

2023 Women in Mathematics, Science and Technology Conference  
April 4, 2023

**Presenter Information and Presentation Synopses**

**SESSION 1 (10:15-10:45 a.m.)**

**[The Fungus Among Us! Use Provided Indoor Environmental Quality \(IEQ\) Tools to Determine Air Quality Conditions within the Room](#)**

**Lisa D. Bolin, Manager of Environmental Health & Hygiene, High Environmental Health & Safety Consulting, LTD.**

**Biography:** BS in Biology and completion of the Baccalaureate Respiratory Therapy program - worked as a Registered Respiratory Therapist (RRT) in a hospital setting, providing in-patient assessments and various treatments for pulmonary related health impacts.

BS in Occupational Safety & Health Management - working as a Certified Industrial Hygienist (CIH) and Certified Safety Professional (CSP), primarily anticipating, recognizing, evaluating, and controlling various environmental and safety hazards.

**Areas of Expertise:** Assessment of chemical, biological, and physical environmental health hazards, to determine appropriate corrective actions to prevent health impacts to occupants.

**Presentation Synopsis:** *Discover the art and science behind IEQ investigations using typical investigative tools. Use STEM to determine room ventilation rates, filtration, and moisture conditions (indicators of a potential mold hazard) and the art of interpreting collected data.*

**[The Nursing Profession - Making A Difference](#)**

**Dr. Michele Chronister, DNP, CRNP, IBCLC, Assistant Professor and Nurse Practitioner, Millersville University and WellSpan Health**

**Biography:** Earned BSN from the University of Pittsburgh in 1993 and MSN in 2014 and DNP in 2020 from Millersville University. Currently an Assistant Professor in the Wehrheim School of Nursing and a Family Practice Nurse Practitioner for WellSpan Health System caring for women and infants with a specialization in Lactation.

**Areas of Expertise:** Nurse Educator and Healthcare Provider

**Presentation Synopsis:** *Becoming a nurse is not only a great career but training as a nurse also opens up a world of opportunities. There are a great number of different paths within the nursing profession, allowing everyone to choose their own career goals. When deciding on your own journey, you'll have to decide how long you want to be in school, the kind of work you want to pursue, whether you want to specialize in a certain area of medicine, and what level of leadership responsibilities you're looking to have.*

**[Behind the Scenes at WGAL – My Adventures as a Broadcast Meteorologist](#)**

**Christine Ferreira, Meteorologist, WGAL-TV**

**Biography:** Christine Ferreira is the morning meteorologist at WGAL-TV. You can catch her broadcasts Monday through Friday from 4:30-7 AM and from 7-9 AM on the Today Show. She graduated with a B.S. in Meteorology from Millersville University, and is a member of the American Meteorological Society, where she holds the Certified Broadcast Meteorologist (CBM) seal.

**Areas of Expertise:** Daily forecasting, Broadcasting

**Presentation Synopsis:** *Come travel with me as I explain how I learned to forecast the weather in four states. I'll show you the preparation and planning that go into crafting a forecast for hundreds of thousands of viewers per day.*

**[From Mice to Microbes: A Story about a Career in Science that Includes Travelling the World, Working on a College Campus, and Wearing Cool Jackets!](#)**

**Gail E. Gasparich, Ph.D., Provost and Senior Vice President for Academic Affairs, Millersville University**

**Biography:** Gail E. Gasparich, Ph.D. has been the Provost and Senior Vice President for Academic Affairs at Millersville University since July 2021. Prior to that she served as the Dean of the College of Arts and Sciences at Salem State University and then Professor of Biological Sciences and Associate Dean for the Fisher College of Science and Mathematics and Acting Assistant Provost at Towson University. She obtained a B.S. in Biology from The College of William and Mary and a Ph.D. in Microbiology from The Pennsylvania State University. After doing a Postdoctoral fellowship at the U.S. Department of Agriculture she began her academic career at Towson University in 1996. She has taught a wide-range of courses including courses for graduate students, majors (lower and upper level), non-majors (Core and General Education) and for Honors students. Her research focus has been on microorganisms of the genus *Spiroplasma*. She has mentored seven M.S. graduate and more than 70 undergraduate students. Dr. Gasparich has published over 65 peer-reviewed journal articles (many with students as coauthors) and has been awarded over 20 extramural research and training grants totaling over \$9.5M from NSF, NIH, the MD State Department of Education and the Massachusetts Department of Higher Education as PI or Co-PI. She has extensive experience in curricular reform, recruitment, and retention initiatives to increase the number of women and marginalized students who earn college degrees.

**Areas of Expertise:** Microbiology (*Spiroplasma*s), Genetics, Women in Science, STEM Career paths, Diversity in STEM

**Presentation Synopsis:** *I started out thinking I would become a pediatrician, but two projects (one with mice and one with microbes) changed my life. I will share how my research with Spiroplasma microbes allowed me to work with colleagues around the world and many students in my own lab. Finally, I will discuss how my commitment to increasing the number of women and marginalized scientists helped me transition to leadership roles on campus.*

**[Saving the World Through Ecological Design: Use Your Voice to Empower Action!](#)**

**Lydia Martin, Owner, Hidden Valley Design & Consulting / Let's Go Outdoors**

**Biography:** Lydia Martin works as an ecological design consultant teaching private and public landowners how to restore and manage their properties for the benefit of people and wildlife. She manages 10 acres of woodlands, wetlands, pond, and meadow habitats at "Hidden Valley" with her husband and family in southern Lancaster County. Additionally, she works for Let's Go Outdoors, a local organization committed to bringing youth and families together through everyday outdoor activities. For more than 15 years she's pursued her love of conservation through various nonprofit and for-profit entities. She is passionate about promoting access and education to Lancaster's diverse community about trails, green space, and waterways in central Pennsylvania.

**Achievements & Education:**

- 2019 Penn Future's Woman of Environmental Education Award dedicated to educating her community about sustainability and environmental policy
- 2021 Lancaster County Community Foundation Baldwin Leadership Award to advance women and diverse voices of conservation
- Harrisburg Area Community College – Communications
- Millersville University – General Coursework
- Penn State Extension Master Gardener
- Pennsylvania Horticulture Society Tree Tenders
- Pennsylvania Master Naturalist

**Areas of Expertise:** Adaptability, Administrative Skills, Communications & Engagement, Creativity & Design, Grant Writing, Natural Resource & Watershed Management, Plant Community Knowledge, Project Management, Teamwork

**Presentation Synopsis:** *Take the environmental science challenge and journey into the positive impact and benefits of ecological design integrating lessons and research in forestry, biology, soil science, hydrology, and technology. Then use your skills and experience to invite people from your community to learn about nature and get outdoors!*

## SESSION 2 (10:55 to 11:25 a.m.)

### [GEOPHYSICS - How to Find What You Want to Hit or Miss Before Digging, Drilling, or Building](#)

**Felicia Kegel Bechtel, MSc, PG, Senior Geophysical Advisor, RETTEW**

**Biography:** Felicia Bechtel is a Senior Geophysical Advisor at RETTEW, with more than 30 years of experience in surface, marine, and borehole geophysics consulting. Prior to her current role, Felicia served as RETTEW's Geophysics Service Area Director for four years, and was the founder and President of Enviroscan, Inc. for 25 years. She is currently responsible for business development and strategy implementation, geophysical technical training/presentations for clients and organizations, proposal design, and QA/QC technical review of all geophysics-related projects. She also helps integrate geophysical applications with RETTEW's other engineering, surveying, and safety groups.

Felicia holds a BA in Geology from Bryn Mawr College and a MSc in Structural Geology from Brown University.

**Areas of Expertise:** Geology, Geophysics, Business Planning, Marketing, Client Management, Project Management, and Presentations/Communications.

**Presentation Synopsis:** *Geophysics, the earth-science equivalent to medical radiology, helps detect and delineate potential targets or issues underground or underwater before they reach the ground surface, or are exposed by construction or maintenance activities. Surprises cost time and money and may have safety and liability consequences. Geophysics allows early detection of features such as shallow rock, developing sinkholes, buried utilities, unmarked graves, contamination plumes, potential well locations - things to know about before a shovel or backhoe ever hits the ground.*

### [When You Can't Breathe, Nothing Else Matters - A Career in Respiratory Therapy](#)

**Elaine Chrissos, MS, RRT, Program Director, Millersville University Program in Respiratory Therapy, Millersville University/UPMC Lititz**

**Biography:** BS in Education Millersville University  
Certificate of Completion in Respiratory Therapy Millersville University  
Master of Science in Respiratory Care Leadership Northeastern University  
Registered Respiratory Therapist for 34 years having worked in the Lancaster and Philadelphia areas  
Director of Clinical Education Millersville University Program in Respiratory Therapy 17 years  
Program Director Millersville University Program in Respiratory Therapy 2014 to

**Area of Expertise:** Respiratory Therapy

**Presentation Synopsis:** *I will discuss where RTs work, the options that are available in the profession, salaries, and I'll add the value RTs presented during the COVID-19 pandemic. I can add a story or 2 related to my clinical experience.*

### [The Strange and Spooky Quantum Nature of Light](#)

**Amy Lytle, Associate Professor of Physics, Franklin & Marshall College**

**Biography:** 2001 BA in Physics, The College of Wooster, Wooster OH.  
2008 PhD in Physics, The University of Colorado at Boulder, Boulder, CO.  
2008-2010, Visiting Assistant Professor of Physics, Hamilton College, Clinton, NY.  
2010-2017, Assistant Professor of Physics, Franklin & Marshall College, Lancaster, PA  
2017-present, Associate Professor of Physics, Franklin & Marshall College, Lancaster, PA

**Area of Expertise:** Nonlinear and quantum optics, physics education research

**Presentation Synopsis:** *I'll introduce you to a few of the strange aspects of quantum mechanics by describing how light behaves. Work on showing quantum entanglement (what Einstein dismissively called "spooky action at a distance") was in fact the basis for the 2022 Nobel Prize in Physics!*

## SESSION 2 (10:55 to 11:25 a.m.) - CONTINUED

### College Professor: What to do When You're Interested in Everything

**Dr. Erin R. Moss, Professor of Mathematics, Millersville University**

**Biography:** B.A. in Mathematics and Theatre from the University of North Carolina at Asheville; M.S. in Actuarial Science from the University of Connecticut; Ph.D. in Mathematics Education from Purdue University

**Area of Expertise:** Mathematics Education

**Presentation Synopsis:** *Curiosity and an active mind can make choosing a college major difficult, but they are great assets for establishing an interesting and meaningful career. As a professor of mathematics education, I am more than just a teacher—I get to be a writer, a designer, a performer, and an advocate. The diverse experiences I gathered along the way prepared me to take full advantage of the opportunities this career provides to continue learning and exploring new passions.*

### A Slice of Science: Gluten and the Biochemistry of Breadmaking

**Melissa A. Mullen Davis, Assistant Professor of Chemistry, Millersville University**

**Biography:** Dr. Mullen Davis is an Assistant Professor in the Chemistry Department where she teaches Biochemistry and Introductory Chemistry courses for non-majors. She earned her BA in Chemistry and Spanish from Colby College and her PhD in Chemistry from Penn State University. After completing her Postdoctoral Fellowship at the Cleveland Clinic Lerner Research Institute, Dr. Mullen Davis taught at the College of Wooster before coming to Millersville. In addition to teaching, she mentors students working on independent biochemistry research and studies how in-class activities and course structure help students learn chemistry and biochemistry and is passionate about promoting gender equity in STEM. Dr. Mullen Davis lives in Delaware with her husband, two children, and their dog.

**Areas of Expertise:** Chemistry, Biochemistry

**Presentation Synopsis:** *We will discuss the biochemistry of making bread including what gluten is and why some people can't eat it. I will also share my pathway to being a biochemist and about the time I spend being an advocate for gender equity in STEM. We will also talk about the different career paths people interested in biochemistry can follow.*

## SESSION 3 (12:40 to 1:10 p.m.)

### [Do You Want a Great, Highly Paid Job - Fresh Out of College - That's Always in Demand?](#)

**Nancy Adams, Consultant, Nancy Adams Consulting**

**Biography:** Nancy Adams held many different positions during her 33-year career with the Occupational Safety and Health Administration (OSHA), including field industrial hygienist, Area Director, Deputy Regional Administrator, Deputy Director Safety Standards, National Ergonomics Coordinator, and Director of Management Systems and Operations. She also served as the Executive Assistant to seven Assistant and Acting OSHA Assistant Secretaries.

Upon retiring from Federal service in 2008, she began a consulting career working with the National Institute for Occupational Safety and Health (NIOSH) Energy Employee Occupational Illness Compensation Program (EEOICPA), and its Advisory Board on Radiation and Worker Health. In 2011, she began work with NIOSH's World Trade Center Health Program (WTC Health Program) and its Scientific and Technical Advisory Committee (STAC).

Nancy received a Bachelor of Arts degree in Biology in 1973, from Millersville University, a Master of Science degree in Occupational and Environmental Health Sciences, in 1995 from Hunter College of the City University of New York, New York, N.Y., and is a 2004 graduate of the Federal Senior Executive Service (SES) Development Program.

**Area of Expertise:** Occupational Health and Safety

**Presentation Synopsis:** *Overview of the field of occupational safety and environmental health (OSEH) career. You can call Millersville OSEH graduates many things but never Unemployed!*

### [From Applied Mathematics to App Development: The Many Hats of a Professor](#)

**Stephanie Blanda, Assistant Professor of Mathematical Sciences, Lebanon Valley College**

**Biography:** Stephanie Blanda is an assistant professor in the Mathematical Sciences Department at Lebanon Valley College. She is a Project NExT fellow and is passionate about teaching and mentoring undergraduate students. Her research interests include machine learning, deep learning, data science, and mathematical education. She earned her B.S. with a double major in mathematics and computer science at Lebanon Valley College, and her Ph.D. in mathematics with a minor in computational science from Penn State University.

**Areas of Expertise:** Machine Learning, Deep Learning, Computer Science, Data Science

**Presentation Synopsis:** *In my short time as a professor, I've learned that flexibility and willingness to keep learning is a key to success. Though I graduated with a PhD in Mathematics, I find myself working primarily in the areas of computer & data science. In this presentation, I will share the many twists my academic journey has taken and how being flexible has allowed me to keep trying new things - including the work I've recently done in the areas of app development and deep learning.*

### [Engineers are Women, Too!](#)

**Joan V. Greenslade, Manager, Testing & Analysis Laboratory, Armstrong World Industries**

**Biography:** BS in Chemical Engineering. Majority of career at Armstrong with experience in Exploratory Research, New Product Development, Business and Operations support, Cost reduction projects, Sales support and training, Manufacturing, Project Management and Management of AWI's physical testing lab.

**Areas of Expertise:** Project Management, Acoustics, Process Development

**Presentation Synopsis:** *Why engineering? Perception vs. reality. Tackling the social myths about Engineers*

## SESSION 3 (12:40 to 1:10 p.m.) - CONTINUED

### Nursing – Unlimited Opportunities

**Cayleigh Minter, DNP, CRNP, CWCN-AP, Nurse Practitioner - UPMC Pinnacle, Assistant Professor of Nursing - Millersville University**

**Biography:** 2008 Bachelors of Science in Nursing from York College of Pennsylvania  
2014 Masters of Science in Nursing from Millersville University  
2020 Doctor of Nursing Practice from Millersville University  
2021 Certified Wound Care Nurse- Advanced Practice Certificate

**Areas of Expertise:** Nursing Education, Nursing, Wound Care

**Presentation Synopsis:**        -My personal academic pathway  
  -The various degrees and opportunities within nursing

### Studying the Brain – with Coding & Math??

**Christina M. Weaver, Ph.D., Professor of Mathematics, Franklin & Marshall College**

**Biography:** Dr. Christina Weaver is a first-generation college student who earned her Bachelor of Science in Mathematics from Mount St. Mary's University (MD), and her Ph.D. in Applied Mathematics and Statistics from Stony Brook University (NY). As a Professor of Mathematics at Franklin & Marshall College in Lancaster, she teaches calculus, applied mathematics, and statistics. She simulates neurons and neural networks to explore how their structure and function change with aging and disease. Dr. Weaver conducted research at Mount Sinai School of Medicine in New York City for six years before coming to F&M in 2009. She and her husband have been married for over 20 years and have two children: one in middle school, one in high school.

**Areas of Expertise:** computational biology, applied mathematics, data science

**Presentation Synopsis:** *Brains are WAY too complicated to understand through experiments with animals and brain tissue alone. Studying "virtual cells" helps our research team uncover how brain changes during aging contribute to lost function on working memory tasks. We will talk about math equations made to fit data from the brains of young and old monkeys, how we simulate those equations on computers, and how I found this career path!*

## SESSION 4 (1:20 to 1:50 p.m.)

### Let's Go Phishing!

**Lea Eller, Application Security Principal Architect, United Airlines**

**Biography:** Lea is a Principal Architect on the Application Security team in the Cyber and Digital Risk organization at United Airlines. She is responsible for embedding cybersecurity best practices and controls throughout the entire lifecycle of all applications and products at United Airlines. Before joining United Airlines Lea worked in the nuclear energy sector working for Exelon Nuclear as a contractor on their Cyber Operations & Network team. After Exelon, Lea continued her cybersecurity career in academic healthcare working for Penn State Health as a Cybersecurity Engineer on their Cyber Defense Operations team where she was lead engineer for endpoint and network security tools as well as security automation (SOAR).

Lea has her B.S. in Computer Science & minor in Mathematics from Millersville University and her M.S. in Cybersecurity and Information Assurance from Penn State University. Lea also has obtained her Security+ and CISSP certifications. She brings both programming and cybersecurity knowledge to the industry.

Lea is located in Lancaster, PA. She lives with her husband Cameron and their two cats Luna & Arlo. Lea and her family love music! Between the two of them, she and her husband play 7 instruments. They also love going to concerts. On the weekends you can find Lea water coloring and gardening.

**Areas of Expertise:** Cybersecurity, Application security, Cyber Defense, Programming, Leadership, Project Management, Architecture, Design, Cybersecurity tool administration, Network Security, Endpoint Security, Security Orchestration & Automation & Response, Cyber Risk, Information Technology, Windows/AIX administration, Python, APIs, Code Analysis

**Presentation Synopsis:** *Join Lea Eller as she talks about her journey of falling into the blended worlds of cybersecurity and programming. Lea will share her guidance and tips on how to navigate the fast-paced world of technology and provide attendees with an inside view of protecting technology at one of the largest airlines in America.*

### Dead Meat Don't Beat! Saving One Heart at a Time

**Breanna Gruver, Program Director- Cardiovascular Technology, Pennsylvania College of Health Sciences**

**Biography:** I graduated from the Cardiovascular Program at Lancaster General College of Nursing and Health Sciences in 2006 and have been actively working in the field ever since. In 2013, I began working at the College as the clinical coordinator for the Cardiovascular Program and then moved into the role of program director in 2019. I graduated with a Bachelor's in Health Science from Pennsylvania College of Health Sciences in 2017 and am currently enrolled in a Master's degree program for Education at Capella University.

I LOVE what I do, both in the lab and in the classroom! A career in cardiovascular technology has been such a fulfilling and rewarding experience

**Area of Expertise:** Cardiovascular Technology

**Presentation Synopsis:** *As cardiovascular technologists, we have the privilege of ensuring hearts are beating properly and efficiently through the use of technology. Thanks to advancements in medical science, cardiovascular technologists play a key role in performing life-saving procedures every day.*

**The Social Coder: How to be a (Remote) Woman in the BevAlc + Tech Industry**

**Emmali Montgomery, Software Engineer, Drizly**

**Biography:** In 2018, I graduated from Millersville University with a degree in Computer Science and a minor in Women's and Gender Studies. During my college tenure, I began working with student-led organizations to expose young kids to coding, motivated by a paper I'd published with Dr. Nazli Hardy and my Honors thesis on the topic. Immediately after graduating, my year-long internship became a Software Engineering position with a small consultancy in Lancaster. Over nearly five years I had learned almost 20 programming languages and had the opportunity to meet so many amazing people across numerous industries! I also earned certifications as a Certified Professional Technical Communicator (CPTC) and Scrum Master. By the time I'd left, my title was Technical Project Manager. I am now a Software Engineer for Drizly where I'm also a DEIB Council Committee Member for Workplace Inclusion, a member of Women@Drizly ERG, and the founder of DrizCoders (teaching non-technical colleagues how to code). Outside of this, I am Head Coach for the Girls Code Club at Lancaster Science Factory, and a volunteer at the Columbia Animal Shelter.

**Areas of Expertise:** React, JavaScript, Ruby on Rails, GoLang services, NodeJS, full-stack software engineering, SCRUM, technical writing, and DEIB in the technical workplace. I also know a lot about cats!

**Presentation Synopsis:** *Follow me through a typical day as a female Software Engineer, working from home in the Beverage Alcohol (BevAlc) and Technology industries. This presentation explores real-world coding problems that I've faced at work, setting boundaries for a healthy work & life balance, and a quick debrief on the steps I've taken to be here today.*

**Pediatrics- Best Job in the World! Watching Children Grow from Newborns to Adults and Being There Every Step of the Way!**

**Vinitha Moopen, MD, Pediatrician, WellSpan Health**

**Biography:** I completed my residency in Pediatrics at the Brookdale University Hospital and Medical Center in Brooklyn, NY.

**Area of Expertise:** Pediatrics

**Presentation Synopsis:** *I will talk about the journey to becoming a physician. We will talk about high school, college, med school and residency.*

**Girl Power: Careers in Energy Engineering**

**Jeannie Sikora, Senior Energy Engineer, CLEARResult**

**Biography:** Jeannie Leggett Sikora's career in energy efficiency spans the agricultural, residential, and industrial sectors. Her main responsibilities at CLEARResult include serving as an agricultural subject matter expert, measuring, and verifying savings for utility energy efficiency programs, and consulting on efficiency program design. Prior to joining CLEARResult, she worked in university cooperative extension on various farm and food processing energy issues, conducted research and outreach for the home building industry and operated a consulting business. Ms. Sikora holds an M.S. in Agricultural and Biological Engineering from Penn State is an author of two home building books, and resides in Lancaster, Pennsylvania.

**Areas of Expertise:** Energy Efficiency, Agricultural Energy Efficiency, Controlled Environment Agriculture, On-farm Biogas Production

**Presentation Synopsis:** *This presentation will give an overview of the energy engineering profession, including career preparation and typical roles and responsibilities of an energy engineer. The program will introduce what energy engineers do and why energy engineering can be an interesting, challenging, and rewarding career choice.*



## SESSION 5 – SCIENCE DEMONSTRATIONS (2:00 to 2:50 p.m.)

### 1. Science Demonstrations - Roddy and Caputo Halls

- a) **Electron Microscopy** – Scanning Electron Microscope demonstration  
Mr. Calvin Montgomery, Departments of Biology and Chemistry, Millersville University
- b) **From Pennsylvania to the Amazon: MU Women Studying Birds, Brain, and Behavior**  
Dr. Brent Horton, Professor, Department of Biology, Millersville University
- c) **Weather Balloon Launch**  
Victoria Fortner and Grace Bachman, Earth Sciences Students

### 2. Technology Demonstrations – Osburn Hall

- a) **Occupational Safety & Environmental Health-Fire Extinguisher Simulator Demonstration**  
Betty-Jo Bowers, Ph.D., MBA, CSP and the American Society of Safety Professionals (ASSP) Student Section
- b) **3D Printing and More – Facets of Applied Engineering**  
Mrs. Cindy L.W. English, MFA and CADD Majors –Sydney Geist, Regan Stump, and Alexis Kellogg
- c) **Construction Management: WE Do More Than Swing Hammers**  
Dominick Manusos, EdD and Construction Management Club
- d) **Industrial Robotics 101**  
John Haughery, Ph.D., CSCE

### 3. Student Panel Discussion – SMC MPR (Room 114)

*Join a panel of Millersville University students as they discuss their studies, research, and discoveries as women looking to enter the fields of science and technology.*