley, Chemical Engineering Student, University of Connecticut

Ms. Wimberley discovered she wanted to become an engineer after finding out that there are endless possibilities to explore in the world of engineering. Along with her passion for research in biotechnology, which helped her discover the field of chemical engineering. At the University of Connecticut, Sydney is currently a rising sophomore. Her time there has been dedicated to the National Society of Black Engineers, Pre-Engineering Program, and Engineering Diversity and Outreach Center programs. With an interest in the world of polymers, Ms. Wimberley hopes to attend Graduate school after graduating.



Hermana Henry, Mechanical Engineering Student, University of Connecticut

A rising junior and National Society of Black Engineers member, Ms. Henry discovered she wanted to become an engineer after realizing her passion for helping others and her enjoyment in math and sciences. Upon realizing the immense opportunities and doors engineering opens for many people, Ms. Henry quickly became intrigued in the field of mechanical engineering. She plans on using her major to peruse a career in biotechnologies and one day work with prosthetics.



Shaniel Bowen, Student, Biomedical Engineering, University of Connecticut

Ms. Bowen is a BHS alumni with a masters in Biomedical Engineering and is currently pursuing a PhD in Bioengineering at the University of Pittsburgh. Her research involves using human modeling and computer simulations to help develop rehabilitation and assistive devices.



Omar Abid, Graduate Student, IT Technology, Southern Connecticut State University

Omar Abid, is a graduate student in computer science and Technical Support Analyst at Southern Connecticut State University. Mr. Abid began studying computers at an early age and strongly believe his passion for computer science is due to the mentors that encouraged him. He hopes to serve as a mentor and instill the same inspiration in young adults so that they too can enjoy the profession the way he does.

Additional Presenters

Daria Morgan, Undergraduate Student, IT Technology, Southern Connecticut State University

Jessica Boe, Student, IT Technology, Southern Connecticut State University

Jewel Wright, Student, IT Technology, Southern Connecticut State University

re still paid less, promoted less frequently, win fewer grants and are more likely to leave research
classroom to the laboratory to the professional realm and how women overcome every day."

DEEP SEA FARMER



Today, you can be an Environmental Scientist or Water Resource Specialist to create innovative solutions for growing food in the harshest of environments, such as deserts. In the future, you could be a Deep Sea Farmer who works to solve environmental challenges such as sustainable food production and responsible sourcing of nourishment.

In the United States, only 11% of working engineers are women.

Women and Girls in Science



European Commission

On LinkedIn today, 17% of jobs in Environment fields and 15% of jobs in Food require STEM skills.

"I have to fight very hard to show that I am a good scientist as well as a good mother,"



We are STEM

"Shout out to the girls who do more than just upkeep on their nails and hair, but also upkeep on their mind"

Careers in Sustainability and Green Jobs

Agroforester

Air Quality Forecaster

Aquarist

Aquatic Biologist

Biofuel Production Operator

Chemical Engineer

Ecotourism Guide

Energy Manager

Environmental Public Relations Specialist

Geophysical Engineer

Geoscientist

Hydrographic Surveyor

Landscape Architect

Nuclear Engineer

Petroleum Engineer

Petrologist

Resource Manager

Soil Conservation Technician

Solar Engineer

Turf Scientist

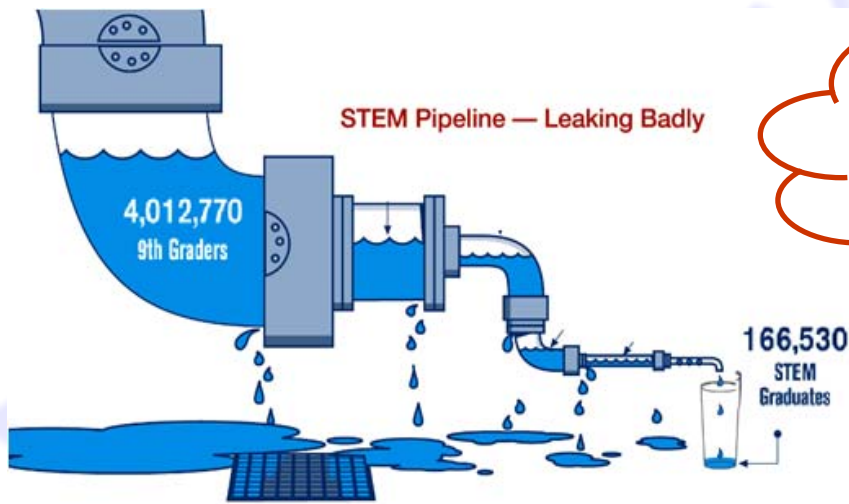
Water Resource Engineer

Watershed Science Technician

Wetland Specialist

Wind Energy Engineer





Source: NCES Digest of Education Statistics; Science & Engineering Indicators 2008

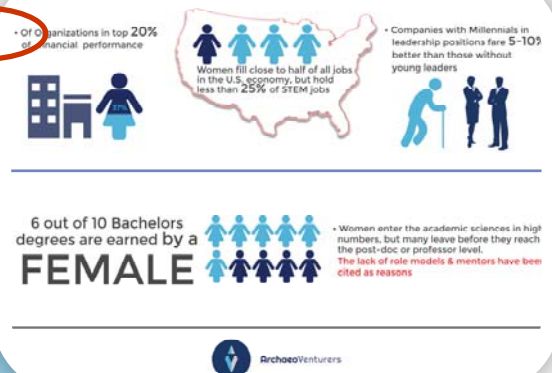
Only 4 percent of 9th graders eventually graduate with STEM degrees 10 years after entering high school. For African Americans students, the yield is between 1 and 2 percent.

The diversity problem starts in K-12



Women who try AP Computer Science in high school are ten times more likely to major in it in college, and Black and Hispanic students are seven times more likely.

Help me to see a clear path!



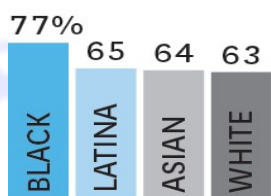
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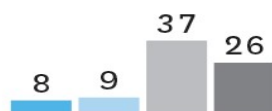
Challenges

PERCENT OF U.S. WOMEN IN STEM WHO REPORT...

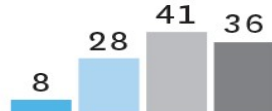
having to provide more evidence of competence than others to prove themselves.



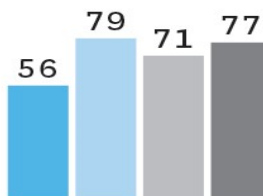
that colleagues have suggested they should work fewer hours after having children.



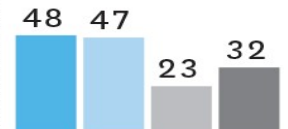
that at work, they find themselves pressured to play a stereotypically feminine role.*



that women in their work environments support one another.



they've been mistaken for either administrative or custodial staff.



*SUCH AS "OFFICE MOTHER" OR "DUTIFUL DAUGHTER."

SOURCE JOAN C. WILLIAMS, KATHERINE W. PHILLIPS, AND ERIKA V. HALL

HBR.ORG



WE ARE ALL WONDERWOMEN!

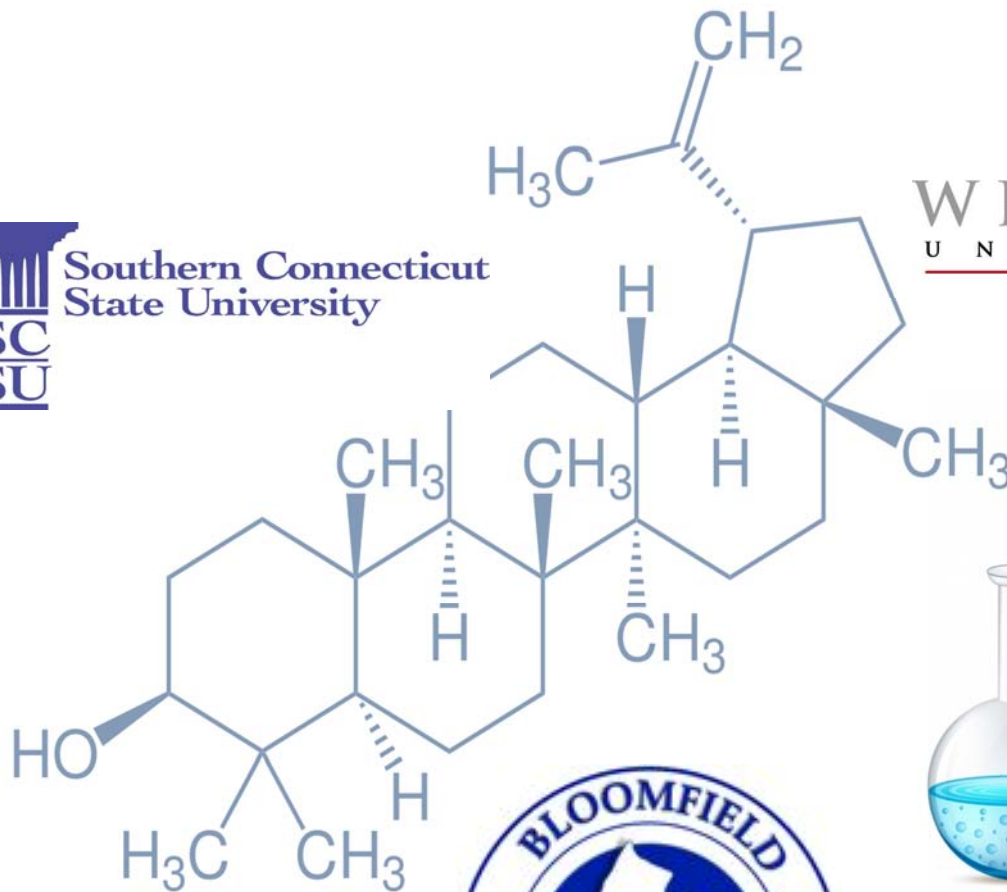


Paul H. Canty



Southern Connecticut
State University

WESLEYAN
UNIVERSITY



UConn
SCHOOL OF ENGINEERING



education
Technology
students
Engineering
integration
Mathematics
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