

2024 Women in Mathematics, Science and Technology Conference
April 2, 2024

Presenter Information and Presentation Synopses

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

Phone Versus Fomite: Is My Cell Phone Making Me Sick?

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

Biography: Achieved a Bachelor of Science in Biology from Millersville University, with a Respiratory Therapy internship extension. While working full time in a hospital as a Registered Respiratory Therapist achieved a second degree in Occupational Safety & Health Management from Millersville University. Continued working as a Safety & Health Consultant while achieving several professional designations (i.e., Certified Industrial Hygienist, Certified Safety Professional, Certified Indoor Air Quality Professional, and Certified Ergonomic Assessment Specialist).

Areas of Expertise: Anticipating, Recognizing, Evaluating and Controlling environmental health hazards to ensure safety of employees and the community.

Presentation Synopsis: *Fomite-based disease transmission occurs when microorganisms are deposited on an inanimate object, like a cell phone, and transmitted to a new host. We will discuss infectious disease and evaluate the "cleanliness" of our cell phones using bioluminescence technology to identify and measure Adenosine Triphosphate (ATP).*

Clinical and Beyond: Career Opportunities in Medical Imaging

Mary Fasano, MBA, BS, CNMT, NMTCB(CT), Director of The Johns Hopkins Hospital Schools of Medical Imaging, The Johns Hopkins Hospital

Biography: Earned a BS in Medical Imaging and MBA from Bloomsburg University. Graduate of the Nuclear Medicine Technology program at The Johns Hopkins Hospital Schools of Medical Imaging in 2001. Previous Nuclear Medicine Program Director at Pennsylvania College of Health Sciences. Current Director of The Johns Hopkins Schools of Medical Imaging. Certified in both Nuclear Medicine Technology and Computed Tomography through the Nuclear Medicine Technology Certification Board (NMTCB).

Areas of Expertise: Nuclear Medicine, Allied Health Science Education

Presentation Synopsis: *This presentation will cover my personal career pathway starting in Nuclear Medicine Technology, and how I transformed a clinical career into teaching the science that I love. I will also discuss other medical imaging careers and opportunities to advance beyond the clinical setting.*

Behind the Scenes at WGAL – My Adventures as a Broadcast Meteorologist

Christine Ferreira, Chief Meteorologist, WGAL-TV

Biography: Christine Ferreira delivers the forecast Monday through Friday from 4:30 to 7:00 AM on WGAL News 8 Today. She is a graduate of Millersville University, and she has worked around the U.S. from Texas, to Oregon, to Ohio, and now Pennsylvania.

Areas of Expertise: Forecasting, Broadcast Meteorology

Presentation Synopsis: *Come travel with me, as I explain how I learned to forecast the weather in 4 states. I'll detail the preparation and planning that goes into crafting a forecast for hundreds of thousands of viewers per day.*

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

From Mice to Microbes – One Woman Scientist's Tale

Gail E. Gasparich, 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 been a firm supporter of both graduate and undergraduate research, having 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). She has been awarded 22 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 given over 75 invited talks and conference presentations (many with undergraduate and graduate student co-authors) on research results, STEM career paths, increasing diversity in STEM disciplines and professional development for faculty and postdoctoral fellows. Dr. Gasparich has served as Secretary for the National Board of AWIS, as Division Chair for the American Society of Microbiology, as a member of the Diversity Committee of Sigma Xi, and as treasurer for the International Organization of Mycoplasma. Dr. Gasparich is committed to equity and access and a member of the Salem State University Racial Equity and Justice Institute. She has extensive experience in curricular reform, recruitment, and retention initiatives to increase the number of women and marginalized students who achieve college degrees and securing grants supportive of these initiatives.

Area of Expertise: Microbiology

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, many amazing students in my laboratory, and allow me to move into a leadership role at Millersville University.*

Saving Nature Through Ecological Design & Sowing Seeds of Change

Lydia Y. Martin, Director of Community Engagement, Let's Go 1-2-3 & Owner, Hidden Valley EDC, Hidden Valley EDC & Let's Go Outdoors/Let's Go 1-2-3

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 family in southern Lancaster County. She also works as the Director of Community Engagement for Let's Go 1-2-3, a local nonprofit committed to alleviating barriers to outdoor experiences in Lancaster and Philadelphia. 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.

Areas of Expertise:

- Adaptability
- Administrative Skills
- Communications & Marketing
- Creativity & Design
- Grant Writing
- Natural Resource & Watershed Management
- Plant Community Knowledge
- Project Management
- Teamwork

Presentation Synopsis: *Journey with me and learn how to save nature by using ecological design practices integrating lessons learned, creative abilities, and knowledge in forestry, biology, soil science, hydrology, and technology. Sowing seeds of change in every community means more people have opportunities to discover nature and together we can alleviate barriers to outdoor experiences!*

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

From App Development to Deep Learning: The Many Uses of Computer Science

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 from 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: *As a professor, I've learned that flexibility and a willingness to keep learning are keys to success. Though I graduated with a PhD in Mathematics, I now work primarily in the computer science and data science fields. In this presentation, I will share details of my recent projects in the areas of mobile app development and deep learning.*

When You Can't Breathe, Nothing Else Matters

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

Biography: I have worked in respiratory therapy for 35 years. I graduated from Millersville University with a BS in Education and Certificate in Respiratory Therapy. I hold a Master of Science in Respiratory Care Leadership from Northeastern University.

Area of Expertise: Respiratory Therapy

Presentation Synopsis: *This presentation will include a brief discussion of my career path, the prevalence of lung disease, information about respiratory therapy, and information about our program at Millersville University.*

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, Data Analysis, Test Development, Collaborative Leadership

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

Using Geophysics to Find What You Want to Hit or Miss Before Digging, Drilling or Building

Felicia Kegel Bechtel, Senior Geophysical Advisor, RETTEW

Biography: Felicia Kegel Bechtel is a Senior Geophysical Advisor and Special Projects Lead for the Environmental and Geotechnology Practice at RETTEW Field Services, Inc. Felicia's primary focus is currently on business development and client connection for Geophysics and all of RETTEW. She also provides support, mentorship, and technical project review for RETTEW's Geophysics Team. In addition, she is the co-chair of RETTEW's Diversity, Equity, and Inclusion (DEI) Team. Felicia holds an MSc in Geology from Brown University and a BA in Geology from Bryn Mawr College.

Areas of Expertise: Geophysics and Business Development

Presentation Synopsis: *Geophysics is the earth-science equivalent medical radiology and it's used to non-intrusively detect targets underground and underwater without digging or drilling. This presentation will provide a basic overview of different geophysical techniques, with case histories detailing what we were looking for and how we found them. Time will be reserved to talk about Felicia's career path and what helped.*

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: I attended UNC-Asheville for my undergraduate degree, double-majoring in Mathematics and Drama. Thinking I would become an actuary, I started graduate school at the University of Connecticut, where I earned a master's degree in mathematics. The Graduate Teaching Assistantship I held while attending UConn sparked my interest in education, so I went to Purdue University for my PhD in Mathematics Education. I am now in my fifteenth year as a faculty member in the Mathematics Department at Millersville 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.*

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

So, You Want a Great, Highly Paid Job - Fresh Out of College?

Nancy Adams, MS, Consultant, NC Adams Consulting

Biography: A 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 Services 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 Safety and Health
Energy Employees Occupational Illness Compensation Program Act (EEOICPA) Advisory Board

Presentation Synopsis: *Overview of a OSEH science-based career path for a college student with a fresh BA degree from Millersville and a starting salary in the high 5 figures!*

Bacteria and Birds: Can Microbes Control Bird Brains?

Dr. Jennifer Houtz, Assistant Professor of Biology, Allegheny College

Biography: Dr. Houtz is a first-generation college student from Mifflintown, PA. She received her B.S. in Animal Behavior from Millersville University and her Ph.D. in Ecology and Evolutionary Biology from Cornell University. Now she teaches biology and studies wild birds at Allegheny College in Meadville, PA.

Areas of Expertise: Wildlife biology, endocrinology (hormones), animal behavior

Presentation Synopsis: *Can bacteria found in the gastrointestinal tract (gut microbiota) control the behavior of their host? Come learn about how tiny bacteria can influence how animals respond to challenges in the wild. Dr. Houtz will also talk about her journey into science through studying birds in the Amazon.*

Chasing the Shortest and Brightest Light Pulses: Nobel Prize-Winning Women in Physics

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

Areas of Expertise: Experimental optical physics, physics education research

Presentation Synopsis: *Of the five total (!) female Nobel Laureates in Physics, two (Donna Strickland 2018 and Anne L'Huillier 2023) have been recognized for their ground-breaking contributions to optical science with extremely short pulses of light. In this talk, I'll share with you just how short light pulses can get, what they're used for, and some of the science behind creating them.*

Engineering Her Path: A Woman's Remarkable Journey

Lindy Rabinovitz, Firmware Software Engineer, Phoenix Contact

Biography: Lindy Rabinovitz is a software engineer who graduated from the Electrical Engineering program at Purdue University. Beyond her professional endeavors, her true passion lies in mentoring the engineers of tomorrow through STEM programs. Software engineering is constantly evolving, and Lindy volunteers her time to be a driving force behind a transformative digitalization project rooted in Artificial intelligence (AI). Her message to aspiring STEM enthusiasts is, "Dream big, work hard, and make your mark in the extraordinary world of science, technology, engineering, and mathematics. You have the power to shape the future!" This authentic desire to encourage the next generations comes from her beginnings with coding. She started as a child coding games in graphics on a Commodore 64. Over the years, she has developed and seamlessly integrated software systems in the industrial and automotive sectors. Within that focus, she contributed her expertise to renowned organizations, including General Dynamics, Cummins, Stanley Security Solutions, General Motors, and Allison Transmission. She continues to pursue her dream as a firmware software engineer at Phoenix Contact. Lindy has been involved in advanced technologies from the beginning of her career path. As an intern, she worked on General Motors electric vehicle EV1, and now she volunteers her time to work on today's latest Artificial Intelligence technologies.

Areas of Expertise: Software engineering development, specializing in designing and implementing system components for industrial and automotive applications with a strong emphasis on optimizing performance and functionality at the hardware level.

Presentation Synopsis: *Lindy Rabinovitz's lifelong passion for engineering has driven her desire to inspire the same love of Engineering in others. It can feel as though Engineering is an exclusive world all on its own. Lindy wants to include you in the conversation. By delving into her personal journey, she aims to make engineering more accessible and less intimidating, inspiring you to discover the endless possibilities this field offers and empowering you to realize your potential.*

Demos! The Excitement of Teaching Chemistry

Mrs. Amy Thompson, Chemistry teacher, Hempfield High School

Biography: I received BS degrees in ACS Chemistry, Chemistry Education and Physics Education from Elizabethtown College in 1991. After graduation I began teaching chemistry at Hempfield High School. During her 32 years of teaching, I have taught over 4500 students in classes ranging from general science to AP Chemistry. I earned a master's in teaching and curriculum from Penn State University in 1997. In addition to my role as a classroom teacher I was been the yearbook advisor for 32 years. I also serve as an after-school tutor, homebound instructor, and cooperating teacher for seniors from Millersville University and Elizabethtown College. During my career I been recognized as the Lancaster County Teacher of the week, was awarded the ACS Whalen Memorial Award for outstanding high school chemistry teacher, was presented the Oscar F. Stambaugh Outstanding Alumni which is given to a graduate of Elizabethtown College in recognition of distinguished professional contributions in the field of chemistry and also received the Rose E. Kelly Award for her student mentorship from the University of Scranton.

Area of Expertise: Teaching

Presentation Synopsis: *I will discuss the educational requirements of becoming a teacher, the day-to-day routine of a teacher, the perks and pitfalls of teaching and why I became a teacher. I will also show video clips of some cool demos that I show in my class.*

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

[Ensuring Your Career is Never Boring!](#)

Stacey Darrohn, Sr. Project Environmental, Health & Safety Manager, Turner Construction Company

Biography: After graduating with a Bachelor of Science in Occupational Safety from Millersville University, Stacey started working in the construction safety field. She started her career with a smaller drywall contractor and after 3 years, she made the jump to work for Turner Construction Company, the largest General Contractor in the USA. She currently resides in Berks County with her husband and two daughters.

Areas of Expertise: Construction Safety - items such as steel erection, fall protection, scaffolding, excavation, behavioral safety

Presentation Synopsis: *The Construction Industry - something not a lot of women think about as a career choice. Stacey will talk about her decision to enter the construction safety field as her career, the steps she took to be recognized as a leader in safety in the Philadelphia region, and how she never experiences the same day twice - it's never boring!*

[Pediatrics - Caring for Patients from Birth to Adulthood – Best Job in the World!](#)

Vinitha Moopen, MD, Pediatrician, WellSpan Health

Biography: I Completed my medical education at the Manipal Academy of Higher Education. I completed my Pediatrics residency at Brookdale Hospital in Brooklyn NY

Area of Expertise: Pediatrics

Presentation Synopsis: *I will be talking about the road from high school to medical school and beyond.*

[Data Analytics in Nonprofit Planning Cycles](#)

Andrea Rush, CEO, North Museum of Nature & Science

Biography: Andrea Rush is the CEO of the North Museum of Nature & Science. Andrea's knowledge of cultural institutions is founded on a 20+ year career in that industry, where she began her work in that field in fundraising at New York City Ballet at Lincoln Center. Andrea holds an MA/MBA in Arts Administration, with an emphasis on data analytics from the University of Cincinnati. Andrea has worked in multiple markets in the US and with a number of clients internationally. She also has both undergraduate and graduate studies in research areas related to the intersection of music and both math and neuroscience.

Areas of Expertise: Annual and Strategic Planning, Fundraising, Programming to Drive Revenue, Financial and Data Analysis

Presentation Synopsis: Together we'll evaluate the use and value of data analytics and modeling as it relates to nonprofit planning cycles. We'll look at a specific industry tool used to evaluate and forecast impact and revenue and discuss its impact on long term sustainability for organizations in the cultural institution field. We'll also make time for a Q&A on this topic as well as career paths within the industry.

[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 4 (1:20 to 1:50 p.m.) - CONTINUED

Software Engineer to Product Management: You Don't Have to Know What You Want to Be When You Grow Up

Emma Wertz, Technical Product Manager, Drizly (an Uber company)

Biography: After earning my undergrad in Computer Science from Millersville University, I continued with a career in software engineering. It wasn't until 5 years later that I'd started my master's in engineering management with ASU, and I now see myself positioned as a Technical Product Manager with Drizly (an Uber company)! Outside of work, I am the head coach for Girls Code Club out of the Lancaster Science Factory; teaching girls 8-13 years old how to code in JavaScript and Python. I also volunteer and do social media for the Columbia Animal Shelter and am on the board of directors for LAN (a local tech nonprofit).

Areas of Expertise: Software engineering, technical management, engineering management

Presentation Synopsis: *During this presentation, we'll cover my career path and how I got to my current role today; delving into code examples as well as what it's like to work for large (like Uber) versus small companies. This is intended to be an open forum where students can ask any questions from college enigmas to interviews to ever-changing career paths... wherever curiosity strikes!*

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

1. Science Demonstrations - Roddy and Caputo Halls

- a) **Scanning Electron Microscope**
Mr. Calvin Montgomery, SEM Technician, Millersville University
- b) **From Bird Bones to Bird Brains: Undergraduate Research in Avian Biology**
Nate Wilson, Department of Biology Major, Millersville University
- c) **Can You See a Chemical Reaction?**
Dr. Lyman Rickard, Department of Chemistry, and Students from MU ACS Student Chapter

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
- c) **Marauder Eco-filament: 3D Printer Filament from Recycled Plastics**
Justin Egresitz, Ph.D., Alex Johnson, Ph.D., and Ms. Ashla Durbin
- d) **Collaborating with Robotics: Human-Robot Interactions**
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.