



Poster Session Assignments

Poster Session A

- 1. Activating STEM Muscles Through Space Farming**
Christine Brillhart and Lisa S. Tsay
MPS Space Farmer Coaches
Jefferson Middle School, and Saginaw Valley State University
- 2. Advanced Control of Led Lighting Systems in Sustainable Greenhouses**
Kip Nieman, B.S. Chemical Engineering and Associates of Arts, PhD student,
Chemical Engineering and Materials Science, Wayne State University
- 3. Can increasing the density of external medium mimic microgravity?**
Grace Miller, Undergraduate, Cell and Molecular Biology, Grand Valley State University
Mark Staves, PhD, Professor, Cell and Molecular Biology, Grand Valley State University
- 4. Deep sequencing of Escherichia coli exposed to prolonged periods of microgravity simulation**
Dalton Raymond, Fabia U. Battistuzzi, Shailesh Lal
- 5. Point of care small molecule detector for health monitoring in space travel**
Christopher Alexopoulos, Undergraduate Biology Student, Undergraduate Researcher, Chemistry Department, Oakland University
- 6. Patient-Handling Tasks and Posture Classification with Machine Learning**
Ngoc Tran, Haniah Kring, Elsa Brillinger, Aine Snoap, Noah Bradford, Dr. Brooke Odle (faculty mentor), Dr. Omofolahunmi Olagbemi (faculty mentor)
- 7. Validating the Use of an IMU-based System to Capture Patient-handling Tasks**
Bridget Gagnier: Undergraduate student, Hope college Engineering department
Reese Moschetta: Undergraduate student, Hope College Engineering department
Yeageon Song: Undergraduate student, Hope College Engineering department
Dr. Brooke Odle: M.S and Ph.D Biomedical Engineering, B.S Bioengineering,

Mentor, Hope College Engineering department

- 8. Astro-Huskies Multiplanetary Regolith Pursuing Husky (MuRPHy)**
Karson Linders, Astro-Huskies Project Manager, Michigan Technological University
Paul van Susante, Ph.D., M. ASCE, M. AIAA, M. ISTVS Assistant Professor Mechanical Engineering Affiliate Assistant Professor of Civil, Environmental and Geospatial Engineering, Michigan Technological University
- 9. A Woman's Place is in Orbit: Roger That's Female-Centered 2022 Symposium**
Jack Daleske, Planetarium Manager, B.A., Grand Rapids Public Museum; Karen Gipson, Ph.D., Professor of Physics, Grand Valley State University; Samhita Rhodes, Ph.D., Professor of Engineering, Grand Valley State University; Rob Schuitema, B.F.A., Director of Public Programs, Grand Rapids Public Museum; Glen Swanson, M.S., Board member, Roger B. Chaffee Scholarship Fund; Deana Weibel, Ph.D., Professor of Anthropology, Grand Valley State University.
- 10. Pathways to Explore - STEM Afterschool Enrichment**
Elizabeth Zinck, Outreach Coordinator, ExploreHope Academic Outreach, Hope College AND Susan Ipri Brown, MSME, Director, ExploreHope Academic Outreach and Associate Professor of Engineering Instruction, Hope College
- 11. Growing Space Plants in an Economical Way: 'Smart' Growth Chamber Configurations for Space and Earth Application**
Margaret E. Hitt, H.H. Dow High School; Sophie Cai, H.H. Dow High School
- 12. Electromagnetic Detection of Failure in Electronic Interconnects and Solder Properties at Extreme Conditions**
Gavin Zimmer, Undergraduate Fellowship, Electrical Engineering, Saginaw Valley State University and Mohammad Khan, Research Seed, Electrical Engineering, Saginaw Valley State University
- 13. Handling Cyberattacks in Advanced Control of CubeSats**
Jihan Abou Halloun (PhD student, Department of Chemical Engineering, Wayne State University)- Helen Durand (Assistant Professor, Department of Chemical Engineering and Materials Science, Adjunct Assistant Professor, Department of Electrical and Computer Engineering, Wayne State University)
- 14. Formation of Contact Binary Stars**
Larry Molnar, PhD, Professor, Calvin University Physics & Astronomy Department; Levi Carr, Undergraduate, Calvin University Physics & Astronomy; Jenn Lau, Undergraduate, Calvin University Physics & Astronomy
- 15. Development of Ultra-resilient Cementitious Composites for Future Automatic Construction using Lunar and Martian Regolith Simulants**

Xiaoqiang Ni, Graduate Student, Department of Civil and Environmental Engineering, Michigan State University

Luke Naughton, Undergraduate Student, Department of Civil and Environmental Engineering, Michigan State University

Qingxu "Bill", Jin, Ph. D., P.E., Advisor, Department of Civil and Environmental Engineering, Michigan State University

16. Measurement of the Graviton Mass using LISA

Brett Bolen, Grand Valley State University

17. Neutral-Point-Less (NPL) Multilevel Inverter Topology with Single DC-link Capacitor: H-type Inverter

Mikayla Benson, Graduate Student, Electrical and Computer Engineering Department, Michigan State University

Poster Session B

1. How iron oxide nanoparticles impact the auditory physiology and antipredator response of the house sparrow (*Passer domesticus*)

Lindsay Jankowski, Undergraduate Student, Biology and Chemistry Departments, Hope College

Olivia Sprys-Tellner, Undergraduate Student, Biology and Chemistry Departments, Hope College

2. PCR Assay for the Detection of Mosquito Vectors in Michigan

Bridie McClusky, Graduate Student, Cell and Molecular Biology, Grand Valley State University.

Dr. Sheila Blackman PhD, Advisor, Cell and Molecular Biology, Grand Valley State University.

3. Effects of Urbanization on House Sparrow (*Passer domesticus*) and House Finch (*Haemorhous mexicanus*) Songs

Sarah Grimes, Biology Department, Hope College

Linda Nduwimana, Biology Department, Hope College

Eliza Lewis, Biology Department, Hope College

Kelly Ronald, PhD, Assistant Professor, Biology Department, Hope College

4. The Impact of DHA Supplementation on Neurogenesis in the Developing Embryo

Grace Okros, Cell and Molecular Biology, Grand Valley State University, Merritt

DeLano-Taylor, PhD, Cell and Molecular Biology, Biomedical Sciences, Grand Valley State University

5. Understanding the Controls of Solute Transport by Streamflow Using Concentration-Discharge Relationship in the Upper Peninsula of Michigan

Fengjing Liu, PhD, Associate Professor, College of Forest Resources and Environmental Science, Michigan Technological University

John S. Gierke, Ph.D., P.E., Professor, Geological & Mining Engineering & Sciences, Michigan Technical University
Sierra L. Williams, Undergraduate Student, College of Forest Resources and Environmental Science, Michigan Technological University

6. Running out of oxygen: Revealing the dynamics of bottom water hypoxia in a Great Lakes estuary

Nate Dugener, B.S. in Environmental Science from Loyola University Chicago, Graduate Student, Annis Water Resources Institute at Grand Valley State University

Ian Stone, B.S. in Natural Resources Management from Grand Valley State University, Lab Technician, Annis Water Resources Institute at Grand Valley State University

Anthony Weinke, B.A. in Biology-Aquatic Science and M.S. in Biology-Aquatic Science from Grand Valley State University, Lab/Observatory Manager, Annis Water Resources Institute at Grand Valley State University

Bopaiah Biddanda, B.S. in Biology from St. Joseph's College, Bangalore University, M.S. in Marine Biology from Karnatak University, and Ph.D. in Marine Microbial Ecology from the University of Georgia, Principal Investigator/Professor, Annis Water Resources Institute at Grand Valley State University

7. Relationships between Age, Relative Telomere Length, and DNA Methylation in Pteropus Bats (Flying Foxes)

Erika E. Forest, MS Student, Department of Biology, Grand Valley State University

Amy L. Russell, Professor, PhD, Department of Biology, Grand Valley State University

8. Numerical Estimation of Lyapunov Characteristic Exponents for the Fractional-Order Chen System

Jadon Clugston, BSE, Graduate Student, Electrical and Computer Engineering, Western Michigan University

Damon Miller, PhD, Associate Professor, Electrical and Computer Engineering, Western Michigan University

Giuseppe Grassi, PhD, Professor, Department of Engineering for Innovation, University of Salento

9. Evaluation of Model Simulated Ozone and its Precursors Using High-Resolution Model Simulations during the Michigan-Ontario Ozone Source Experiment (MOOSE)

Noribeth Mariscal, Graduate Student, Department of Civil and Environmental Engineering, Wayne State University, Detroit, MI, 48202

10. α -decay strength function of $^{54,52}\text{Co}$

Gabriel Balk, Hope College, Paul Deyoung, Hope College

11. Multidisciplinary Design Program (MDP) Projects at the Microdrone Sensor Lab

Aidan Gauthier, Undergraduate Student, CSE/NERS, UM; Dean Aslam, Ph.D., Professor, ECE, MSU; Xiaogan Liang, Ph.D., Associate Professor, ME, UM

12. An Analysis of Eigenmode Activity in Visco-Resistive Magnetic Reconnection

Nicholas Kaipainen

13. The Snap-Through Behavior of Second Mode Buckled Beams

Leo Jaramillo, Ethan Jansen, Dr. Mathew Smith

14. Multipurposed Surface Coatings from Composite Dry Lubrication Schemes

Nicholas Migaldi, Bachelor of Science in Engineering 2025, student research, Department of Engineering, Hope College

Alana Policastro Bachelor of Science in Chemistry 2024, student research, Department of Chemistry, Hope College

15. A New Universal Polarization Resolving Software Package for Solar Coronal and Heliospheric Observations

Mr. Bryce M. Walbridge, (Working on) B.S., Undergraduate Student Researcher, Department of Physics and Astronomy, Calvin University, Grand Rapids, MI

Mr. Daniel B. Seaton, Ph.D., Principal Scientist, Department of Space Studies, Southwest Research Institute, Boulder, CO

Mr. Chris Lowder, Ph.D., Principal Scientist, Department of Space Studies, Southwest Research Institute, Boulder, CO

Mr. J. Marcus Hughes, B.A., Research Computer Scientist, Department of Space Studies, Southwest Research Institute, Boulder, CO

Mr. Mathew J. West, Ph.D., Principal Scientist, Department of Space Studies, Southwest Research Institute, Boulder, CO

16. Utilizing GPU and CPU Parallelization to Quickly Calculate Compton Scattering Cross Section in Magnetar Magnetosphere

William N. Vance - Undergraduate Physics student at Hope College, Peter L. Gonthier - Professor of Physics at Hope College

17. Space Solar Cells, Radiation Damage of Halide Perovskite semiconductors

Dirk Visser (student), Andrew Bunnell(Hope Physics, Director of Physics laboratory), Dr. Paul DeYoung(Hope Physics Department chair), Dr. Jeffrey Christians (Hope Engineering/Mentor)