



Poster Presentations

- 1. Rare-earth ,ÀSalen,À Phosphors as Up-converting Antennae for Photovoltaics**
Jacob A. Adamski, Undergraduate Student, Dept. of Chemistry, OU
Alexander A. Rusakov, PhD. Theoretical Physics, PhD. Physical Chemistry, Assistant Professor, Dept. of Chemistry, OU
Matthias Zeller, PhD. Organometallic Chemistry, X-ray Crystallographer and Assistant Professor, Dept. of Chemistry/Purdue University
Svetlana V. Eliseeva, PhD., Candidate of sciences diploma (equivalent of PhD), Center for Molecular Biophysics, University of Orleans, France
Evan R. Trivedi, PhD. Inorganic Chemistry. Associate Professor, Dept. of Chemistry, OU
PETOUD Stephane PhD, Research Director at Center of Biophysics University of Orleans
- 2. A Case Study of Scientific Identity Formation In STEM Graduate Students**
Shadi Adineh, PhD student in Science Education, Mallinson Institute of Science Education, WMU
- 3. Quantitative Research Using Digitized Historic Short-period Nuclear Explosion Seismograms**
Josie Anderson, Undergraduate Researcher, Dept. of Earth & Environmental Sciences at MSU
- 4. Michigan Resources for Climate and Land-cover Change Education: Vulnerability and Justice**
Samuel Bonser, Bachelors degree candidate, Student, College of Education, GVSU
Elena Lioubimtseva, PhD, Full Professor, GVSU Geography & Sustainable Planning
Cody Thammavongsa, B.S. candidate, Geography senior, GVSU
Janet Vail, Ph.D., Research scientist emirita, Annis Water Resources Institute, GVSU
- 5. Influence of Grain Size and Soil Moisture on Ground Penetrating Radar at Dunes 1 and 2, Hoffmaster State Park**

Caitlyn Bott an undergraduate student researcher, Calvin University
Melinda C. Higley (Mentor) a professor; Department of Geology, Geography and Environment, Calvin University

6. Electronic Implementation of a Chaotic Chen System

Jadon Clugston, WMU, Department of Electrical and Computer Engineering
Dr. Damon Miller, WMU, Associate Professor, Dept. of Electrical and Computer Engineering
Dr. Giuseppe Grassi, University of Salento, Professor, Department of Engineering for Innovation

7. Synthesis of Titanium Dioxide Nanoparticles for Solar Disinfection from Aqueous Solutions

S. Charles Davenport, Undergrad, Chemistry, Hope College
Anna Molloy, Undergrad, Chemistry and Neuroscience, Hope College
Liam Diephuis, Undergrad, Engineering and Chemistry, Hope College
Lindsey Boltz, Undergrad, Neuroscience, Hope College
Luke George, Undergrad, Chemistry, Hope College
Tristan Porter, Undergrad, Chemistry, Hope College
Dr. Natalia I. Gonzalez-Pech Ph.D, Chemistry Dept., Hope College

8. Geospatial mapping of wildland fire air pollution for human exposure

Gabrielle DeMott, BS in progress, Student, UM LSA
Dr. Patricia Koman, MPH PhD, Research Investigator, UM School of Public Health
Dr. Nancy French, PhD, Senior Research Scientist, Michigan Tech Research Institute

9. Engineering the Future: Hands-On Experience for High Needs Students

Carrie Dummer, BS Biochemistry, MA Education, Assistant Professor of Chemistry Instruction, Hope College Chemistry Dept., ExploreHope Academic Outreach

10. Metagenomic characterization of surface waters in West Michigan

Babasola Fateye PhD. Assistant Professor, Biomedical Sciences Dept., GVSU

11. Validating the Use of an IMU-based System to Capture Patient-handling Tasks

Bridget Gagnier: Undergraduate student, Hope College Engineering Dept.
Reese Moschetta: Undergraduate student, Hope College Engineering Dept.
Yeageon Song: Undergraduate student, Hope College Engineering Dept.
Dr. Brooke Odle: M.S and Ph.D Biomedical Engineering, B.S Bioengineering, Mentor, Hope College Engineering Dept.

12. Sediment characteristics of the upper units of landslide-prone bluffs along the Southeast shoreline of Lake Michigan

Onyinyechi Iheme, undergraduate in the Dept. of Geology, Geography and environments at Calvin University.

13. Synthesis of Liquid Crystal Elastomers Functionalized with an Amino Cinnamate

Jacob Kowalski, Engineering, Hope College
Abby LaDuke, Engineering, Hope College
Matthew Smith, PhD., Engineering, Hope College

14. Multidisciplinary Design Program (MDP) Projects at Wireless Sensor Network Lab

Justin Zhang, BS, Student Researcher, UM
Dean Aslam, Ph.D, Professor, ECE, MSU
Xiaogan Liang, Ph.D, Associate Professor, UM

15. Irradiation Source for Exoplanet Atmospheric Spectra

Savannah Lyons, Graduate Student, EMU, Dept. of Physics & Astronomy

16. STEPS Camp 20th Anniversary

Sara Maas, (FSU, AS '98) Technical Drafting & Tool Design, (FSU, BS '00) Plastics Engineering Technology, (GVSU, MSE '04) Manufacturing Operations, Outreach Coordinator, Padnos College of Engineering & Computing Student Services, GVSU

17. Evaluations of Model Simulated Ozone and its Precursors in MUSICA-V0 Against In-situ Airborne Measurements over the Continental US

Noribeth Mariscal, Dept. of Civil & Environmental Engineering, WSU
Yaoxian Huang, Ph.D., Dept. of Civil & Environmental Engineering, WSU
Louisa Emmons, Ph.D., Atmospheric Chemistry Observations & Modeling Laboratory, National Center for Atmospheric Research
Duseong S. Jo, Ph.D., Atmospheric Chemistry Observations & Modeling Laboratory, National Center for Atmospheric Research
Jiajue Chai, Ph.D., Dept. of Earth, Environmental & Planetary Sciences, and Institute at Brown for Environment & Society, Brown University

18. The effects of iron oxide nanoparticles on the sensory physiology in house sparrows (*Passer domesticus*)

Molly McLinden, Undergraduate Biology Dept., Hope College
Lindsay Jankowski, Undergraduate Biology Dept., Hope College
Dr. Kelly Ronald PhD. Biology Dept, Hope College
Dr. Natalia Gonzalez-Pech PhD. Chemistry Dept., Hope College

19. Exploring hand gesture based user authentication using smartwatch

Kristina Mullen, Student, Computer Science & Information Systems, SVSU
Khandaker Rahman, PhD, Associate Professor, Computer Science & Information Systems, SVSU

Avishek Mukherjee, PhD, Assistant Professor, Computer Science & Information Systems, SVSU

20. Application of Artificial Neural Networks in Estimating Ground Reaction Forces Using Inertial Data of the Lower Body

Kenneth Muniyuza, Undergrad, Electrical Engineering & Computer Science, Hope College

Trevor Palmatier, Undergrad, Computer Science, Hope College

Bridget Gagnier, Undergrad, Biomedical Engineering, Hope College

Reese Moschetta, Undergrad, Biomedical Engineering, Hope College

Yea Geon Song, Undergrad, Biomedical Engineering, Hope College

Brooke Odle, PhD, Professor of Engineering, Hope College

Omofolakunmi Olagbemi, PhD, Professor of Computer Science, Hope College.

21. Habitat Use and Movement Patterns of Burbot (*Lota lota*) in the Grand River Watershed

Alexis Neff, Bachelors of Science, Graduate Student, Biology, GVSU

Eric Snyder, Ph. D., Professor, Dept. of Biology, GVSU

Alexandra Locher, Ph. D., Professor, Dept. of Biology, GVSU

Marty Holtgren, Ph. D., Private Consultant, Encompass Socio-ecological Consulting.

Carl Ruetz III, Ph. D., Professor, Annis Water Resources Institute, GVSU

22. Microplastic ingestion by fathead minnows and their impact on gut microbial communities

Maggie Petersen, MSc Candidate, Annis Water Resources Institute, GVSU

23. Multiple Wavelength Measurements of the Optical Properties of Volcanic Ash, relating to Chemical Composition

Renato Pinto Revegino, Undergrad, Physics, MTU

24. Changes in Chromatic Contrast of Avian Plumage in Forests with Different Levels of Deer Browsing

Morgan Sherrard, Undergrad, Biology Dept., Hope College

Dr. Megan Gall, Vassar College, Biology Dept., Poughkeepsie, NY (PhD)

Timothy Boycott, College of William & Mary, Biology Dept., (Master's Degree)

Dr. Kelly L. Ronald, Hope College, Biology Dept., (PhD)

Suihnem Mawi, Undergraduate Researcher, Hope College

25. Dancing the night (and day) away: Extant mat world microbes synchronize migration to a diel tempo

Ian Stone, B.S. in Natural Resources Management from GVSU, Research Technician, Annis Water Resources Institute, GVSU

Tony Weinke, M.S. in Biology-Aquatic Science from GVSU, Research Technician/Observatory Manager, Annis Water Resources Institute, GVSU

Bopi Biddanda, Ph.D. in Marine Microbial Ecology from the University of Georgia,
Professor, Annis Water Resources Institute, GVSU

26. Understanding the Link between Spaceflight and Candida albicans Biofilm Formation

Evan Sidebotham, Undergrad, Dept. of Biomedical Sciences, GVSU
Ian Cleary, Ph. D, Associate Professor, Dept. of Biomedical Sciences, GVSU
Derek Thomas, Ph. D, Associate Professor, Dept. of Biomedical Sciences,
GVSU

27. Developing efficient algorithms to compute the exact widths of the QED cyclotron resonance of Compton scattering in strong magnetic fields

Peter Gonthier, PhD in Nuclear Chemistry, Professor, Department of Physics,
Hope College
Matthew Baring, PhD in Theoretical Astrophysics, Department of Physics and
Astronomy, Professor at Rice University
William Vance, Undergrad, Physics major, Hope College

28. Mapping the Spread of Invasive Plants in Michigan Wetlands

Jonathan Walt, Graduate Student, Biology, GVSU

29. Design of a Torsional Thrust Stand for Milli-Newton Cold Gas Thrust Measurements

Hannah Watts, Bachelors of Science from WMU, Masters Student, Mechanical &
Aerospace Engineering Dept. at WMU
Dr. Kristina Lemmer, Bachelors, Masters & PhD from UM, Associate Professor,
Mechanical & Aerospace Engineering Department at WUM
Asif Mohammed, Bachelors and Masters, PhD pre-Candidate, Mechanical and
Aerospace Engineering Department at WMU
Nate Allwine, Undergrad, Mechanical & Aerospace Engineering Dept, WMU
Luke Fouch, Undergrad, Mechanical & Aerospace Engineering Dept, WMU

30. On the Role of Stable Eigenmodes in Resistive Magnetic Reconnection

Dr. Zach Williams, Assistant Professor of Physics, Hope College

31. Towards predictive modeling of astatine compounds

James MacLean, Undergrad, Chemistry, Oakland University
Vincent T. Casetti, Graduate Student, Chemistry, Oakland University
Jacob Adamski, Undergrad, Chemistry, Oakland University
Adam D. Ayoub, Undergrad, Chemistry, Oakland University
Alexander A. Rusakov, Professor/PhD, Chemistry, Oakland University

32. Selective Preservation of Structural Carbohydrates During Peat Formation

Lauren Bryan, Student, Geological & Environmental Sciences, Hope College
Christian Lundy, Student, Geological & Environmental Sciences, Hope College
Erik Schoonover, Student, Geological & Environmental Sciences, Hope College

Trevor Hile, Student, Chemistry, Hope College
Rachel Shaw, Student, Chemistry, Hope College
Ali Koehl, Student, Chemistry, Hope College
Grace Behrens, Student, Geological & Environmental Sciences, Hope College
Dr. Michael Philben, Assistant Professor, Geological & Environmental Sciences, Hope College

33. Minimizing Power Consumption of Run-Time Software Testing Strategies in Cyber-Physical Systems

Abigail Diller, BS Computer Science, Undergraduate Research Assistant, School of Computing, GVSU
Erik Fredericks, PhD Computer Science, Assistant Professor, School of Computing, GVSU

34. Out of oxygen: Exploring bottom water hypoxia dynamics in a Great Lakes estuary

Nate Dugener, B.S. in Environmental Science from Loyola University Chicago, Graduate Student, Annis Water Resources Institute at GVSU
Ian Stone, B.S. in Natural Resources Management from GVSU, Lab Technician, Annis Water Resources Institute at GVSU;
Anthony Weinke, M.S. in Biology-Aquatic Science from GVSU, Lab/Observatory Manager, Annis Water Resources Institute at GVSU;
Bopaiah Biddanda, Ph.D. in Marine Microbial Ecology from the University of Georgia, Principal Investigator/Professor, Annis Water Resources Institute at GVSU

35. Roger That! V (V is for Virtual)

Karen Gipson, Ph.D, Professor of Physics, GVSU; Samhita Rhodes, Ph.D., Professor of Engineering, GVSU; Glen Swanson, M.S., Roger B. Chaffee Scholarship Foundation; Deana Weibel, Ph.D, Professor of Anthropology, GVSU

36. Connecting Chemical Composition and Methane Production in a West Michigan Peatland

Rachel Shaw, Undergrad, Chemistry & Biochemistry, Hope College
Alexis Koehl, Undergrad, Geological & Environmental Science, Hope College
Grace Behrens
Lauren Bryan, Undergrad, Geological & Environmental Science, Hope College
Christian Lundy, Undergrad, Geological & Environmental Science, Hope College
Michael Philben, Assistant Professor, Geology & Environmental Science, Hope College

37. Understanding the impact of chronic, low-dose GCR particles on behavior and systemic inflammation in mice

Corine LaFrenier, Research Assistant, Hope College

38. Properties and Stability of Perovskite Crystals for Application in Solar Cells

James Mandeville, Undergrad, Biochemical Engineering, Hope College
Josie Surel, Undergrad, Chemical Engineering, Hope College
Dr. Jeffery A. Christians, Professor, Engineering, Hope College