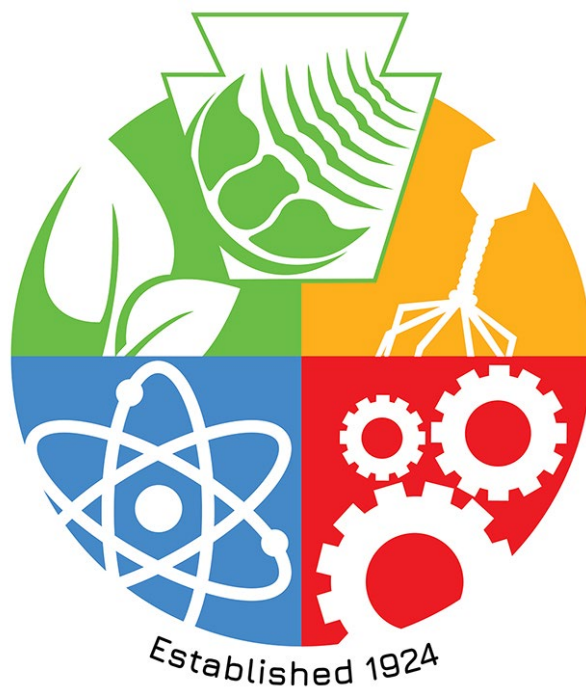


100th Annual Meeting of the Pennsylvania Academy of Science

April 11-13, 2025

Program Booklet



Pennsylvania
Academy of Science

Hosted on the campus of



100th Annual Meeting of the Pennsylvania Academy of Science

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Welcome to Harrisburg University of Science and Technology

We cordially welcome you to Harrisburg University of Science and Technology! We are so pleased to host the 100th annual research conference and celebrate the centennial of this scientific society. The Harrisburg University team has worked hard to create a memorable event and hope you enjoy your time here at the university and in the state's capital. There is much great scientific research to hear and see this weekend, and we are proud to host the PA Academy of Science. Cheers to another 100 years of science in Pennsylvania!



While you are visiting our university, you can also take the opportunity to learn more about the university as well. The Harrisburg University of Science and Technology offers innovative academic and research programs in science and technology that respond to local and global needs. The institution fosters a diverse community of learners, provides access and support to students who want to pursue a career in science and technology, and supports business creation and economic development. This conference is being hosted in our newest academic building, the Harrisburg University-UPMC Health Science Tower, which opened in Fall 2023.

Founded to address the need of Pennsylvania's Capital Region for increased educational opportunities in applied science and technology-related fields, the vision of Harrisburg University of Science and Technology is to provide academic programs at undergraduate and graduate levels for a diversity of learners, using student-centered, technologically advanced, and experiential learning designs that emphasize student success, with a sharp focus on specific interdisciplinary competencies and strong linkages to career development.

The desired outcome is the emergence of well-qualified, technically expert graduates whose understanding of applied science and technology-related fields is honed by direct industry experience and rounded out by a sound, cross-disciplinary liberal education.

We wish you a wonderful conference experience filled with thought-provoking science!

Sincerely,



The Harrisburg University Planning Committee



Harrisburg University of Science & Technology Map

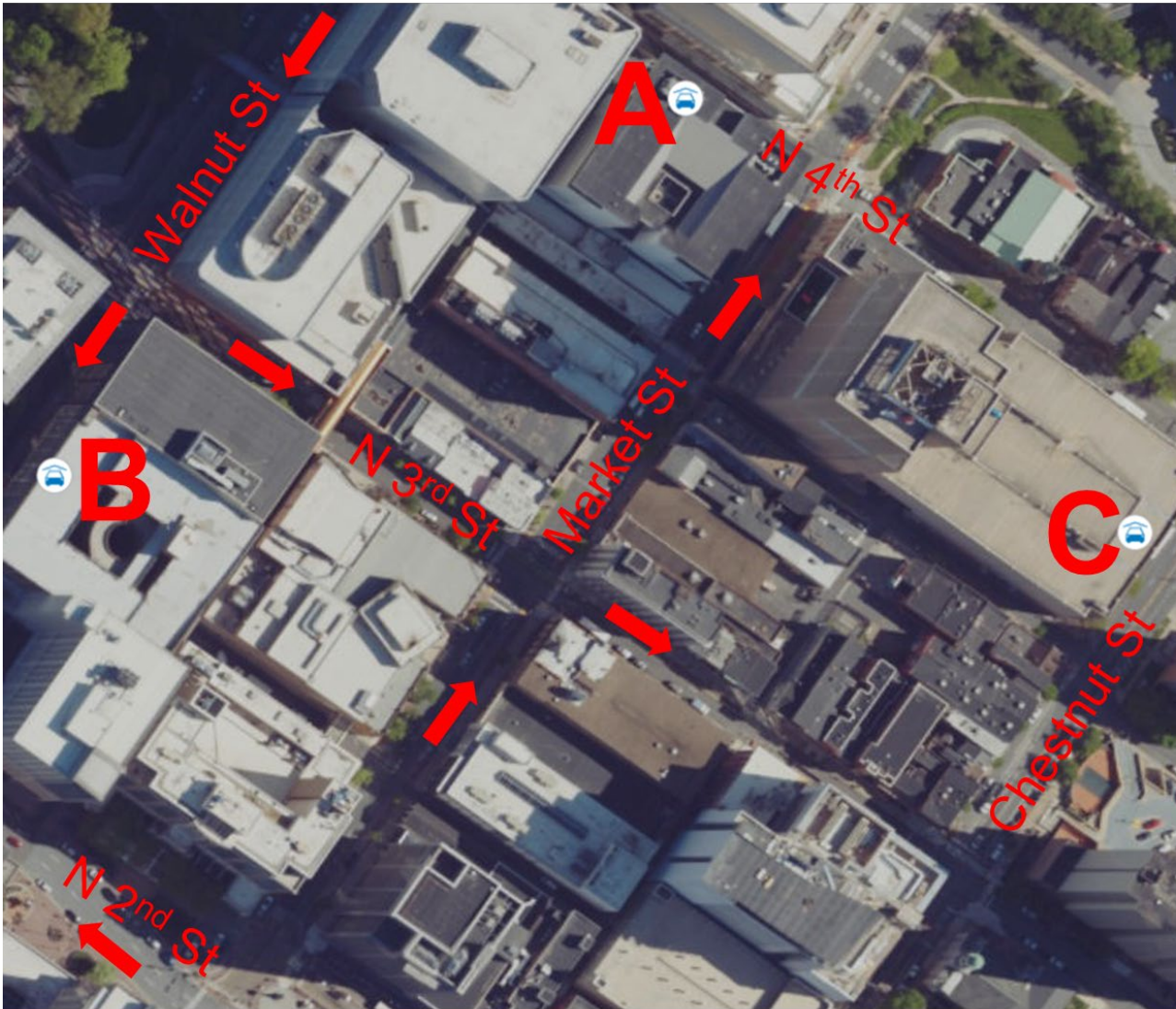


1. HU Academic Tower
2. Whitaker Science Center/HU Student Union
3. HU UPMC Health Sciences Tower
4. Hilton Hotel

[Interactive Map](#)

The three parking garages highlighted below are available for use by PAS attendees. Visit [Park Harrisburg](#) for hourly and daily rates.

- A) Harrisburg University Garage (floors 3-9). Height Clearance 3rd floor, floors 4-9: 7' 2"
- B) Walnut Street Garage (connected to the Hilton Hotel).
- C) The Chestnut Street Parking Garage. Height Clearance 6' 10"



Welcome Reception

Friday, April 11, 6:00–8:00 PM

Whitaker Center for Science and the Arts

Hors d'oeuvres and assorted beverages served

Celebrating its 25th Anniversary, Whitaker Center for Science and the Arts is a non-profit center dedicated to arts, education, entertainment, and cultural enrichment. Located in the heart of Harrisburg's vibrant downtown, Whitaker Center offers a range of attractions, including the PNC Innovation Zone, Sunoco Performance Theater, UPMC Science Center, STEM Design Studios, and Select Medical Digital Cinema. For a comprehensive list of events, shows, hours of operation, and ticket rates, please visit whitakercenter.org.

We welcome you to the Whitaker Center directly after Friday's Opening Talk. Enter the Whitaker Center from the Market Street Entrance or from the sky bridge connected to the Hilton. Registration for the meeting will also be set up in the lobby of the Whitaker Center for your convenience. Enjoy conversations and hors d'oeuvres while exploring and engaging with the interactive displays.



Welcome Message from Dr. Tammy Tintjer President, Pennsylvania Academy of Science



It is my privilege to welcome you to this 100th anniversary of the Pennsylvania Academy of Science annual meeting. This meeting, hosted by Harrisburg University of Science and Technology, brings the Academy and the annual meeting back to our state's capital. To commemorate this milestone Robert Coxe, past PAS president, will give a history of the first 100 years of the Academy. We will have two timely and important keynote addresses—from epidemiology to ecosystems. The first will be on Friday evening, *How to count to 60 million: Modeling the control and elimination of measles and rubella*, by Dr. Matthew Ferrari, Professor of Biology from Penn State University. Then on Saturday evening following the banquet, Dr.

Dorothy Merritts, Professor of Geology from Franklin & Marshall College, will present *Unearthing Earth's past, envisioning its future: Rewilding landscapes to improve waterways and aquatic ecosystems*.

The highlight of this meeting is, as always, the talented scientists communicating their research—which this year includes several high school students from across the state. I hope that all attendees will take full advantage of the breadth of research being presented in talks and posters, using this meeting as an opportunity to learn more about their own area of interest as well as less familiar topics. If you have entered the Anne Spychala Competition, I wish you luck with your presentation!

This Academy is dedicated to advancing science in the Commonwealth, by supporting research and promoting STEM education. This mission is especially important at a time when support for and confidence in science is waning. Thank you to the 40+ students who submitted grant applications to support their research—we recognize that this was no small task and applaud you all. This is our third year of providing student travel grants and the number of applications we received demonstrates a need that we are happy to be able to fill. To the student participants, please take full advantage of all this meeting has to offer and plan to attend the student career panels during lunch on Saturday. To the faculty and other science professionals, thank you for being here and supporting student research. Please plan to attend our business meeting held during the Saturday lunch and consider joining the PAS Board of Directors. We are always looking for more members to take leadership roles. Finally, I would like to recognize all of the work and planning by the faculty and staff at Harrisburg University of Science and Technology—thank you! Please enjoy the meeting and I look forward to seeing you at next year's event at Misericordia University in Dallas, Pennsylvania.

2025 Keynote Address
Friday April 11, 2025 | HU UPMC Health Sciences Tower

**How to count to 60 million: Modeling the control
and elimination of measles and rubella**

Dr. Matthew Ferrari, Ph.D.
Penn State University

This is a talk both about the epidemiology of these two viruses, but also about the challenges of working across the science/policy divide.

Vaccines have prevented over 154 million deaths over the last 50 years. Quantifying the direct (to the recipient) and indirect (preventing transmission) effect of vaccination requires integrating data on vaccine distribution, demography, and disease incidence. We use a combination of dynamic transmission models and computational statistics to estimate the incidence of disease and the impact of vaccination, with specific focus on low and lower-middle income settings where data are sparse or limited due to health system access. Over the last two decades, we have worked with national and international partners to develop models for measles, rubella, rotavirus, and meningitis in children and foot-and-mouth disease virus in livestock. We then use the resulting models to help governments and NGOs make decisions about vaccination and surveillance strategies.



Matthew Ferrari is a Professor of Biology at Penn State University, where he is also the Dorothy Foehr Huck & J. Lloyd Huck Chair in Global Health, Eberly College Distinguished Senior Scholar in Global Health, and the Director of the Center for Infectious Disease Dynamics (CIDD). CIDD is a collaborative group of over 50 research labs united by their shared interests in infectious agents, namely pathogens and parasites. CIDD's participating labs conduct innovative scientific research to advance knowledge and drive tomorrow's infectious disease solutions. This requires a diverse and interdisciplinary community of researchers with expertise that ranges from

molecular to community levels of biological organization. CIDD supports the intersection of these varied components and approaches to develop cutting-edge investigations into the mechanisms underlying the ecology and evolution of infectious diseases. CIDD's participating labs contribute core expertise across these levels of organization and span basic to translational research.

2025 Keynote Address

Saturday April 12, 2025 | Hilton Hotel

Unearthing Earth's past, envisioning its future: Rewilding landscapes to improve waterways and aquatic ecosystems

Dr. Dorothy Merritts, Ph.D.
Franklin & Marshall College

After two decades of studying impaired waterways in the mid-Atlantic region, our research group at Franklin and Marshall College established the Chesapeake Watershed Initiative in 2020 to deepen understanding of 1) the legacies of human impacts on riparian-aquatic ecosystems and 2) the impact of transformative restoration efforts to improve water quality and ecosystem health. Our approach connects landscape history and trajectories to current place-based restoration and applies to many human-impacted geographies worldwide. In this presentation, I'll draw upon our work at CWI to discuss how "unearthing Earth's past" enables us to envision restoration potential and guide restoration approaches.

Dorothy Merritts (B.Sc. Indiana University of Pennsylvania, M.Sc. Stanford University, Ph.D. University of Arizona) is a geologist with expertise in streams, rivers, and other landforms and on the impact of geologic processes, climate change, and human activities on the form and history of Earth's surface. Her primary research in the eastern United States is in the Appalachian mid-Atlantic region, where she is investigating the role of human activities in transforming the upland woodlands and valley bottom wetland meadows of Eastern North America to a predominantly agricultural and mixed-industrial/urban landscape since European settlement. Associated with this work is the development of new wetland, floodplain, and stream restoration methods that rely upon geomorphic investigation. She uses lidar and other remote sensing data to map geomorphic evidence for continuous permafrost during the last glacial maximum period throughout Pennsylvania and Maryland. In the western United States, she researched the northern San Andreas Fault of coastal California for two decades; her international work focused on fault movements in South Korea, Indonesia, Australia, and Costa Rica. She is a Department of Earth and Environment professor at Franklin & Marshall College in Lancaster, Pennsylvania. From 2004 to 2005, she was the Flora Stone Mather Visiting Distinguished Professor at Case Western Reserve University in Cleveland, Ohio. From 2011 to 2012, she was the Alan Cox Visiting Professor at Stanford University. She is the author of an introductory textbook in environmental geology, numerous scientific papers, and edited book chapters, and she is a contributing author to five National Research Council reports. She was elected to the National Academy of Sciences in 2022.



Student Lunch Panels and Workshop

Saturday, April 12

(A free, boxed lunch will be provided for each student registered to attend)

Panel: *PAS and Beyond: How This Conference Kickstarted Our Careers*

Location: Health Science Tower, Room 211C

Time: 12:15 – 12:45 pm & 1:00 – 1:30 pm

Previous PAS presenters over the past 100 years.

Joseph A. Cirilo Jr., PhD is a Postdoctoral Fellow at the National Heart, Lung, and Blood Institute, National Institutes of Health in Bethesda, MD.

Emily Esquea, PhD is a Postdoctoral Research Scientist at the Herbert Irving Comprehensive Cancer Center at the Columbia University Irving Medical Center in New York, NY.

Erin King, MS, BS is a clinical research coordinator for the Pennsylvania State University Neuroscience Institute at Pennsylvania State University College of Medicine in Hershey, PA

Andrea Nerozzi, PhD is a Science Department faculty member and Associate Director Maslow STEM School at Wyoming Seminary in Kingston, PA.

Serena Ngan, PA-C, MSPAS is a Hematology/Oncology Physician Assistant and the Survivorship Program Coordinator at Frederick B. Cohen Comprehensive Cancer & Blood Disorders Center at Newark Beth Israel Medical Center, RWJ Barnabas Health in Newark, NJ.

Erica Ward, PMP is a biochemist and project manager focused on environmental health and safety at Harrisburg University in Harrisburg, PA.

Workshop: *Building Your Future: Resume & CV Strategies for Career Success*

Location: Health Science Tower, Room 203

Time: 12:15 – 12:45 pm & 1:00 – 1:30 pm

Harrisburg University's Office of Career Services provides students with support in resume writing, interview preparation, career guidance, and networking opportunities.

Rebekah Harriger, M.A.

Senior Director of Career Services &
Experiential Learning
Harrisburg University

Evan Fleischauer M.S.Ed.

Career & Employment Programs Liaison
Harrisburg University

Emily Lupi, M.A.

Employer Relations Coordinator
Harrisburg University

Presentations at the 100th Annual Meeting of the Pennsylvania Academy of Science

School/Organization	Presentations
Mercyhurst University	21
Immaculata University	20
DeSales University	16
Cedar Crest College	12
Harrisburg University of Science and Technology	12
Lafayette College	12
Messiah University	11
King's College	10
York College of Pennsylvania	9
Misericordia University	7
Bucknell University	6
Susquehanna University	6
Gannon University	5
Wilson College	5
Elizabethtown College	4
McGuire Center for Lepidoptera & Biodiversity, University of Florida	4
Methacton High School	4
Delaware Valley University	3
Muhlenberg College	3
Penn State University	3
University of Pittsburgh at Greensburg	3
West Chester University	3
Wyoming Seminary Upper School	3
La Salle University	2
Lebanon Valley College	2
Lehigh University	2
Penn State University-Harrisburg	2
Allegheny College	1

East Stroudsburg University	1
Gettysburg College	1
Guth Laboratories Inc.	1
Hofstra University	1
Juniata College	1
Penn State University-Altoona	1
Penn State University-Scranton	1
Penn State University-Wilkes-Barre	1
The DOW Chemical Company	1
University of California Santa Cruz	1
University of Maryland, School of Medicine	1
University of Scranton	1
Widener University	1

Presentations sponsored by 41 Pennsylvania colleges, universities, and additional institutions.

100th Annual Meeting of the Pennsylvania Academy of Science

Harrisburg U of Science and Technology, Health Science Tower, 222 Chestnut St

SCHEDULE OF ACTIVITIES AT-A-GLANCE

Friday, April 11

3:30-5:00 PM	PAS Board Meeting and Dinner	211C
4:00-5:00 PM	Meeting Check-In	1 st Floor Lobby
5:00-6:00 PM	Keynote Speaker: <i>How to count to 60 million: Modeling the control and elimination of measles and rubella</i> <i>Dr. Matthew Ferrari, Professor of Biology, Penn State University</i>	203 & 211C
6:00-8:00 PM	Reception and Check-In at the Whitaker Center	Whitaker Sci Ctr

Saturday Morning Sessions, April 12

7:30-8:00 AM	Meeting Check-In	1 st Floor Lobby
7:30-8:00 AM	Continental Breakfast Bar & Coffee	2 nd Floor
8:00-9:00 AM	Opening Address	203 & 211C
10:00-10:30 AM	Coffee Break with Cookies	3 rd Floor Breakroom
9:15-10:30 AM	Oral Session I: Metabolism	624
9:15-10:30 AM	Oral Session II: Animal Ecology	713
9:30-10:45 AM	Oral Session III: Mathematics and Physics	614
10:00-11:45 AM	Oral Session IV: Microbiology	203
9:45-11:45 AM	Poster Session I (Poster set-up 9:00-9:45 AM): Chemistry, Physics, Mathematics, and Genetics	3 rd Floor
11:00 AM - 12:00 PM	Round Table with PJAS	210B

Saturday Lunch Sessions, April 12

12:00-1:30 PM	PAS Business Meeting/Lunch (Open to all members)	713
12:15-12:45 PM	Student Lunch Panel: Resume Workshop - Group A	203
12:15-12:45 PM	Student Lunch Panel: Previous PAS Presenters Panel - Group B	211C
1:00-1:30 PM	Student Lunch Panel: Resume Workshop - Group B	203
1:00-1:30 PM	Student Lunch Panel: Previous PAS Presenters Panel - Group A	211C

* Business Meeting Election slate found [here](#).

Saturday Afternoon Sessions, April 12

2:00-3:45 PM	Oral Session V: Health and Disease	203
2:00-3:30 PM	Oral Session VI: Ecological Restoration	211C
3:15-4:30 PM	Oral Session VII: Novel Medications	614

2:45-4:30 PM	Oral Session VIII: Chemistry and Forensics	713
2:30-4:30 PM	Poster Session II (Poster set-up 1:45-2:30 PM): Microbiology, Molecular Biology, and Biochemistry	3 rd Floor
4:45-6:00 PM	Tours of HU	1 st Floor Lobby
4:45-5:30 PM	PAS History: <i>From Shadow to Light: A Century of Keystone Science, Framed by Eclipses.</i> <i>Robert Coxe, Silphium Design LLC</i>	211C

Saturday Evening Sessions, April 12

6:00-8:00 PM	Dinner (Buffet Banquet) Keynote Speaker: <i>Unearthing Earth's past, envisioning its future: Rewilding landscapes to improve waterways and aquatic ecosystems</i> <i>Dr. Dorothy Merritts, Professor of Geology</i> <i>Franklin & Marshall College</i>	Hilton
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Sunday, April 13

7:30-8:30 AM	Meeting Check-In	1 st Floor Lobby
7:30-8:30 AM	Continental Breakfast Bar & Coffee	2 nd Floor
8:00-9:00 AM	Opening Address	203 & 211C
10:00-10:30 AM	Coffee Break with Cookies	3 rd Floor Breakroom
9:15-11:00 AM	Oral Session IX: Human Drug Interactions	203
9:30-10:45 AM	Oral Session X: Entomology	211C
9:30-10:45 AM	Oral Session XI: Marine Science	713
9:45-11:45 AM	Poster Session III (Poster set-up 9:15-9:45 AM): Ecology and Cell Biology	3 rd Floor
12:15-1:00 PM	Lunch and Trivia Bowl	203
1:00-2:00 PM	Awards Ceremony	203

100th Annual Meeting of the Pennsylvania Academy of Science

GENERAL PROGRAM SESSIONS

ALL Abstracts are available in the Abstract Booklet located at
<https://pennsci.org/pas-schedule-and-information-2025/>

Program Co-Chairs: Jennifer Hayden and Rachael Zhu

Saturday, April 12 MORNING SESSIONS

ORAL SESSION I: Metabolism

Saturday, April 12 9:15-10:45 AM Location: **624**

Session Chair: **Dr. Amy Parente**

- 9:15-9:30 1. *Phosphomimic mutations of malate dehydrogenase: investigating the impact of post-translational modifications on enzyme activity and metabolon formation.*- **Morrow, Torianne***, and **Amy Parente** Mercyhurst University.
- 9:30-9:45 2. *Effects of temperature, pH, and allosteric regulators on the enzymatic activity of S8D mutant of malate dehydrogenase compared to wild-type.*- **LeBaron, Mikaela***, and **Amy Parente** Mercyhurst University.
- 9:45-10:00 3. *Investigating the impact of the Y56D MDH1 mutant on the activity of malate dehydrogenase.*- **Flores, Maria F.***, and **Amy Parente** Mercyhurst University.
- 10:00-10:15 4. *Regulation of malate dehydrogenase by phosphorylation: Exploring the role of T85 in enzyme function.*- **Sontheimer, Danielle***, and **Amy Parente** Mercyhurst University.
- 10:15-10:30 5. *Effects of alcohol and nicotine e-cigarette co-exposure on biochemical changes in developing mice.*- **Snyder, Jillian***, **Chris Needham**, and **Thomas Kwiatkowski** West Chester University.
- 10:30-10:45 139. *Impact of PCSK9 inhibitors versus statins alone on clinical outcomes in patients with elevated Lp(a): A retrospective cohort study.*- **Beiler, Joshua*** Penn State University.

ORAL SESSION II: Animal Ecology

Saturday, April 12 9:15-10:30 AM Location: **713**

Session Chair: **Dr. Daniel Strömbom**

- 9:15-9:30 6. *What factors influence foraging group formation in house sparrows Passer domesticus.*- **Soukup, Maria***, and **Daniel Strömbom** Lafayette College.
- 9:30-9:45 7. *Mapping a bacterium's cryptic journey across animal hosts.*- **Njogu, Alphaxand***, **Callum Shutack**, **Veronica Jakubikova**, **Helene Hartman**, and **Dylan Shropshire** Lehigh University.

- 9:45-10:00 **8. Influence of anthelmintic medications on the aerobic bacterial populations of the equid gastrointestinal tract microbiome.- Sowers, Cassidy*, Amber Marble, and Sherri Buerdsell** Wilson College.
- 10:00-10:15 **9. Analysis of the digestibility of protein in canine pet food.- Spencer, Gabrielle*, M. Dana Harriger, and Catherine Santai** Harrisburg University of Science and Technology.
- 10:15-10:30 **10. Population of fishers (*Pekania pennanti*) in York County, Pennsylvania.- Teisen, Rachel*, and David Foster** Messiah University.

ORAL SESSION III: Mathematics and Physics
 Saturday, April 12 9:15-10:15 AM Location: **614**
 Session Chair: **Dr. Andrea Nagy**

- 9:15-9:30 **11. Fantasy football correlation study.- Elchin, Benjamin*, and Dawn Elchin** Methacton High School.
- 9:30-9:45 **12. Determining the correlation of nodal patterns from resonating two dimensional standing waves on Chladni plates and the amplification qualities of a cello using Chladni's law.- Slusser, Andrea*** Methacton High School.
- 9:45-10:00 **13. The power of sound: the effect of pitch on power usage.- Longwell, Daniel*** Methacton High School.
- 10:00-10:15 **14. Measuring the rate of photosynthesis using a floating leaf assay with *Spinacia oleracea*.- Corbeill, Nathan***

ORAL SESSION IV: Microbiology
 Saturday, April 12 10:00-11:45 AM Location: **203**
 Session Chair: **TBD**

- 10:00-10:15 **15. Sigma Factor B as a potential regulator of high salinity induced conditional bacterial filamentation.- Foriska, Isabella*, and Rajinikanth Mohan** Mercyhurst University.
- 10:15-10:30 **16. Naphthalene induces UV fluorescence in *Pseudomonas* species isolated from Polycyclic Aromatic Hydrocarbon-polluted soil.- Grimes, Sydney*, and Rajinikanth Mohan** Mercyhurst University.
- 10:30-10:45 **17. Trans-Golgi network and endosomal adaptors are required for ATP-dependent but not nitrogen-specific growth in *Saccharomyces cerevisiae*.- Alkhafaji, Mariam*, Hannah Barnett, and Quyen Aoh** Gannon University.
- 10:45-11:00 **18. Seeing gene regulation: Histone modifying complex and nuclear receptor roles in *Drosophila melanogaster* eye development.- Heidel-Roberts, Ethan*, Dominic DePaul*, and M. Logan Johnson** University of Pittsburgh at Greensburg.
- 11:00-11:15 **19. Using AI and proteomics data to uncover new Histone Locus Body members and interactions in *Drosophila melanogaster* (fruit flies).- Epp, Matthew*, and Daniel Strömbom** Lafayette College.
- 11:15-11:30 **150. Coral bleaching - An innovative, sensitive, and predictive approach using glutamate dehydrogenase as a biomarker.- Callaghan, Natalya*, and Leena Pattarkine** Harrisburg University of Science and Technology.
- 11:30-11:45 **141. A bacterial weapon: a novel domain that enhances insect sterility.- Van Vlaenderen, Lore*, Jocelyn Lu, Josh Mirsky, and Dylan Shropshire** Lehigh University.

POSTER SESSION I: Chemistry, Physics, Mathematics, and Genetics
Saturday, April 12 9:45-11:45 AM Location: **3rd Floor**
Session Chair: **Dr. K. Joy Karnas**

20. *The role of secretory carrier membrane protein 3 (SCAMP3) in amyloid precursor protein (APP) and beta-amyloid production.*- **Gautam, Saradha***, **Brayden Robicheau***, and **Quyen Aoh** Gannon University.
21. *The effect of crosslinkers on nanogel colloidal crystals.*- **Rogers, Madison***, and **Clint Jones** Mercyhurst University.
22. *Analysis of vitamin C antioxidant activity.*- **Tran, Thuy-Tien***, and **Jiangyue Zhang** Immaculata University.
23. *Evaluating student learning outcomes across three teaching modalities using the same set of flipped classroom materials.*- **Sizemore, Anne**, **Elise Heiss**, **Shannon Corcoran**, **Jillian Snook***, and **Jillian McCue** King's College.
24. *Quantification of polyphenols in different tea samples using a Folin-Ciocalteu Assay.*- **Costantini, Kathryn***, and **Clinton Jones** Mercyhurst University.
25. *Synthesis of bridged bicycles - compounds with medicinal applications.*- **Zultevecz, Victoria***, and **Brian Williams** King's College.
26. *Differentiating raman spectra of plastics using principal component analysis.*- **Wright, Grace***, and **Rose Mulligan** Immaculata University.
27. *Testing different surfactants to reduce dynamic surface tension in PSA.*- **Kritikson, Athena***, and **Alismari Read** Immaculata University.
28. *Determining the partition coefficients of pigments.*- **Kline, Vaughn***, **Benjamin McNertney***, and **Catherine Santai** Harrisburg University of Science and Technology.
29. *Controlling the glass transition temperature of shape memory polymers for biomedical applications.*- **McKeague, Sean***, and **Issac VonRue** King's College.
30. *Copper complexes as catalysts for cleavage of molecular oxygen by the particulate methane monooxygenase enzyme, using N=O as an O₂ Substitute.*- **Dugger, Tobias***, and **Thomas Kwiatkowski** West Chester University.
31. *Comparison study of cannabis products using a benchtop NMR and a research grade NMR.*- **Thomas, Mercedes***, **Ling Huang**, and **Jiangyue Zhang** Immaculata University.
32. *Development of a two-part electrochemistry experiment for analytical chemistry lab.*- **Kemper, Heather***, and **Elise Heiss** King's College.
33. *Total phenolic content in herbal teas.*- **Pierce, Liv***, and **Clinton Jones** Mercyhurst University.
35. *Using genetically modified *Hydra vulgaris* to investigate the role of the inhibitory protein Axin in Wnt signaling.*- **Kuhn, Nicholas***, and **Diane Bridge** Elizabethtown College.
36. *The function of METTL3 during spermatogenesis in *Drosophila melanogaster*.*- **Thomas, Kloe***, **Jordan Smith***, and **Antonio Rockwell** Susquehanna University.
37. *Exploring the genetic input of germline development in the arachnid *Archezogozetes longisetosus*.*- **Ventura, Caitlyn***, **Christina Ventura***, and **Austen Barnett** DeSales University.
38. *Optimizing organic waste treatment processes to facilitate the food, water, and energy nexus in prototype biological life support systems.*- **Kafley, Prashila***, **Aiden Reynolds***, **Meghan Ziegler***, **Joseph Tetreault**, and **Rachel Fogle** Harrisburg University of Science and Technology.

39. *The inhibitory effects of duckweed on germination and growth of common weed species.*- **Kowalski, Sarah***, and **Cosima Wiese** Misericordia University.
40. *Monitoring carbon dioxide concentration patterns with inexpensive NDIR sensors through a mobile platform.*- **Richards, Cale***, and **Derek Straub** Susquehanna University.
41. *The effects of BPF on tail resorption in Rana catesbeiana larvae.*- **Naugle, Grace***, **Maya Luse***, and **Angela Asirvatham** Misericordia University.
42. *A new targeted-federated learning framework for estimating heterogeneity of treatment effects: A robust framework with applications in aging cohorts.*- **Chinchilli, Vernon**, **Rong Zhao***, and **Chixiang Chen** Penn State University.
43. *Assessing the correlation between California Mastitis Test results and somatic cell counts in caprine milk.*- **Wright, Kylie***, **Deborah Austin**, and **Sherri Buerdsell** Wilson College.
44. *The cytoprotective effects of sulforaphane in IMR-90 cells.*- **Usher, Helene***, **Owen Jenkins***, **Zahraa Muhammad***, and **Jaimy Joy** La Salle University.
45. *Assessing the validity of the Garmin Vivosmart 4 in estimating VO2 Max in male athletes.*- **Ellis, Gianna***, **Dylan Walter**, and **Laurie DiRosa** Immaculata University.
46. *Resistance training versus aerobic training impact on blood glucose regulation: A critically appraised topic.*- **Ahmed, Umair***, **Jonathan Olaleye***, **Alex Corsones***, and **Laurie DiRosa** Immaculata University.
47. *Short tails and shorter interactions: insights into molecular structure and the behavior of columnar liquid crystal mesophases.*- **Roman Jordan, Alfredo***, and **Mitchell Powers** Gettysburg College.
48. *Using Quantum Computers to Study the Effects of Thermal Noise in Computation.*- **Selner, Melanie***, and **Gerardo Giordano** King's College.
49. *The coach-athlete relationship and athlete motivation.*- **Ambrose, Rebecca***, **Ashley Batejan***, **Lauren Ladik**, and **Laurie DiRosa** Immaculata University.
50. *Presumptive color test for the detection of xylazine.*- **Bitner, Amber***, and **Lindsey Welch** Cedar Crest College.
51. *Rapid quantification of edible cannabinoid products by chemiluminescence and FRAP assay.*- **Delgado, Juliana***, and **Lindsey Welch** Cedar Crest College.
52. *Identification of human bodily fluids commonly found at crime scenes through analysis of DNA methylation status.*- **Panitz, Alexandra***, **Jazmyn Davis***, and **K. Joy Karnas** Cedar Crest College.
53. *How professional sports teams assess injury risk.*- **Gramlich, Arthur***, and **William Wagner** Immaculata University.
55. *The effects of bisphenol-F on RT4 schwannoma cell proliferation, viability, and TNF- α .*- **Sennett, Rachael***, **Madeline Solomon**, and **Angela Asirvatham** Misericordia University.
56. *Gene expression analysis of Phytophthora infestans AA17 gene PITG_04947 in Solanum tuberosum during disease development.*- **Haldaman, Alanna***, and **Manuel Ospina-Giraldo** Lafayette College.
57. *Investigation of expansins in early diverging land plant lineages.*- **Behney, Maddisyn***, **Tyani Orta**, and **Robert Carey** Lebanon Valley College.
58. *Effects of pesticide pyrethrins on the soil microbiome.*- **Seagreaves, Gabrielle***, and **Lara Goudsouzian** DeSales University.
59. *Identification of proteins that interact with Replication Protein A in a phosphorylation dependent manner using the Yeast Two-Hybrid system in Saccharomyces cerevisiae.*- **Devine, Natalie***, **Katherine Johnson***, and **André Walther** Cedar Crest College.
60. *How does temperature affect DNA yield in blood samples?.*- **Hansell, Madison***, and **Daniel Ginsburg** Immaculata University.

61. *Genetic and environmental factors that affect the natural history of chronic kidney disease.*- **Inch, Olivia***, and **Nik Tsoakos** Penn State University-Harrisburg.

Round Table With PJAS

Saturday, April 12 11:00 AM- 12:00 PM Location: **210B**

62. *Science Research Group: An example high school science research program.*- **Nerozzi, Andrea*** Wyoming Seminary Upper School.

Saturday, April 12 AFTERNOON SESSIONS

ORAL SESSION V: Health and Disease

Saturday, April 12 2:00-3:45 PM Location: **203**

Session Chair: **Dr. Nik Tsoakos**

- 2:00-2:15 **63.** *Secretory carrier membrane protein 3's (SCAMP3) role in amyloid precursor protein trafficking.*- **Marchiori, Jared***, and **Quyen Aoh** Gannon University.
- 2:15-2:30 **64.** *Differential expression of long non-coding RNAs associated with macrophage polarization is specific to surfactant protein A isoforms following infection with Klebsiella pneumoniae.*- **Castaneira, Ryan***, and **Nik Tsoakos** Penn State University-Harrisburg.
- 2:30-2:45 **65.** *Elucidating the role of Hsd17b7 during mammalian neurogenesis.*- **Driver, Ashley*** University of Scranton.
- 2:45-3:00 **66.** *SIS-type COVID-19 and Influenza spread with collective effects.*- **Feczko, Allison***, **Madison Bailey***, **Marisa Powell**, and **Daniel Strömbom** Lafayette College.
- 3:00-3:15 **67.** *Giant basal cell cancer: characteristics of a rare, deadlier skin cancer.*- **Kang, Genelia***, and **Ajaipal Kang** Gannon University.
- 3:15-3:30 **68.** *Inhibiting pancreatic tumor fibrosis: Proglumide may not function via collagen downregulation.*- **Azar, Michael***, and **John Harms** Messiah University.
- 3:30-3:45 **69.** *Examining the interactions between Replication Protein A and associated proteins *Mec1p*, *Tel1p*, and *Ddc2p* using Saccharomyces cerevisiae and the yeast-two hybrid system.*- **Bonser, Hannah***, **Alison Edwards**, and **André Walther** Cedar Crest College.

ORAL SESSION VI: Ecological Restoration

Saturday, April 12 2:00-3:30 PM Location: **211C**

Session Chair: **Dr. Megan Rothenberger**

- 2:00-2:15 **70.** *Freshwater mussel restoration following dam removal in Bushkill Creek, Pennsylvania.*- **Christopher, Eurnett***, and **Megan Rothenberger** Lafayette College.
- 2:15-2:30 **71.** *Evaluating ecological restoration progress in Bushkill Creek, PA: results of longitudinal monitoring before and after dam removal and freshwater mussel reintroduction.*- **Bryan, Jamie***, and **Megan Rothenberger** Lafayette College.
- 2:30-2:45 **72.** *Legacy of charcoal hearths: Impacts on oak forest composition and succession in Pennsylvania.*- **Bartley, Gracie***, and **David Foster** Messiah University.

- 2:45-3:00 **73. Mortality and ecological succession of an ash-dominated forest impacted by the emerald ash borer: an eight-year study.- Curtiss, Katherine*, and Christopher Dolanc** Mercyhurst University.
- 3:00-3:15 **74. Plant vigor is occurring on oak leaves after a wildfire in the New Jersey Pinelands National Reserve.- Wolfgang, Jessica*, Francesca Giardini, Vaughn Shirey, and Stephen Mason** Immaculata University.
- 3:15-3:30 **75. Testing the plant vigor hypothesis on oak (Fagales: Fagaceae) leaves after wildfires in the Pinelands National Reserve, NJ.- Giardini, Francesca*, Jessica Wolfgang, Vaughn Shirey, and Stephen Mason** Immaculata University.

ORAL SESSION VII: Novel Medications

Saturday, April 12 3:15-4:30 PM Location: **614**

Session Chair: **Dr. Meda Higa**

- 3:15-3:30 **76. A CRISPR-Cas approach to combat ampicillin resistance in *Enterobacter cloacae*.- Popoola, Esther*, and Jacquelyn Maddox** Harrisburg University of Science and Technology.
- 3:30-3:45 **77. Exploring the effect of a combined cannabidiol and chlorhexidine treatment against the *Streptococcus mutans*.- Morgan, Nyicia*, and Yiben Wang** Harrisburg University of Science and Technology.
- 3:45-4:00 **78. In search of novel silent antibiotics produced by *Serratia marcescens*.- Wingard, Jacob*, and Meda Higa** York College of Pennsylvania.
- 4:00-4:15 **79. Investigating a stenothricin-like pathway: Uncovering the antibiotic potential of the soil bacteria *Paenarthrobacter nicotinovorans* using CRISPR/Cas9 gene editing.- Rossiter, Taylor*, Matt Vogan, and Meda Higa** York College of Pennsylvania.
- 4:15-4:30 **80. Resveratrol demonstrates antiviral activity toward the Mouse Hepatitis virus 3C-like protease.- Selesky, Kara*, Angelena Donovan*, and Dia Beachboard** DeSales University.

ORAL SESSION VIII: Chemistry and Forensics

Saturday, April 12 2:45-4:30 PM Location: **713**

Session Chair: **Dr. Lara Goudsouzian**

- 2:45-3:00 **81. *Homo sapiens* DNA in the Tannersville Cranberry Bog.- Glenn, Madeline*, Kade Lippitt*, and Lara Goudsouzian** DeSales University.
- 3:00-3:15 **82. Analyzing hydrogen abstraction, vinylacetylene addition (HAVA) reaction pathway for polycyclic aromatic hydrocarbon (PAH) synthesis in dark molecular clouds (DMCs).- Paterson, Rhiannon A.*, and Ronald Brown** Mercyhurst University.
- 3:15-3:30 **83. The quantification and analysis of microplastics in Central Pennsylvania springs.- McNertney, Benjamin*, Yiben Wang, and Catherine Santai** Harrisburg University of Science and Technology.
- 3:30-3:45 **84. 3D scaffolds - biopolymer and nanoparticle hydrogels: A systematic study of mechanical and antimicrobial properties.- Amesquita, Victor*, and Leena Pattarkine** Harrisburg University of Science and Technology.

- 3:45-4:00 **85. The use and prevalence of post-cranial antemortem trauma, pathology, and variation in human identification.- Vana, Aurora*, Rhiannon Toy*, and Joe Adserias-Garriga** Mercyhurst University.
- 4:00-4:15 **86. Analyzing the sources of variation that influence biological sex and population affinity estimations when using postcranial skeletal measurements in Fordisc 3.1.- Murray, Mackenzie*, and Luis Cabo-Perez** Mercyhurst University.
- 4:15-4:30 **87. Unexpected particle formation when adding DMSO or ethanol solutions to biological membranes.- Belanger, Julie*** King's College.

Poster Session II: Microbiology, Molecular Biology, and Biochemistry

Sunday, April 13 2:30-4:30 PM Location: **3rd Floor**

Session Chair: **Dr. Giancarlo Cuadra**

- 34. The effect of starch source on the characteristics of bioplastics.- Simbar, Gwen*, Patricia Strazdus, and Andrea Nerozzi** Wyoming Seminary Upper School.
- 54. Cellobiase activity in oyster mushrooms.- Delayo, Nicholas*, Patricia Strazdus, and Andrea Nerozzi** Wyoming Seminary Upper School.
- 88. Brew-tal for bacteria: Investigating coffee as a natural antimicrobial agent.- Pernet, Nicholas*, and Dia Beachboard** DeSales University.
- 89. Polydatin shows no antiviral activity toward the Human Coronavirus 3C-like Proteases of HCoV-OC43 or HCoV-HKU-1.- Ziegler, Benjamin*, Cora Zilinski, and Dia Beachboard** DeSales University.
- 90. Quercetin shows no antiviral activity toward the Human Coronavirus 3C-like Proteases of HCoV-HKU1.- Zilinski, Cora*, and Dia Beachboard** DeSales University.
- 91. Forskolin-mediated cAMP activation in Schwann cells shows upregulated PKAc expression and downregulation of PP2A expression.- Ortega, Meghan*, and Angela Asirvatham** Misericordia University.
- 92. Screening of *Bacillus* isolates suggests conserved mechanisms of heat and salt tolerance.- Flask, Isabella*, and Rajinikanth Mohan** Mercyhurst University.
- 93. Exploring the role of the microbiome in ferroptotic processes of *Hydra vulgaris*.- Asper, Callie*, Kira Koutsouftikis*, and Diane Bridge** Elizabethtown College.
- 94. High throughput screening of bacteria for prevalence of UV fluorescence.- Cook, Anna*, Kylee Crayne, and Rajinikanth Mohan** Mercyhurst University.
- 95. Genetic screen for salt tolerance identifies Sigma Factor A as a critical transcriptional regulator of salinity stress.- Arhin, Annabel*, Isabella Foriska, and Rajinikanth Mohan** Mercyhurst University.
- 96. Characterizing the role of QbsC and QbsD in antibiotic production in *Alcaligenes faecalis* strain DS8_19 from York County.- Stube, Judah*, Jordan Wilson*, and Meda Higa** York College of Pennsylvania.
- 97. A novel method of genotyping yeasts involved in beer production using quantitative PCR and High Resolution Melt Analysis.- Adams, Kaleigh*, Gracie Domingo-Whitfield*, and André Walther** Cedar Crest College.
- 98. CRISPR/Cas9 knockout of a fragin biosynthetic gene in *Pseudomonas laurylsulfatorans*.- Brown, Nya*, and Cecilia Bove** York College of Pennsylvania.
- 99. Finding antibiotic producers using the crowded-plate technique.- Updegrove, Madelyn*, and Jennifer Hayden** Cedar Crest College.

100. Isolation and characterization of *Paracoccus* sp. ME4, a carotenoid producing strain isolated from freshwater.- **Allhouse, Tim***, **Victoria Abramczuk**, and **Emily Stowe** Bucknell University.
101. Characterizing the glycoprotein-receptor interaction of Hantavirus infections.- **Adesola, Opeoluwa***, and **Meda Higa** York College of Pennsylvania.
102. Antimicrobial potential of bacterial isolates from *Ficus carica* leaves.- **Maamari, Jessica***, **Lauren Heiland**, and **Jennifer Hayden** Cedar Crest College.
103. *Porphyromonas gingivalis* growth is disrupted by oral commensal metabolites and e-liquids.- **Safi, Sabeen***, **Danna Berro***, **Juliette Amram***, and **Giancarlo Cuadra** Muhlenberg College.
104. Efficacy of phage K on killing *Staphylococcus aureus* grown in biofilm.- **Aiello, Nicholas***, and **Joshua Loomis** East Stroudsburg University.
105. Efficacy of anthelmintics on parasite load in horses in Central Pennsylvania.- **Donelson, Hayley***, and **David Matlaga** Susquehanna University.
106. Minimal heterocyst formation distance and akinete density in a filamentous cyanobacteria isolate.- **Klews, Cristoph***, **Samantha Orosz***, and **Emily Stowe** Bucknell University.
107. Isolation and genetic characterization of antibiotic-producing bacteria from water samples.- **Kitzhoffer, Ashlee***, and **Jennifer Hayden** O.
108. Evaluating the cytotoxicity of novel phosphaplatins in breast cancer cells.- **McHenry, Emily***, and **Robert Mishur** Widener University.
109. The effects of cinnamon e-liquids on THP-1 macrophage differentiation and gene expression.- **Tomov, Sophie***, and **Giancarlo Cuadra** Muhlenberg College.
110. Cell-free expression of a genetically encoded fluorescent ATP sensor.- **Rasa, Christina***, **Angela Asirvatham**, and **Cosima Wiese** Misericordia University.
111. Eaf's effect on NuA4 histone acetylation.- **Oye-mba, Angele***, and **Daniel Ginsburg** Immaculata University.
112. Investigating how Jazf-1 acts as a functional bridge between histone modifying complexes and nuclear hormone receptors.- **Beam, Alayna***, and **Matthew Johnson** University of Pittsburgh at Greensburg.
113. Modeling endometrial stromal sarcomas using JAZF1 gene fusions.- **Crookston, Justin***, and **M. Logan Johnson** University of Pittsburgh at Greensburg.
114. An experimental and computational approach to studying anti-tumor activation of mouse macrophages.- **Shaver, Bridget***, **Diego Zelaya**, **Robert A. Kurt**, and **Chun Wai Liew** Lafayette College.
115. Optimizing anti-tumor RNA longevity in murine bone marrow-derived macrophages and validating the role of NFkB in the anti-tumor response.- **Lass, Melissa***, **Amanda Pratt***, **Robert Kurt**, **Chun Wai Liew**, and **Molly Dormer** Lafayette College.
116. Evolving more alcohol-tolerant yeast for brewing.- **Trainor, Maddy***, and **Daniel Ginsburg** Immaculata University.
117. Acrylamide's effects on chromosome loss in *Saccharomyces cerevisiae*.- **Abdeljebbar, Douaa***, **Haven Rand***, and **Lara Goudsouzian** DeSales University.
118. Tetrahydrocannabinol (THC) destabilizes trinucleotide repeat tracts in *Saccharomyces cerevisiae*.- **Ferguson-Richards, Adore***, **Zahra Imrani***, **Antonio Rinaldi***, and **Lara Goudsouzian** DeSales University.
119. Development of a larval salivary gland culturing system for the black fungus gnat, *Bradysia coprophila*.- **Ivory, Leigh***, and **Michael Foulk** Mercyhurst University.

120. *Investigating the role of phosphorylation in malate dehydrogenase activity and metabolon formation.*- **Larick, Connor***, **Alyson Cooper**, **Marina Evert**, and **Amy Parente** Mercyhurst University.
121. *The effects of lipid synthesis inhibitor ND-630 on fungal species Aspergillus fumigatus, Candida albicans, and Cryptococcus neoformans in comparison to fluconazole.*- **Wolf, Judith***, **Amber Marble**, and **Kathryn Sarachan** Wilson College.
122. *Examining the impact of post-translational modifications on the bridging interactions of cancer associated protein Ddc2p with Replication Protein A and Mec1p using the budding yeast Saccharomyces cerevisiae.*- **Edwards, Alison***, and **André Walther** Cedar Crest College.
123. *How effective is sunscreen at preventing UV-mediated DNA damage?-* **Bocaj, Gabriel***, and **Daniel Ginsburg** Immaculata University.
124. *Mutating yeast for faster fermentation.*- **Saintillien, Berrangere***, and **Daniel Ginsburg** Immaculata University.
125. *Establishing a model system to study inflammatory signaling in human macrophages.*- **Kuehner, Laura***, and **Isis Rivera-Walsh** Messiah University.
126. *How do different DNA double strand break repair pathways contribute to resistance to chemotherapy?-* **Kiederling, Jessica***, and **Daniel Ginsburg** Immaculata University.
127. *Identification of a putative pathophysiological mechanism for dysregulated gastrointestinal transit in fluoroquinolones-associated disability.*- **Muhl, Courtney***, **Maral Ganzorig***, and **Cecilia Bove** York College of Pennsylvania.
128. *Using CRISPR-Cas9 to delineate the antibiotic potential of uncharacterized genes in Paenarthrobacter nicotinovorans.*- **Garcia, Naiara Bernice***, and **Meda Higa** York College of Pennsylvania.
129. *From bacteria to bugs: Bridging gene expression across domains.*- **Velastegui, Michelle***, **Chloe Benjamin***, and **K. Joy Karnas** Cedar Crest College.
130. *Phthalates in e-cigarettes and toxicity to male reproductive tissue.*- **Ford, Daniel***, and **Thomas Kwiatkowski** West Chester University.
131. *Characterization of Betl expression on antibiotic drug sensitivity.*- **Richards, Abigail***, and **Joy Karnas** Cedar Crest College.
132. *Determining the efficacy of anti-fibrotic treatment in advanced pancreatic cancer using whole-slide imaging.*- **Fitz, Faith A.***, and **John F. Harms** Messiah University.

Sunday, April 13 MORNING SESSIONS

ORAL SESSION IX: Human Drug Interactions

Sunday, April 13 9:15-10:45 AM Location: 203

Session Chair: **Dr. Jennifer Ness-Myers**

- 9:15-9:30 **133. Ethanol depletion dynamics in open-system breath alcohol simulators.**- **Fogarty-Harnish, Oliver***, **Jill K. Yeakel**, **Ted L. Pauley**, **Ed T. Svirbely**, and **Shawn P. Barry** Harrisburg University of Science and Technology.
- 9:30-9:45 **134. The effects of serotonin transporter gene variations on major depressive disorder treatment and anxiety.**- **Lugo, Adrian***, **Amber Marble**, and **Deborah Austin** Wilson College.
- 9:45-10:00 **135. Determining the anti-angiogenic properties of CTZ1, a novel drug being investigated for age-related macular degeneration.**- **Alkhafaji, Fadi***, **Jeremy Burda**, and **Mahita Kadmiel** Allegheny College.

- 10:00-10:15 **136.** *The cytotoxicity of synthetic dye Red 40 and its metabolites cresidine-4-sulfonate and 1-amino-2-naphthol-sulfonic acid on the Caco-2 human colon cell line.*- **Steele, Hailey***, **Kathryn Sarachan**, **Amber Marble**, and **Sherri Buerdsell** Wilson College.
- 10:15-10:30 **137.** *Comparison of ethanol and acetaldehyde exposure on developing zebrafish.*- **Zerebilov, Rozalia***, and **Jennifer Ness-Myers** Messiah University.
- 10:30-10:45 **138.** *Characterization of a chemical hypoxia model in developing zebrafish.*- **Kersten, Elise***, and **Jennifer Ness-Myers** Messiah University.

ORAL SESSION X: Entomology

Sunday, April 13 9:30-10:45 AM Location: **211C**

Session Chair: **TBD**

- 9:30-9:45 **140.** *A general framework for modeling biological control of the spotted lanternfly and similar invasive pests.*- **Brochu, Jackie***, and **Daniel Strömbom** Lafayette College.
- 9:45-10:00 **142.** *Elucidating the heterogeneity of wing morphology in D. melanogaster using Wasserstein geometry.*- **Gibbs, Evan*** York College of Pennsylvania.
- 10:00-10:15 **143.** *Using Google Trends to improve monitoring of the invasive spotted lanternfly in the United States.*- **Lippitt, Kade***, **Caroline Maciejewski**, **Jonathan Katzenmoyer**, **Emily Ringholm**, and **Alex Huynh** DeSales University.
- 10:15-10:30 **144.** *Invertebrate abundances change with the presence of slugs (Gastropoda: Pulmonata) in pitfall traps.*- **Doyle, Aidan***, **Liam Semmler**, and **Vaughn Shirey** Immaculata University.
- 10:30-10:45 **145.** *Predicting beetle (Insecta: Coleoptera) cfbommunities through biotic and abiotic variables on Hog Island, Maine.*- **Semmler, Liam***, **Aidan Doyle**, **Vaughn Shirey**, and **Stephen Mason** Immaculata University.

ORAL SESSION XI: Marine Science

Sunday, April 13 9:30-10:45 AM Location: **713**

Session Chair: **Dr. Emily Basile**

- 9:30-9:45 **146.** *Nickel response of irt1 mutants in Arabidopsis thaliana.*- **Undieh, Unimakon***, and **Michael Shin** Messiah University.
- 9:45-10:00 **147.** *Agronomic evaluation and oil analysis of flax varieties (Linum usitatissimum L.) in South-Central Pennsylvania.*- **Stults, Isabelle***, **Roseann Sachs**, and **Janet Barroga-Matanguihan** Messiah University.
- 10:00-10:15 **148.** *Meiofauna community composition and vertical zonation in intertidal mudflats, Chincoteague Bay, Virginia.*- **Maldonado, Vincent***, and **Emily Basile** Delaware Valley University.
- 10:15-10:30 **149.** *Modeling coral reef and crown of thorns starfish Acanthaster solaris interactions to conserve reef health.*- **Hoitt, Julianna***, and **Daniel Strömbom** Lafayette College.
- 10:30-10:45 **151.** *Abundance of psychrotolerant members of gamma proteobacteria in estuarine beach.*- **Baker, Jeanette***, **Teagan Thomas**, **Sydney Grimes**, and **Rajinikanth Mohan** Mercyhurst University.

Poster Session III: Ecology and Cell Biology
Sunday, April 13 9:45-11:45 AM Location: 3rd Floor
Session Chair: **Dr. Rachel Fogle**

152. *Evidence for enemy release in the invasive New Zealand mud snail.*- **Suter, Gavin***, **Nicole Flanders**, **Gracie Harlow**, and **Edward Levri** Penn State University-Altoona.
153. *Reading between the draglines: The effect of male and female fishing spider Dolomedes triton silk on whirligig beetle Dineutus assimilis behavior and predation.*- **Persons, Kelsey***, and **Matthew Persons** Susquehanna University.
154. *Fishing out invasives: how are native tessellated darters reacting to the presence or absence of invasive banded darters?*- **Milligan, Scott***, **Sara Ashcraft**, and **Matt Wilson** Susquehanna University.
155. *Jaw dropping mechanics: Preliminary insights from a simplified analysis of shark jaw properties.*- **Bortz, Jordyn***, and **Frank Varriale** King's College.
156. *A GIS analysis of the impacts of climate change on distribution and biodiversity of elasmobranch species.*- **Miller, Rebecca***, **Albert Sarvis**, and **Rachel Fogle** Harrisburg University of Science and Technology.
157. *Prescribed burns as an invasive species management strategy in Jacobsburg State Park, PA.*- **Fanning, Connor***, and **Megan Rothenberger** Lafayette College.
158. *Fire as an ecosystem management tool: Does burn season affect plant composition?*- **Demaree, Kate***, and **Megan Rothenberger** Lafayette College.
159. *Thyme (Thymus vulgaris) to thrive: exploring the most effective controlled environment agriculture (CEA) system for sustainable growth.*- **Maley, Mackenzie***, **Joseph Tetreault**, and **Rachel Fogle** Harrisburg University of Science and Technology.
160. *Using benthic macroinvertebrates to indirectly determine water quality.*- **Katona, Charles***, and **Rebecca Urban** Lebanon Valley College.
161. *Using Google Trends to improve monitoring of the invasive spotted lanternfly in the United States.*- **Maciejewski, Caroline***, **Kade Lippitt**, **Jonathan Katzenmoyer**, **Emily Ringholm**, and **Alex Huynh** DeSales University.
162. *Beech leaf disease in two Pennsylvania state parks.*- **Caporaletti, Luciana**, **Emma Sokaloski***, and **Brandon Mabey*** Penn State University-Wilkes-Barre.
163. *Exploring the role of glutaredoxin, GrxS16, in improving root development under salt stress.*- **Zinn, Hannah***, and **Tej Man Tamang** York College of Pennsylvania.
164. *Effects of commonly found microplastics on terrestrial plant growth and reproduction.*- **Naugle, Grace***, and **Cosima Wiese** Misericordia University.
165. *Comparison of isolation techniques for Epichloë endophyte.*- **Moyer, Michaela***, and **Tammy Tintjer** King's College.
166. *Using Hemp (Cannabis sativa) for the Phytoremediation of Lead and Arsenic in Former Orchard Soils on Delaware Valley University's Campus.*- **Broom, Michael***, **Carla Garzon**, and **Jaclyn Fiola** Delaware Valley University.
167. *A study of fungal pathogens of hemp in Bucks County PA.*- **Molineros, Isabel***, **Danielle Bowman**, **Emily Brophy**, **Matthew Izuka**, **Ameer Awawda***, and **Carla Garzon** Delaware Valley University.
168. *Herbicide and surfactant effects on eggsac eclosion and spiderling survival in the wolf spider Tigrosa helluo.*- **Kapushinski, Isabelle***, **Lilia Wiest**, **Elizabeth Levin**, **Madison Sangrey**, **Brianna Livezey**, **Isaiah Bomboy**, **Ashley Marchessault**, and **Delana Spencer** Susquehanna University.

169. *Comparing ant (Hymenoptera: Formicidae) communities on Harbor Island, Maine.*- **Hong, Brianna***, **Diana Geditz**, **Kelly Orlando**, and **Stephen Mason** Immaculata University.
170. *Comparing cave cricket (Orthoptera: Rhaphidophoridae) communities on Harbor Island, Maine.*- **Geditz, Diana***, **Brianna Hong**, **Stephen Mason**, and **Kelly Orlando** Immaculata University.
171. *Measuring avoidance of predator odor cues in wild birds.*- **Dotta, Austin**, **Jonathan Katzenmoyer**, **Caroline Maciejewski**, **Kade Lippit**, **James Knowles**, **Afaf Nazif***, and **Alex Huynh** DeSales University.
172. *Unlocking antibiotics: The role of soil microbes.*- **Haddad, Joy***, **Taylor DeHaven**, and **Dia Beachboard** DeSales University.
173. *Surveillance of tick-borne diseases at DeSales University's campus.*- **Donovan, Angelena***, **Kara Selesky***, and **Dia Beachboard** DeSales University.
174. *Characterization of Endobacteria Isolated from Wild Mushrooms from Allegheny National Forest.*- **Wiegand, Sydney***, **Hannah Bojczuk**, **Brice Hansen**, and **Rajinikanth Mohan** Mercyhurst University.
175. *Exploring Myxococcus xanthus as a sustainable approach for iron bioremediation.*- **Bonnet, Ashley***, and **Akeisha Belgrave** Harrisburg University of Science and Technology.
176. *Powering small devices using electricity generated from the mud through Geobacter and Shewanella within microbial fuel cells (MFCs), known as mudwatts.*- **DeNucci, Christine Kate***, **Dhara Javia**, and **David Glick** King's College.
177. *Identifying Mushroom Species using Polymerase Chain Reaction.*- **Watson, Emilie***, and **Rajinikanth Mohan** Mercyhurst University.
178. *Evaluating the role of SCAMP3 on CXCR4 trafficking.*- **Franz, Allison***, **Alexander Hurtado***, and **Quyen Aoh** Gannon University.
179. *The effects of bisphenol S on the viability and proliferation of glial cells in the peripheral nervous system.*- **Solomon, Madeline***, **Rachael Sennett**, and **Angela Asirvatham** Misericordia University.
180. *Galangin gains: Evaluating galangin as a natural ally against inflammation.*- **Perneta, Nicholas***, **Victoria Kenney**, **Colin Cloud**, **Emaleigh Kramer**, **Joshua Rizzardi***, **Cassandra Zellner**, **Sarah James**, and **Nandana Varier** DeSales University.
181. *From ocean to ointment: Evaluating the anti-inflammatory effects of Lampire Lobster Hemocyanin.*- **Perneta, Nicholas**, **Victoria Kenney***, **Colin Cloud**, **Emaleigh Kramer**, **Joshua Rizzardi**, **Cassandra Zellner**, **Sarah James**, and **Nandana Varier** DeSales University.
182. *CD44 isoform dynamics: Unveiling its role in SV40 T-antigen induced transformation of human diploid fibroblasts.*- **Berry, Sophia***, and **Jane Cavender** Elizabethtown College.
183. *Correlation of SV40 T-antigen Viral Oncoprotein Accumulation with Aggressive Growth Characteristics of Transformed Human Diploid Fibroblasts.*- **Zivny, Kassandra***, and **Jane Cavender** Elizabethtown College.
184. *E-liquids disrupt macrophage phagocytosis against Escherichia coli.*- **Tabakha, Maya***, and **Giancarlo Cuadra** Muhlenberg College.
185. *Chromosome number and segregation behavior in the green lacewing Chrysoperla rufilabris.*- **Maslin, Valoria***, and **Leocadia Paliulis** Bucknell University.
186. *Chromosome segregation dynamics in meiosis I, meiosis II, and mitosis in the cells of milkweed bugs (Oncopeltus fasciatus).*- **Kianersi, Hedyeh***, and **Leocadia Paliulis** Bucknell University.
187. *Chromosome segregation dynamics in meiosis I, meiosis II, and mitosis in the cells of house crickets (Acheta domesticus).*- **Aryal, Sweta***, and **Leocadia Paliulis** Bucknell University.
188. *Co-segregating X1 and X2 chromosomes in yellow sac spiders are not connected in metaphase I.*- **Ruccolo, Maria***, and **Leocadia Paliulis** Bucknell University.

189. *Characterizing the effect of a gastrin/CCK antagonist on post-translational processing of collagen in pancreatic cancer.*- **Franchina, Abigail***, **Courtney Williams**, and **John Harms** Messiah University.
190. *Quantifying primary tumor fibrosis in a metastatic model of murine pancreatic cancer.*- **Ambrosino, Marian***, and **John Harms** Messiah University.
191. *Exploring quiescence-specific protein markers in human fibroblasts.*- **Jenkins, Owen***, **David Rothblat**, and **Jaimy Joy** La Salle University.

Local Coffee and Food Options Near Harrisburg University Campus

Coffee

Denim Coffee
(2 locations)
1st fl of Strawberry Square
401 Walnut St, Harrisburg

Little Amps
133 State St, Harrisburg

Casual Dining

El Sol Mexican Restaurant
20% discount for PAS attendees
18 S 3rd St, Harrisburg

Mount Everest: Nepali & Indian Cuisine
10% discount for PAS attendees
19 N 3rd St, Harrisburg

Zero Day Brewing
925 N 3rd St, Harrisburg

Boneshire Taps
13 S 3rd St, Harrisburg

Cafe Fresco
215 N 2nd St, Harrisburg

Bacco Pizzeria and Wine Bar
20 N 2nd St, Harrisburg

Au Bon Lieu (French creperie)
1 N 3rd St

Upscale

Cork & Fork
200 State St, Harrisburg

Sammy's Authentic Italian Restaurant
502 N 3rd St, Harrisburg

Millworks
340 Verbeke St

Burger Yum
400 N 2nd St, Harrisburg, PA

Pasto Rante
1012 N 3rd St

Federal Taphouse
234 N 2nd St

Miyako Sushi
227 N 2nd St

Carley's Ristorante
204 Locust St

On 2nd Floor of Strawberry Square:
Sakura Tokyo (M-F 10-6 pm, Sat 10-5 pm)
Chef Chen's
Tropical Smoothie
Fresca Burger and Chicken Shack
Taco Bell

Many thanks to the Harrisburg University faculty, staff, student volunteers, and administrators who made this event possible.



Plan to join us in 2026 for the
101st Annual Meeting of the
Pennsylvania Academy of Science at
Misericordia University in Dallas, Pennsylvania



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