

2026 UMES ANNUAL RESEARCH SYMPOSIUM

BOOK OF ABSTRACTS

LIST OF PRESENTERS

*Examining the Impacts of Generative AI
— on Education, Research, and Society —*



List of Presenters - ORAL PRESENTATIONS

Faculty Presenters Room: SSC Theatre Time: 9:00 AM - 10:00 AM

- 9:00 AM OF1** Data-Driven Sea Level Forecasting for Cambridge, Maryland: Leveraging Time Series Models. **Dr. Yeong Nain Chi***.
- 9:15 AM OF2** Multi-Country Global Maize Yield Trends and Forecasts: Implications for Trade Policy. Catherine Ngo, **Dr. Yeong Nain Chi***, and Dr. Moses T. Kairo
- 9:30 AM OF3** Organizational Sustainability Through Gender-Equitable Succession Planning in NCAA Women's Coaching. **Dr. Jamila Johnson***, Dr. Richard Milter, Dr. Robert Schaller, and Dr. Faleh Alshameri.
- 9:45 AM OF4** Shifting from Passive to Active Learning: Fostering Student Engagement and Achievement in a Graduate Physician Assistant Program. **Dr. Khaled M. Hasan***

Doctoral Presenters Room: SSC 2149 Time: 9:00 AM - 10:45 AM

- 9:00 Am OD1** AI-Driven Drug Design: Lead Optimization of Fluorinated Enaminone Compounds using Simulations Plus. **Taiwo Oluyemo***, Dr. Rhashanda Haywood, and Dr. Patrice Jackson-Ayotunde.
- 9:15 AM OD2** An Approach to Stand Counts and Crop Health Using Robotics. **Suseel. K. Yerramsetti1***, L. Ward1, D. V. Singamsetti2, Dr. A. Nagchaudhuri
- 9:45 AM OD3** Corn Earworm (*Helicoverpa zea*) Herbivory Induces Cannabinoid, Terpenes Biosynthesis and Defense Gene Expression in Boax and Berry Hemp (*Cannabis sativa* L.) Varieties. **Freweyni Michael Abrha***, Dr. Tigist Tolosa, and Dr. Simon Zebelo.
- 10:00 AM OD4** Distribution of Total and Pathogenic *Vibrio parahaemolyticus* in Farmed and Wild Oysters in the Chesapeake. Bay. **Allissa Riley***, Mary Snow, Kelly Williams, Dr. John Bowers, Leila Silva, Dr. John Jacobs, Dr. Paulinus Chigbu, Ava Ellett, and Dr. Salina Parveen.
- 10:15 AM OD5** Effect of Seaweed Biostimulants on Growth and Antioxidant Content of Beetroot in an Indoor FarmBot System. **N. Khadka***, Dr. Madhumi Mitra, Dr. Abhijit Naagchaudhury, Dr. Byungrok Min, Dr. Jesuraj Panday, Portia Nkrumah, and Euyeon. Noh.
- 10:30 AM OD6** Elucidating the Roles of Exosomes Derived from Aging Adipose Stem Cells in Tissue Regeneration. **Shahryar Moradi Falah Langeroodi1***, Pricilla Priscilla Okyerel1, Iram Elamin1, Amrit Neupane1, Dr. Subhasis Mandal1, Dr. Tian-Ming Fu2, and Dr. Jiabing Fan1.
- 10:45 AM OD7** Engineering Enhancer-Driven Adeno-Associated Viral Vectors for Cell Type Specific Neural Circuits and Transgenesis. **Daniel Ogbeh***, Dr. Victor Hsia, Dr. Teddy Chen, Justin Okoh, Brandon Bullock, Dr. Jinglu Ai, Anne Ventrone, Dr. Victor Miriel, Dr. William Stauffer, Dr. Leah Byrne, Dr. Rachel Tittle, and Dr. Megan Fredericks.

List of Presenters - ORAL PRESENTATIONS

Doctoral Presenters Room: SSC MPR Time: 9:00 AM - 11:00 AM

- 9:00 AM OD8** Engineering Exosome Mimetics with Macrophage Targeting for Osteo-Immunomodulation. **Angela Hatton***, Emmanuella Twumasi, Iram Elamin, Meghna Rao, Dr. Victor Hsia, Dr. Anjan Nan, and Dr. Jiabing Fan.
- 9:15 AM OD9** Epigenetic Mechanisms Involved in Heat Stress Adaptation in Chenopodium quinoa and their Effect on Crop Performance: Approaches for Establishing Quinoa Cultivation on Maryland's Eastern Shore. **Ithiru John***, Dr. Rick Jellen 2, Dr. Purushothaman Natarajan 1, and Dr. Sadanand Dhekney
- 9:30 AM OD10** Insect Feeding Damage as a Driver of Aflatoxin Contamination in Maize: Implications for Food Safety and Supply Chains. **Kimberly Okpha***, Dr. Simon Zebelo, Bob-Martin Assani, Dr. Stephan Tubene, Dr. Tigist Tolosa, Daniel D. Munkamba, Lyna F. T. Mukwa, Bornagues Tshakushiya, Florent Adakate, Dr. Sadanand Dhekney, Dr. Caleb Nindo, and Dr. Moses Kairo.
- 9:45 AM OD11** Isolation and Characterization of Bioactive Natural Products from Actinomycetes. **Amna Farzeen Baig***, Mary Twumasi, Kenneth Kumadey, Matthew Kusche, and Dr. Madan K. Kharel.
- 10:00 AM OD12** PI3K δ Splice Isoform (PI3K δ -S) Drives PI3K/Akt/mTOR Activation and Idelalisib Resistance in Hematologic Malignancies **Alyssa Lucero***, and Dr. Bi-Dar Wang.
- 10:15 AM OD13** Use of Bacteriophage Against Multi-Drug-Resistant Salmonella in-vitro and in Dry Pet Food Kibbles. **Richard Yaw Otwey***, Sandesh Chapagain, Dr. Anuradha Punchihewage-Don, Dr. Amit Vikram, Dr. Salina Parveen and Dr. Janak Dhakal.
- 10:30 AM OD14** Using Generative AI to Conduct a Systematic Meta-Analysis on Leadership Development. Programs for International Graduate Students at HBCUs. **Ozioma Okehilem***, **Julius Oku*** and Dr. Prince Attoh.
- 10:45 AM OD15** When “Natural” Isn’t Safe: The Real Dangers of Tainted Herbal Supplements. **Mary Twumasi1***, Amna Baig, Jaweria Sheikh, Timothy Gladwell, Victor Hsia, Madan Kharel.

Master's Presenters Room: SSC 2146 Time: 9:00 AM - 10:45 AM

- 9:00 AM OM1** A Comparative Benchmark of Machine Learning Classification Models for Phishing Detection Using URL-Based Features. **Orson Chi*** and Dr. Yeong Nain Chi.
- 9:15 AM OM2** Access to Healthcare and Chronic Disease Burden Across Maryland: Expanded Critical Appraisal of Disease-Specific Outcomes. **Clara Campolina PA-S2***; **Nicole Donohue PA-S2***; **Nathan Fischbein PA-S2***, Dr. Khaled Hasan; and Dr. Shae-Hsuan Hsia.
- 9:30 AM OM3** Adaptive AI Educator: A Multi-Format Learning Platform for Aquatic Invasive Species Education and Outreach—A Blue Catfish Case Study. **Beryl Malomo***, Sagar Patel, Yixiao Ma, Jaden Hanson, Devika Paranjpe, Dr. Chengchu Liu, and Dr. Lizhou Cao
- 9:45 AM OM4** Data-Driven Yield Forecasting for Corn and Soybean on Maryland’s Eastern Shore: Trend Analysis. **Catherine Ngo*** and Ms. Corrie Cotton.
- 10:00 AM OM5** Determinants of Goat Prices in a Maryland Auction Market: Evidence from Hedonic Price Modeling. **Dharma Katuwal***, Dr. Lila Karki and Dr. Enrique Escobar.

List of Presenters - ORAL PRESENTATIONS

- 10:15 AM OM6** Effect of Foliar-Applied Seaweed Biostimulant on Biomass and Antioxidant Content of Aeroponically Grown Lettuce Cultivars. **Portia A. Nkrumah***, Dr. Madhumi Mitra, Dr. Abhijit Nagchaudhuri, Dr. Byungrok Min, Euyeon Noh, Brian Butler, and Parker Wilson.
- 10:30 AM OM7** Enhancing Weather Resilience and Farm Profitability through Alley Cropping Practices among Small-Scale Farmers. **Rumita Sanwa***, and Dr. Lila Karki

Master's Presenters: Room: SSC 2147 Time: 9:00 AM- 10:45 AM

- 9:00 AM OM8** Evaluating the Oviposition Behavior of Corn Earworm on Hemp. **Asim Ahmed***, T. Tolosa, B. Jackson, S. A. Henry, and Dr. Simon Zebelo.
- 9:15 AM OM9** From the Margins to the Mainframe: How Generative AI Is Being Used to Expand Access, Reduce Barriers, and Support Real People in Real Systems. **Chaun J. Rogers***
- 9:30 AM OM10** Measuring Soil CO₂ and CH₄ Flux Dynamics in a Fig-Based Alley Cropping System. **Anuj Dhaka***, Dr. Lila B. Karki
- 9:45 AM OM11** Modelling Financial Health: Socioeconomic and Behavioral Predictors from the 2024 Financial Health Pulse Survey. **Suraj Singh Thagunna***, Dr. Lila B. Karki and Dr. Enrique N. Escobar
- 10:00 AM OM12** Socio-Demographic Factors Influencing Learning and Behavioral Outcomes in Heirs' Property Education. **Raksha Khadka***, Dr. Lila Karki Dr. Prem Bhandari, and Nicole Cook
- 10:15 AM OM13** The Role of Extension Demonstration Sites in the Gradual Adoption of Climate Resilient Alley Cropping. **Mouhamadou Diack*** and Dr. Lila B. Karki
- 10:30 AM OM14** Assessing the Impact of Climate-Smart Agricultural Practices on Soil Greenhouse Gas Emissions. **Mr. Dipendra Gurung**

Undergraduate Presenters: SSC 2144 Time: 9:00 AM - 10:30 AM

- 9:00 AM OU1** AI-assisted Single-Cell Analysis for Sickle Cell Disease Diagnosis: **Briggs Pugner***, Erik Petersson, and Dr. Yuhao Qiang.
- 9:15 AM OU2** Balancing Human Judgment and Artificial Intelligence in Modern Aviation Safety. **Jeffrey Chris-Osisiogu***, and Dr. Jennifer Keane-Dawes.
- 9:30 AM OU3** Systems Design of a Mobile Sampler Lab for Planetary Field Geology. **Taylor Donyele***, Gilbert Pinkett III, and Dr. Aaron Persad.
- 9:45 AM OU4** The Contributions of NASA's Balloon Program Office and the Risks of Defunding. **Sophia Grace Reister*** and Dr. Joseph Howard.

List of Presenters - POSTER PRESENTATIONS

Doctoral Presenters Room: SSC Ballroom Time: 1:30 PM - 3:00 PM

- PD 1** A National Survey of Pelvic Health Content in Physical Therapist Assistant Programs – A Follow-Up Study. **Kimia Azari***, **Carrie Comfort***, **Kirsten Workley*** and Dr. Kimberly Durant.
- PD2** Anticancer Activity of Gambogic Acid in Gastrointestinal Stromal Tumor. **Ashraf M. Kheir***, **Adewale J Adeleke***, and Dr. Muhammad D. Hussain.
- PD3** Bridging Anatomy and Community: Perspectives on Cadaveric Dissection at Minority-Serving Institutions. **Lynee Jacobs***, **Naja Clarke***, **Josiah Phillips***, **Anthony Jones***, and Dr. Molly Selba.
- PD4** Effects of Contrasting Drought Regimes on Switchgrass Performance and Plant-Microbe Interactions. **Chealsea Brown***, Jonathan Cumming, and Gordon F. Custer.
- PD5** Effects of Weighted Vest Use in Community-Dwelling Older Adults During Supervised Exercise: A Pilot Study. Dr. Stephanie McAllister, **Rashad Brown***, **Samantha Malin***, **Celina Scott***
- PD6** Epigenetic Mechanisms Involved in Heat Stress Adaptation in *Chenopodium quinoa* and their Effect on Crop Performance: Approaches for Establishing Quinoa Cultivation on Maryland's Eastern Shore. **Ithiru John***, Dr. Rick Jellen, Dr. Purushothaman Natarajan, and Dr. Sadanand Dhekney.
- PD7** Fluorinated Enaminone's Biological Evaluation as Sigma-2 Receptor Inhibitors. **Feyisetan Beke***, Dr. Rhashanda D. Haywood, Dr. Patrice L. Jackson-Ayotunde, and Dr. Miguel Martin-Caraballo.
- PD8** Growth-Promoting Effects of Endophytic *Trichoderma* on *Corchorus olitorius* Cultivated in a Passive Hydroponic System. **Shuvonkar Bonik***, Ms. Corrie Cotton, Dr. Behnam. Khatabi, and Dr. Mozghan Sepeheri
- PD9** Investigating the Effects of Pain Neuroscience Education on Kinesiophobia and Knee-Related Outcomes in Individuals with Knee Osteoarthritis. **Lindsey Mosmiller***, **Oluseun Ayoku***, **Jacob Breedlove***, **Santosh Regmi***, **Ami Vodi***, and Dr. Masoud Moghaddam.
- PD10** Management and Prevention of Spinal Cord Injury: An Undergraduate Outreach Initiative. **Jensyn Carr SPT***, **Krystina Coyle SPT***, **Brian Drummond SPT***, **Gregory Gerber Jr SPT***, **Nicholas Miller SPT***, and Dr. Dennis Klima.
- PD11** Population Biology of Bay Anchovy (*Anchoa mitchilli*) in Maryland's Coastal Bays. **Victory Akosubo*** and Dr. Paulinus Chigbu
- PD12** The Association of *Vibrio* Species with Macroalgae in the Maryland Coastal Bays. **Joy Enahoro***, Joshua Akinola, Meliza Montoya, Dr. Ligia DaSilva, Dr. Salina Parveen, and Dr. Paulinus Chigbu.
- PD 13** The Effect of Lower Extremity Postures on Pelvic Position and Gluteus Medius Activation During Single Leg Stance: An EMG Study. **Dylan Chi***, **Ryan Chan***, **Jayda Ledford***, **Emily Nadler***, **Marissa Swamy***, and Dr. Michael Rabel.
- PD14** The Impact of the Challenger League on Quality of Life in Athletes, Caregivers, and Volunteers. **James Collins***, **Worthy Hollister***, **Riley Keener***, **Trevor Owens***, **Layla Tiberio***, and Dr. Thomas Pellingier.

List of Presenters - POSTER PRESENTATIONS

Master's Presenters Room: SSC Ballroom Time: 1:30 PM - 3:00 PM

- PM 1** Advocacy for Deaf and Hard-of-Hearing Students in Postsecondary Education. **Chinenye Oluoba***, Ochoa Diana, Victoria Rausach, Jazmine Thomas, and Gerald Elston.
- PM2** Comparing 3-Day TMP-SMX and 5-Day Nitrofurantoin for Acute Uncomplicated Cystitis in Reproductive-Age Women. **Jocelyn Davis, PA-S***; **Ayana Moses, PA-S***; **Destiny Parker, PA-S***; Dr. Khaled Hasan and Dr. Shao-Hsuan Hsia.
- PM3** Comparing Bariatric Surgery and GLP-1 Therapy for Weight and Glycemic Outcomes in Severe Obesity. **Denise Agyeman, PA-S2^{1*}**; **Gabrielle Campbell, PA-S2^{1*}**; **Urenwa Osuamadi, PA-S2^{1*}**; Dr. Shao-Hsuan Hsia and Dr. Khaled Hasan,
- PM4** Cranberry Capsules for Recurrent Urinary Tract Infection Prevention: A Comparative Evidence Review. **Lauren Webb, PA-S***, **Queena Williams, PA-S***, **Joy MODOZIE, PA-S***, Dr. Shao-Hsuan Hsia and Dr. Khaled Hasan.
- PM5** Impact of Regenerative Agriculture Farming Practices on Soil Health in Delmarva Sandy Loam Soil - Organic Vegetable Cropping Systems. **Keith Bucca***, Dr. Arthur Allen, Eugene. Casey, Dr. Dev Gurung, Dr. Fawzy Hashem, and Dr. Patricia Millner.
- PM6** Leveraging Generative AI-Supported Research to Develop Nutrient-Enhanced Cassava (*Manihot esculenta* Crantz) Composite Flour Products. **Anthonia Nwagwu***, Dr. Caleb Nindo, Dr. Nadine Burton, and Dr. Francis Orech.
- PM7** Mind Over Medicine: Coping Strategies and Mental Health Outcomes Among Graduate Health Students During COVID-19. **Laura Nelson***; Brionna Palmer; A'Jenai Thompson; Dr. Shao-Hsuan Hsia; and Dr. Khaled Hasan.
- PM8** Multi-Systemic Therapy Effects on Rates of Recidivism in Juvenile Delinquents. **Aida Aazami***; **Emily Salada***; **Garvan Vines***; Dr. Shao-Hsuan Hsia and Dr. Khaled Hasan.
- PM9** Perfluorobutanoic Acid (PFBA) Reprograms Feeding and Development in Fall Armyworm. **Sumantee Baidya**, Fariba Rostami and Dr. Wayne Omagamre.
- PM10** Prenatal Medication Exposure and Autism Risk: A Comparative Analysis of Neurodevelopmental Outcomes. **Paige Bleyer, PA-S2***; **Brittney Lane, PA-S2***; **Kierra Randolph, PA-S***; Dr. Shao-Hsuan Hsia and Dr. Khaled Hasan
- PM11** Prevalence of Foodborne Pathogens in Backyard Chicken Farms on the Eastern Shore of Maryland. **Priyanka Ranaweera***, Dr. Anuradha Punchihewage-Don, Dr. Melinda Schwarz, Dr. Janak Dhakal, Dr. Jennifer Timmons, and Dr. Salina Parveen
- PM12** Probiotics for Prevention of Antibiotic-Associated Diarrhea in Pediatric Patients: A Review of Level I Evidence. **Ayesha Babar^{1*}**, **Hajra Chaudry^{1*}**, **Areba Ahmad^{1*}**, and Dr. Khaled Hasan
- PM13** School-Based Drug Prevention in High Schoolers. **Ernest J. Breud***; **William Bundi***; **Zuhair Irfan***; Dr. Shao-Hsuan Hsia and Dr. Khaled Hasan.
- PM14** Socioeconomic Determinants of Household Income and Financial Resilience in the United States: Evidence from the 2024 Financial Health Pulse Survey. **Suraj Singh Thagunna***, Dr. Lila Karki and Dr. Enrique Escobar.
- PM15** Understanding Factors Influencing the Adoption of Climate-Resilient Alley Cropping. **Rumita Limbu Sanwa***, and Dr. Lila Karki

List of Presenters - POSTER PRESENTATIONS

Online Master's Presenters Room: SSC Ballroom Time: 1:30 PM - 3:00 PM

- PM16** Experiential Learning and Industrial credentialing in HS CTE programs. The kids of Mustang Café. **Renaldo Singleton*** and Dr. Charlene Smith.
- PM17** Reexamining Computer Science for All: Equity, Implementation, and Readiness in Maryland's K–12 System. **Sharhonda Whitfield***, and Dr. Charlene Smith.

Undergraduate Presenters Room: SSC Ballroom Time: 1:30 PM - 3:00 PM

- PU1** A Preliminary Investigation of Functional Movement Among Student-Athletes and Recreational Athletes at a Historically Black University. **Kaitlyn Eaton***, **Jaiden Woodyard***, and Dr. LaShawn Nastvogel.
- PU2** Artemis-Ready Exercise: AI-Assisted EMG Analysis of Exercise Loading Under Simulated Reduced Gravity. **Elijah Coates***; James Parana; and Dr. Jia Liu.
- PU3** Commercial Essential Oils as Alternative Antimicrobial Agents against *Shewanella* Species. **Yesika Dunn***, Dr. Tahirah Johnson, Dr. Anuradha Punchihewage-Don, and Dr. Salina Parveen
- PU4** Effects of an 11-Week High Functional Resistance Training Program on Indices of Arterial Stiffness. **Dillon G. Otero***, Colin Johnson; Masoud Moghaddam; Brent Fedorko; Jessica Walter; Lisa Marquette; Tim Werner.
- PU5** Exercise Motivation Among Undergraduate Students: An Analysis of Behavioral Regulation Types. **Jalen Ridgeway***, **Joy Hawkins***, and Dr. LaShawn Nastvogel.
- PU6** Impact of Blood Flow Restriction Cuff Design on Upper Body Exercise. **Michael Sergio***, Sean Zupnik, Nicholas Rolnick, Victor de Queiros, Brent Fedorko, Samantha Watson, Campbell Ruffhead, Lucas Kuriawa, Tim Werner.
- PU7** Impact of Synthetic Caffeine on Adolescent and Young Adult Cognitive and Neuromotor Function. **Carrington Rashaw***, and Dr. Jennifer Keane-Dawes.
- PU8** pacesuit Environmental and Telemetry Heads-Up Display (SENTRY HUD). **Darren Wyant*** and Dr. Aaron H. Persad.
- PU9** T-type Calcium Channel Blocker Antiseizure Properties in the Pentylenetetrazol Zebrafish Model. **Jade Reid***, Dr. Tracy Bell, and Dr. Patrice Jackson-Ayotunde.