

**POSTER SESSION I**  
**FRIDAY, OCTOBER 28**  
**8:00-9:15 PM**  
**ATRIUM**

**P-01-01**

**Presenter:** Peter Wiese, Augustana College

**Title:** Mathematically modeling changes in conduction velocity following neurofilament medium and heavy gene deletion

**Advisor(s):** David, Schulz, University of Missouri- Columbia, and Ian Harrington, Augustana College

**Co-Author(s):** none

**P-01-02**

**Presenter:** Elizabeth Kendl, Carthage College

**Title:** Study of the Interaction between the Small, Non-coding RNA C.0293 and Hfq and HU Proteins

**Advisor(s):** Janice Pellino, Carthage College

**Co-Author(s):** Pellino, Janice

**P-01-03**

**Presenter:** Valerie Dautermann, Beloit College

**Title:** Salivary Cortisol Testing: Collection Techniques Show Similar Accuracy, but Swab is more Precise

**Advisor(s):** Kathryn Johnson, Department of Biology, Beloit College

**Co-Author(s):** Johnson, Kathryn, M.S.

**P-01-04**

**Presenter:** Megan Ludwig, Hope College

**Title:** The creation of two Ku86 mutant cell lines using rAAV-mediated knock-in technology

**Advisor(s):** Dr. Eric A. Hendrickson, Biochemistry, Molecular Biology, and Biophysics Department, University of Minnesota

**Co-Author(s):** Ruis, Brian; Hendrickson, Dr. Eric A

**P-01-05**

**Presenter:** Christopher Davis, Guillermo Flores, Hope College

**Title:** Homocysteic Acid and Homocysteine Toxicity as a Model for Schizophrenia

**Advisor(s):** Dr. Leah Chase Biology, Christopher Barney, Biology, Hope College

**Co-Author(s):** McCormack, Sheri

**P-01-06**

**Presenter:** Jourdan Posner, Beloit College

**Title:** Voronoi Diagrams Applied to Radiolaria Skeletons and Drosophila Embryos

**Advisor(s):** John Jungck, Department of Biology, Beloit College

**Co-Author(s):** Yang, Yang

**P-01-07**

**Presenter:** Chris Goldsmith, Carthage College

**Title:** Monitoring Invasive Terrestrial Plants Along Stream Outlet in Kenosha County, Wisconsin

**Advisor(s):** Scott Hegrenes (Biology), Carthage College

**Co-Author(s):** none

**P-01-08**

**Presenter:** Nora Alami, Deborah Kennedy, Colorado College  
**Title:** Gender-Specific Predictors of Hookup Frequency  
**Advisor(s):** Emily Chan, Colorado College  
**Co-Author(s):** none

**P-01-09**

**Presenter:** Jamie Morford, Grinnell College  
**Title:** Localization of the Calcium-Sensing Receptor at the Lizard Neuromuscular Junction  
**Advisor(s):** Clark Lindgren, Biology, Grinnell College  
**Co-Author(s):** Lindgren, Clark

**P-01-10**

**Presenter:** Derek Miller, Washington University in St. Louis  
**Title:** Tentative: A MAP3K Cascade Involved in Axon Degeneration  
**Advisor(s):** Aaron DiAntonio and Elisabetta Babetto, Washington University in St. Louis  
**Co-Author(s):** none

**P-01-11**

**Presenter:** Tatyana Sukharnikova, Grinnell College  
**Title:** Projections From Medial and Lateral Basolateral Amygdala to the Orbitofrontal Cortex in the Rat  
**Advisor(s):** Nancy Rempel-Clower; Psychology, Grinnell College  
**Co-Author(s):** None

**P-01-12**

**Presenter:** Emily Armbruster, Hope College  
**Title:** Rapid Trafficking in System xC-  
**Advisor(s):** Leah Chase, Hope College  
**Co-Author(s):** none

**P-01-13**

**Presenter:** Lin Amy, Colorado College  
**Title:** Predicted E3 ubiquitin ligases that may mark MEX-3 for degradation  
**Advisor(s):** Nancy Huang, Colorado College  
**Co-Author(s):** Huang, Nancy

**P-01-14**

**Presenter:** Caitlin Peirce, Hope College  
**Title:** Isolation and identification of NRO1, the gene responsible for fatty acid recognition in *Saccharomyces cerevisiae*  
**Advisor(s):** Dr. Virginia McDonough, Hope College  
**Co-Author(s):** McDonough, Virginia; Stukeley, Joseph; O'Brien, Regina; Heneveld, Katherine

**P-01-15**

**Presenter:** Rebecca Roberts, Lawrence University  
**Title:** Noxious Scum: Nutrients, Light and Toxic Algal Blooms in Green Bay  
**Advisor(s):** Bart De Stasio, Biology Department, Lawrence University  
**Co-Author(s):** De Stasio, Bart

**P-01-16**

**Presenter:** Katharine Hamilton, Zhenmei Zhang, Macalester College  
**Title:** siRNA-Mediated Knockdown of PSA-NCAM to Attenuate Inflammatory Pain  
**Advisor(s):** Lin Aanonsen, Department of Biology, Macalester College  
**Co-Author(s):** Aanonsen, Lin

**P-01-17**

**Presenter:** Kiersten Ruda, St. Olaf and Salk Institute  
**Title:** Modulation of Melanopsin Signaling by Beta-Arrestins  
**Advisor(s):** Jay Demas, Physics, St. Olaf  
**Co-Author(s):** Mure, Lodovic; Hatori, Megumi; Panda, Satchin; Demas, Jay

**P-01-18**

**Presenter:** Cassandra Cramer, Hope College  
**Title:** Real Time Analysis of Protein xCT in System Xc-  
**Advisor(s):** Dr. Leah Chase Biochemistry, Hope College  
**Co-Author(s):** Georges, Anne; Schiller, NaTasha, Chase, Dr. Leah

**P-01-19**

**Presenter:** Nicholas Popp, University of Chicago  
**Title:** The role of ATP hydrolysis in the dissociation of UvrA dimer in nucleotide excision repair  
**Advisor(s):** David Jeruzalmi, Molecular and Cellular Biology, Harvard University  
**Co-Author(s):** Pakotiprapha, Danaya; Jeruzalmi, David

**P-01-20**

**Presenter:** Patrick Ng, Washington University in St. Louis  
**Title:** Identifying Proteins that Interact with *Drosophila melanogaster* Heterochromatin Protein 2 (HP2) and Characterizing Their Contribution to Heterochromatin Formation  
**Advisor(s):** Sarah C. R. Elgin, Biology, Washington University in St. Louis  
**Co-Author(s):** Slawson Tempel, Elizabeth E.; Shaffer, Christopher D.; Elgin, Sarah C.R.

**P-01-21**

**Presenter:** Lisa Richter, Luther College  
**Title:** Expression, Purification, and Characterization of *Hizikia fusiformis* Cytochrome *c*<sub>6</sub>  
**Advisor(s):** Dr. Kara Bren, chemistry, University of Rochester  
**Co-Author(s):** Shahan, Shaun; Bren, Kara

**P-01-22**

**Presenter:** Han Yuan, Washington University in Saint Louis  
**Title:** Sequence Improvement, Gene Annotation and Downstream Analysis on *Drosophila grimshawi* dot chromosome  
**Advisor(s):** Sarah Elgin, Department of Biology, Washington University in Saint Louis  
**Co-Author(s):** Barshop, William; Leung, Wilson; Shaffer, Christopher; faculty&students of GEP; Elgin, Sarah;

**P-01-23**

**Presenter:** Margaret Allen, Grinnell College  
**Title:** Neuronal Projections from the Orbitofrontal Cortex to the Bed Nucleus of the Stria Terminalis  
**Advisor(s):** Professor Nancy Rempel-Clower, Psychology, Grinnell College  
**Co-Author(s):** none

**P-01-24**

**Presenter:** Michelle Logsdon, St. Olaf College and Washington University  
**Title:** The Lipid Droplet Surface: Phospholipids, Fluidity and Perilipin 2 Localization  
**Advisor(s):** Laura Listenberger: Chemistry and Biology, Washington University  
**Co-Author(s):** Listenberger, Laura

**P-01-25**

**Presenter:** James Bryant, Washington University in St. Louis  
**Title:** Cortical Activation by Deep Brain Stimulation in Essential Tremor Patients  
**Advisor(s):** Harrison Walker, Neurology, University of Alabama at Birmingham  
**Co-Author(s):** Walker, Harrison; Huang, He; Gonzalez, Chris

**P-01-26**

**Presenter:** Sara Johnson, Benjamin Taylor, St. Olaf  
**Title:** Minnesota's Rare Fish Species and Their Diet  
**Advisor(s):** Patrick Ceas, Biology, St. Olaf  
**Co-Author(s):** Kimberly Lam, Noel Galuschik

**P-01-27**

**Presenter:** Melissa Kardish, University of Chicago  
**Title:** Avian Malarial Parasite Prevalence and Diversity in Phylloscopus warblers  
**Advisor(s):** Trevor Price, Ecology and Evolution, University of Chicago  
**Co-Author(s):** Scordato, Elizabeth; Price, Trevor

**P-01-28**

**Presenter:** Caitlin Ploch, Hope College  
**Title:** The Mechanism of the Anti-Proliferative Effect of Thalidomide in HUVEC Cells  
**Advisor(s):** Dr. Maria Burnatowska-Hledin, Hope College  
**Co-Author(s):** none

**POSTER SESSION II**  
**SATURDAY, OCTOBER 29**  
**9:45-11:00 AM**  
**ATRIUM**

**P-02-01**

**Presenter:** Keena Davis, Augustana College  
**Title:** Leadership Among Peers Scale (LAPS)  
**Advisor(s):** Dr. Daniel Corts, Psychology Department, Augustana College  
**Co-Author(s):** Lach, Samantha; Richard,Jenna; Skvarenina,Kristen

**P-02-02**

**Presenter:** Christopher Goyne, Beloit College  
**Title:** Effects of Neurotransmitters on Cyclic AMP Response-Element Binding Protein (CREB) in B Lymphocytes  
**Advisor(s):** Demetrius Gravis, Biology, Beloit College  
**Co-Author(s):** Emily Peterson

**P-02-03**

**Presenter:** Laura Taylor, Carthage College  
**Title:** The Over expression of the RNA “Goldilocks” and its effects on the bacteria, Escherichia Coli  
**Advisor(s):** Dr. Janice Pellino, Biochemistry, Carthage College  
**Co-Author(s):** none

**P-02-04**

**Presenter:** Anna Bareiss, Washington University in St. Louis  
**Title:** Protocol Optimization: Quantitation of Amyloid-Beta Isoforms from Plasma  
**Advisor(s):** Randall Bateman, MD and Neurology, Washington University School of Medicine  
**Co-Author(s):** none

**P-02-05**

**Presenter:** Nico Salas, Beloit College  
**Title:** Modulation of CREB, Protein Kinase C, and Mitogen Activated Protein Kinase Pathways in B Lymphoma Response to Chemotherapy  
**Advisor(s):** Demetrius P. Gravis, PhD, Department of Biology, Beloit College  
**Co-Author(s):** Salas, Nico; Sullivan, Kellen; Dickson, Molly; Meltzer, David; Gravis, Demetrius

**P-02-06**

**Presenter:** Audrey Henning, Carthage College  
**Title:** The cloning and expression of C. thermocellum cellulases in E. coli  
**Advisor(s):** Patrick Pfaffle, Biology, Carthage College  
**Co-Author(s):**

**P-02-07**

**Presenter:** Funmilola Oladini, Wash U.  
**Title:** Effect of Glucocorticoids on Neuroprogenitor Cells in a Developing Mouse Cerebellum"  
**Advisor(s):** Dr. Nuri Farber, Psychiatry, Washington University  
**Co-Author(s):**

**P-02-08**

**Presenter:** Ann Evankow, Colorado College

**Title:** Drought Response of Nonnative and Native Impatiens (Balsaminaceae) Predict Range Expansion

**Advisor(s):** Dr. Shane Heschel, Biology Department, Colorado College

**Co-Author(s):** Graeter, Andrea and Heshel, M. Shane

**P-02-09**

**Presenter:** Alex Chubick, Gustavus Adolphus College

**Title:** Effects of Charged-residue Substitutions in the Circadian Clock Protein mCRY1

**Advisor(s):** Dr. Karla Marz Biology, Gustavus Adolphus College

**Co-Author(s):** Kimberley V. Sukhum, Pagkapol Y. Pongsawakul, Carla B. Green, Karla Marz

**P-02-10**

**Presenter:** Elizabeth Billquist, Hope College

**Title:** A Fer kinase homologue is required for hematopoietic stem cell development in zebrafish

**Advisor(s):** Dr. Aaron Putzke, Hope College

**Co-Author(s):** Kozack, Jessica; Hidebrandt, Erin; Putzke, Aaron

**P-02-11**

**Presenter:** Rachel Clark, Knox College

**Title:** Novel word learning in amnesia using a fast mapping paradigm

**Advisor(s):** Melissa Duff- Neuroscience, University of Iowa

**Co-Author(s):** Warren, David E.; Duff, Melissa C.

**P-02-12**

**Presenter:** Danielle Goodman, Hope College

**Title:** Investigating the cytotoxic effects of mycobacteriophage Vix Gene 80

**Advisor(s):** Dr. Joseph Stukey, Biology Department, Hope College

**Co-Author(s):** Stukey, Dr. Joseph; McDonough, Dr. Virginia

**P-02-13**

**Presenter:** Ying Jie Lock, Washington University in St. Louis

**Title:** The roles of FEN1 and TRF1 in mammalian telomere replication

**Advisor(s):** Sheila Stewart, Cell Biology & Physiology, Washington University School of Medicine

**Co-Author(s):** Teasley, Daniel

**P-02-14**

**Presenter:** Erica Jansen, Hope College

**Title:** Antifungal and antileishmanial properties of tropical pioneer plant seeds

**Advisor(s):** Dr. Greg Murray, Biology, Hope College

**Co-Author(s):** none

**P-02-15**

**Presenter:** James Marty, Luther College

**Title:** Coarse Resolution Macrofossil Analysis of Holocene Lake-Level Changes in the Northwestern Wisconsin Sand Plain

**Advisor(s):** Beth Lynch, Department of Biology, Luther College

**Co-Author(s):** Lynch, Elizabeth; Calcote, Randy; Nevala-Plageman, Chris

**P-02-16**

**Presenter:** Martin Fan, Washington University in St. Louis

**Title:** Detection of Sphingolipid Biomarkers in a Murine Model of Niemann-Pick Type C1 (NPC1) Disease

**Advisor(s):** Dr. Daniel S. Ory, Diabetic Cardiovascular Disease Center, Washington University in St. Louis

**Co-Author(s):** Fujiwara, Hideji; Sidhu, Rohini; and Ory, Daniel S.

**P-02-17**

**Presenter:** Ingrid Slette, Hope College

**Title:** Invasive Spotted Knapweed Alters Insect Communities on Native Common Milkweed and May Confer Associational Resistance

**Advisor(s):** Mark Hunter, Ecology and Evolutionary Biology, University of Michigan

**Co-Author(s):** Hunter, Mark

**P-02-18**

**Presenter:** Anna Trier, Macalester College

**Title:** Identification of Novel Long Intergenic Non-Coding RNAs in Oropharyngeal Squamous Cell Carcinomas of Differing Etiology

**Advisor(s):** Dr. David Smith, Division of Experimental Pathology, Mayo Clinic

**Co-Author(s):** Greenberg, Alexandra J.; Middha, Summit; LaBorde, Rebecca; Wang, Vivian; Olsen, Kerry; Moore, Eric; Tombers, Nicole; Smith, Todd; Olsen, Eric; Smith David I.

**P-02-19**

**Presenter:** Holly Vander Stel, Hope College

**Title:** A Biological and Chemical Study of Apios

**Advisor(s):** Dr. Jianhua Li, Hope College

**Co-Author(s):** Corajod, Jeff; Homkes, Austin; Tufts, Jim

**P-02-20**

**Presenter:** Michelle Frank, St. Olaf College

**Title:** Examination of the subocular organ in the plainfin midshipman fish (*Porichthys notatus*)

**Advisor(s):** Allen F. Mensinger, Biology, University of Minnesota Duluth, Marine Biological Laboratory

**Co-Author(s):** Whitchurch, Elizabeth; Mensinger, Allen F.

**P-02-21**

**Presenter:** Mark Sikov, University of Chicago

**Title:** A Spontaneous Transformation Model of Rat Prostate Epithelial Cells and Derived Microvesicles

**Advisor(s):** David Mills, Department of Medicine, Brown University

**Co-Author(s):** Yang, DongQin; Callanan, Helen; Brilliant, Kate; Mills, David

**P-02-22**

**Presenter:** Lisa Drewry, St. Olaf College

**Title:** Probing Ca<sup>2+</sup> dynamics during *Tetrahymena* conjugation

**Advisor(s):** Douglas Chalker, Biology, Washington University in St. Louis

**Co-Author(s):** Zweifel, Erica; Demas, Jay; Cole, Eric C

**P-02-23**

**Presenter:** Valdemar Bianchet, University of Chicago

**Title:** Effect of Mical on Actin Dynamics

**Advisor(s):** Mario Bianchet, Biophysics and Biophysical Chemistry Department, Johns Hopkins

**Co-Author(s):** Andrew Wang, Saif Al Qassim, Mauricio Urquiza, L. Mario Amzel & Mario A Bianchet

**P-02-24**

**Presenter:** Stephen Thornquist, Washington University in St. Louis

**Title:** Physiological, morphological, and molecular classification of neuronal subtypes in a 3-layer visual cortex

**Advisor(s):** Ralf Wessel, Physics, Washington University in St. Louis

**Co-Author(s):** Crockett, Thomas; Wessel, Ralf

**P-02-25**

**Presenter:** Michael Cole, Grinnell College

**Title:** Examining microglial response to ischemia using BV-2 cells as an in vitro model

**Advisor(s):** Dr. Michael E. Dailey, Department of Biology, University of Iowa

**Co-Author(s):** Eyo, Ukpong; Ahlers, Katelin; Dailey, Michael E.



**POSTER SESSION III**  
**SATURDAY, OCTOBER 29**  
**1:30-2:45 PM**  
**ATRIUM**

**P-03-01**

**Presenter:** Michael Collis, Beloit College  
**Title:** Phylogeny of *Amatitlania nigrofasciata* based on Cone Opsins  
**Advisor(s):** Eric Schroeter, Loyola University Chicago  
**Co-Author(s):** Panopolous, Vanessa; Schroeter, Eric H.

**P-03-02**

**Presenter:** Adam Glover, Carthage College  
**Title:** Designing a long-term monitoring program to assess invasive species in a lake's riparian zone in Kenosha County, Wisconsin  
**Advisor(s):** Scott Hegrenes, Biology & Tracy Gartner, Environmental Science, Carthage College  
**Co-Author(s):** none

**P-03-03**

**Presenter:** Marshall Willey, Hope College  
**Title:** The Role of Nro1p in Recognition and Signaling the Presence of Dietary Unsaturated Fatty Acids  
**Advisor(s):** Dr. McDonough, Biology, Hope College  
**Co-Author(s):** none

**P-03-04**

**Presenter:** Re-I Chin, Washington University in St. Louis  
**Title:** Attacking the DNA Damage Response: Regulation of Exo1-Mediated DNA-end Resection  
**Advisor(s):** Dr. Zhongsheng You, Department of Cell Biology and Physiology, WUSM  
**Co-Author(s):** Chen, Xiaoqing; Zhang, Lindsey; You, Zhongsheng

**P-03-05**

**Presenter:** Arthur Sletten, St. Olaf College  
**Title:** Hydrophobic and electrostatic interactions anchor perilipin 2 to the surface of lipid droplets.  
**Advisor(s):** Laura Listenberger, Departments of Chemistry and Biology, St. Olaf College  
**Co-Author(s):** Seline, Alison E., Listenberger, Laura L.

**P-03-06**

**Presenter:** Danica Slavish, Beloit College  
**Title:** The Role of Maternal Iron Status in Infant Visual Habituation Measures  
**Advisor(s):** Dr. David Thomas, Psychology, Oklahoma State University  
**Co-Author(s):** Aubuchon-Endsley, Nick Lynn; Thomas, David G.; Kennedy, Tay S.

**P-03-07**

**Presenter:** Mia Spaid, Carthage College  
**Title:** Spider Family Diversity and Composition as Ecological Indicators of Environmental Quality  
**Advisor(s):** Dr. Scott Hegrenes, Carthage College  
**Co-Author(s):** none

**P-03-08**

**Presenter:** Anh Nguyen, Lillian Shan, Colorado College

**Title:** A Phylogenetic Analysis of Pleurothallis using matK, trnL-F and 5' ycf Sequence Data

**Advisor(s):** Mark Wilson, Biology Department, Colorado College

**Co-Author(s):** Sheade, Nina; Wellman, Hannah; Mochizuki, Akie; Wilson, Mark

**P-03-09**

**Presenter:** Kristen Bosch, Hope College

**Title:** Filling in the gaps: Modeling rainforest pioneer plant populations in changing environments

**Advisor(s):** Greg Murray (Biology) and Brian Yurk (Mathematics), Hope College

**Co-Author(s):** Yurk, Brian; Murray, Greg; Sutton, Jasmine

**P-03-10**

**Presenter:** Xin (Olivia) Wen, Grinnell College

**Title:** Preschoolers' Scanning of Asian and Caucasian Female Faces in Upright and Inverted Orientations

**Advisor(s):** Ann Ellis, Grinnell College

**Co-Author(s):** none

**P-03-11**

**Presenter:** Chantel Miller, Washington University in St. Louis

**Title:** Structural and Biochemical Studies of Molecular Mediators of Chronic Lung Diseases

**Advisor(s):** Dr. Thomas Brett, Department of Internal Medicine, Washington University in St. Louis School of Medicine

**Co-Author(s):** Brett, Tom J.

**P-03-12**

**Presenter:** Xiu Xiao, Gustavus Adolphus College

**Title:** The Role of Nereis diversicolor Metalloprotein II (MPII) In Cadmium Resistance

**Advisor(s):** Jeff Dahlseid (Biology and Biochemistry), Gustavus Adolphus College

**Co-Author(s):** Krishan Jethwa, Gamachu Melkamu, Nick Guttormson, Jeff Dahlseid

**P-03-13**

**Presenter:** David Grossens, Hope College

**Title:** Ab-Protein Sandwich Arrays to Monitor Levels of Dkk1 in Cancer Patients

**Advisor(s):** Dr. Maria Burnatowska-Hledin, Department of Biology, Hope College

**Co-Author(s):** Steensma, Dr. Matthew

**P-03-14**

**Presenter:** Kevin Jennison, Grinnell College

**Title:** Topographic and soil differences underlie niche differentiation in two California annuals at intermediate spatial scales

**Advisor(s):** Vincent Eckhart, Biology, Grinnell College

**Co-Author(s):** None

**P-03-15**

**Presenter:** Seo Eun Chang, Washington University

**Title:** Discounting of Hypothetical Monetary Rewards over a Wide Range of Amounts

**Advisor(s):** Leonard Green and Joel Myerson - Psychology, Washington University

**Co-Author(s):** none

**P-03-16**

**Presenter:** Sijia Liang, Beloit College

**Title:** Three Dimensional Food Webs with Mathematica

**Advisor(s):** John R. Jungck, Beloit College

**Co-Author(s):** None

**P-03-17**

**Presenter:** Mackenzie Kessenich, Lawrence University

**Title:** Survey and Quantification of Lake Winnebago Macrophytes Related to Shallow-Water Growth Conditions

**Advisor(s):** Bart De Stasio, Department of Biology, Lawrence University

**Co-Author(s):** De Stasio, Bart

**P-03-18**

**Presenter:** Jacob Seibert, Luther College

**Title:** Investigation of Differential Protein Expression during Porcine Oocyte Maturation

**Advisor(s):** Dr. Jason Ross Animal Science Department, Iowa State University

**Co-Author(s):** J.T. Seibert, E.C. Wright, C.X. Yang, S.M. Lonergan, J.W. Ross

**P-03-19**

**Presenter:** Greta Bauer, St. Olaf College

**Title:** Vying for position: Identifying proteins whose localization to lipid droplets is altered by the presence of perilipin 2

**Advisor(s):** Dr. Laura L. Listenberger, Departments of Biology and Chemistry, St. Olaf College

**Co-Author(s):** Pieh, Rob; Chamberlain, Aaron; Beussman, Doug; Listenberger, Laura

**P-03-20**

**Presenter:** Naseem Jamnia, University of Chicago

**Title:** Spatial Working Memory in a Mouse Model of Obsessive-Compulsive Disorder

**Advisor(s):** Stephanie Dulawa, Department of Psychiatry and Committee on Neurobiology, University of Chicago

**Co-Author(s):** Shanahan, Nancy; Klenotich, Stephanie; Dulawa, Stephanie

**P-03-21**

**Presenter:** Laura Swanson, Luther College

**Title:** Identification and analysis of HRB mutants in *Arabidopsis thaliana*

**Advisor(s):** Dr. Ni, Plant Biology, University of Minnesota

**Co-Author(s):** none

**P-03-22**

**Presenter:** Amal Al-Lozi, Washington University in St. Louis

**Title:** Ecological Processes Influencing Seedling Diversity and Dynamics in Temperate Forests

**Advisor(s):** Jonathan Myers, Department of Biology, Washington University in St. Louis

**Co-Author(s):** none

**P-03-23**

**Presenter:** Jeffrey Nadel, Colorado College

**Title:** The Belief in a Malleable Theory of Intelligence: Effects on Mental Health and Academic Success

**Advisor(s):** Emily Chan, Department of Psychology, Colorado College

**Co-Author(s):** None

**P-03-24**

**Presenter:** Kelsey Moore, Hope College

**Title:** Regulation of Asymmetric Seam Cell Division by the Non-Receptor Tyrosine Kinase, FRK-1, During Post-embryonic Development in *Caenorhabditis elegans*

**Advisor(s):** Dr. Aaron Putzke, Biology, Hope College

**Co-Author(s):** Bonilla, Roberto; Mila, Danielle; Bour, James; Smith, Sherri; Putzke, Aaron

**P-03-25**

**Presenter:** Deborah Huang, Washington University in St. Louis

**Title:** The Role of MSMEG\_0004/Rv0004 during DNA Damage in *Mycobacteria*

**Advisor(s):** Christina Stallings, Department of Molecular Microbiology, Washington University in St. Louis School of Medicine

**Co-Author(s):** Stallings, Christina

**ORAL SESSION I**  
**SATURDAY, OCTOBER 29**  
**8:00-9:30 AM**  
**CONNOR AUDITORIUM**  
**MODERATOR: JENN DAVIS**

**O-01-01**

**Presenter:** Matthew Hackbart, Beloit College

**Title:** Overexpression of Phytochelatin Synthase in *E. Coli* and *P. Pastori*

**Advisor(s):** Dr. David Williams, Immunology and Biochemistry, Rush University Medical Center

**Co-Author(s):** none

**O-01-02**

**Presenter:** Jingjing Wang, Grinnell College

**Title:** pH-dependent Studies of *E. coli* Methylentetrahydrofolate Reductase: Oxidative Half Reaction

**Advisor(s):** Elizabeth Trimmer / Biological Chemistry, Grinnell College

**Co-Author(s):** Trimmer, Elizabeth

**O-01-03**

**Presenter:** Miles Black, Washington University in St. Louis

**Title:** Isoprenoid Biosynthesis: Validating a Novel Antimalarial Drug Target

**Advisor(s):** Audrey R Odom MD, PhD, Washington University Medical School

**Co-Author(s):**

**O-01-04**

**Presenter:** Emily Hoylman, Lawrence University

**Title:** Effect of Bacterioopsin on Bacterioruberin Production in *Haloferax volcanii*

**Advisor(s):** Ron Peck, Lawrence University

**Co-Author(s):** Peck, Ron

**O-01-05**

**Presenter:** Mary Schulz, Lawrence University

**Title:** Identifying the Regulatory Portion of Bacterioopsin

**Advisor(s):** Ron Peck, Lawrence University

**Co-Author(s):** Peck, Ron

**O-01-06**

**Presenter:** Nicholas Waldner, Lawrence University

**Title:** Regulation of Bacterioruberin in *H. salinarum* by Bacterioopsin & Associated Proteins

**Advisor(s):** Ron Peck, Lawrence University

**Co-Author(s):** Peck, Ron

## **ORAL SESSION II**

SATURDAY, OCTOBER 29

8:00-9:30 AM

HOLDEN AUDITORIUM

MODERATOR: ELIZABETH CLIPPERTON

### **O-02-01**

**Presenter:** Emily Peterson, Beloit College

**Title:** Effects of Neurotransmitters on Cyclic AMP Response-Element Binding Protein (CREB) in B Lymphocytes

**Advisor(s):** Demetrius Gravis, Beloit College

**Co-Author(s):** Goyne, Chris; Vasenina, Valeriya; Gravis, Demetrius.

### **O-02-02**

**Presenter:** Kelsey Wolfe, Brenda Zuleger, Lawrence University

**Title:** Investigating Protein Regulation by daf-19: A Molecular Approach

**Advisor(s):** Elizabeth De Stasio, department of Biology, Lawrence University

**Co-Author(s):** De Stasio, Elizabeth.

### **O-02-03**

**Presenter:** Yang Yang, Beloit College

**Title:** Statistical Tracking of Fast Movements of Organelles

**Advisor(s):** Vasileios Maroulas, Math, University of Tennessee, Knoxville

**Co-Author(s):** Blankenship, Tiffany; Tisdale, Carter.

### **O-02-04**

**Presenter:** Alice Fok, The University of Chicago

**Title:** Purification and Characterization of Fission Yeast N1-Actinin Ain1

**Advisor(s):** David R. Kovar, Department of Biochemistry and Molecular Biology, The University of Chicago

**Co-Author(s):** Li, Yujie

### **O-02-05**

**Presenter:** Amishi Bajaj, University of Chicago

**Title:** Proposed Initial Immunosuppressive Therapy for Liver Transplant Recipients with Pre-Transplant Renal Dysfunction

**Advisor(s):** Josh Levitsky, M.D., Transplant Hepatology, Northwestern Memorial Hospital (Northwestern University)

**Co-Author(s):** none

### **O-02-06**

**Presenter:** Caroline Bartman, University of Chicago

**Title:** Cytokine Profiles of Patients with Staphylococcus Aureus Skin Infections

**Advisor(s):** Maria-Luisa Alegre, Department of Medicine, University of Chicago

**Co-Author(s):** Bartman, Caroline; Chen, Luqiu; Chong, Anita; Daum, Robert; Alegre, Maria-Luisa

**ORAL SESSION III**  
**SATURDAY, OCTOBER 29**  
**8:00-9:30 AM**  
**FLTC ROOM 214**  
**MODERATOR: ERICA FISHEL**

**O-03-01**

**Presenter:** Sean O'Donnell, Colorado College

**Title:** The Role of Locus of Control as a Mediator of the Relationships Between Income, Depression, and Anxiety

**Advisor(s):** Emily Chan, Psychology, Colorado College

**Co-Author(s):** none

**O-03-02**

**Presenter:** Chris Holland, Knox College

**Title:** Attachment style and human-dog relationships: Are anxious individuals more satisfied with dogs than people?

**Advisor(s):** Yuna Ferguson, Psychology, University of Missouri

**Co-Author(s):**

**O-03-03**

**Presenter:** Carolyn Tomecek, Lawrence University

**Title:** After-school Program and Added Enrichment: Design and Qualitative Findings

**Advisor(s):** Beth Haines, Psychology, Lawrence University

**Co-Author(s):** Tomecek, Carolyn, Zhang, Xiaohong, and Haines, Beth

**O-03-04**

**Presenter:** Chi-Hyun Kim, University of Chicago

**Title:** Multiple-Talker Speech Processing: Cognitive Costs in Audio-Only and Audio-Visual Contexts.

**Advisor(s):** Howard Nusbaum, Department of Psychology, The University of Chicago

**Co-Author(s):** Heald, Shannon; Lescop, Olivier; Nusbaum, Howard

**O-03-05**

**Presenter:** Ann Ryu, University of Chicago

**Title:** Analyzing Pheromone Function in *Drosophila Melanogaster* Courtship Behavior: 7-Tricosene Function in Female Receptivity

**Advisor(s):** Dr. Yi Rao; Neuroscience, Peking University

**O-03-06**

**Presenter:** Brianna McCracken, Knox College

**Title:** Lateralization of visual mate choice in female Zebra Finches (*Taeniopygia guttata*)

**Advisor(s):** Jennifer Templeton, Biology Dept., Knox College

**Co-Author(s):** None

**ORAL SESSION IV**  
**SATURDAY, OCTOBER 29**  
**2:45-4:15 PM**  
**CONNOR AUDITORIUM**  
**MODERATOR: ANDY NICKLESS**

**O-04-01**

**Presenter:** Caitlin McDonough, Beloit College

**Title:** High Frequency of Hormone Injections and Sperm Collection Negatively Affects Sperm Quantity but not Quality in Fowler's Toads (*Bufo fowleri*)

**Advisor(s):** Andrew J. Kouba, Conservation and Research Department, Memphis Zoo

**Co-Author(s):** Martin, M. W., Vance, C. K., Kouba, A. J.

**O-04-02**

**Presenter:** Joseph Adamson, Hope College

**Title:** Predicting Insect Development in Changing Climates: Bean Beetle (*Callosobruchus maculatus*) Phenology Modeling

**Advisor(s):** Dr. Brian Yurk and Dr. Aaron Putzke, Hope College Math and Biology Departments (respectively)

**Co-Author(s):** Halsall, James

**O-04-03**

**Presenter:** Laura Jorgenson, Knox College

**Title:** Song bird

**Advisor(s):** Jim Mountjoy, Biology, Knox College

**Co-Author(s):**

**O-04-04**

**Presenter:** Jeremy Pivor, Washington University in St. Louis

**Title:** Scope and Scale of Ecosystem Services Provided by Oyster Feeding Activities on an Intertidal Reef

**Advisor(s):** Charles Peterson Institute of Marine Science, University of North Carolina at Chapel Hill  
Institute of Marine Science

**Co-Author(s):** Peterson, Charles; Rosman, Johanna; Gerald, Nathan; Smyth, Ashley

**O-04-05**

**Presenter:** Garrett Nodell, Beloit College

**Title:** Ant Deterrent Factor(s) Produced by *Xenorhabdus* spp.

**Advisor(s):** Kristen Murfin- Dept. of Bacteriology, University of Wisconsin-Madison

**Co-Author(s):** Murfin, Kristen and Goodrich-Blair, Heidi

**O-04-06**

**Presenter:** Alexander Aaring, Grinnell College

**Title:** Biofilm Inhibition Through Synthetic Biology: Engineering an environmental bacterium to degrade biofilms

**Advisor(s):** Dr. Lisa Bowers, Biology, Grinnell College

**Co-Author(s):** Gao, Qimeng; Kostow, Nora; Bowers, Lisa



## **ORAL SESSION V**

SATURDAY, OCTOBER 29

2:45-4:15 PM

HOLDEN AUDITORIUM

MODERATOR: SIDDHARTH KRISHNAMURTHY

### **O-05-01**

**Presenter:** Bridgette Kelly, University of St. Thomas

**Title:** Waste(less): A Psychological Approach Toward Reducing Food Waste

**Advisor(s):** Christina Manning in Environmental Studies Department, Macalester College

**Co-Author(s):** none

### **O-05-02**

**Presenter:** Kathryn Walder, Grinnell College

**Title:** Localization and Packaging of N-acetylaspartylglutamate as a Neurotransmitter at the Lizard Neuromuscular Junction

**Advisor(s):** Clark Lindgren, Biology, Grinnell College

**Co-Author(s):** none

### **O-05-03**

**Presenter:** Tony Sun, Washington University in St. Louis

**Title:** Persistent Viral Infection of the Central Nervous System Reduces Proliferation of Neural Progenitor Cells

**Advisor(s):** Robyn S. Klein, Department of Internal Medicine, Division of Infectious Diseases, Washington University School of Medicine

**Co-Author(s):** Vasek, Michael; Patel, Jigisha; Pasieka, Tracy; Klein; Robyn

### **O-05-04**

**Presenter:** Lelia Glass, University of Chicago

**Title:** A Case Study in Metalinguistic Comparison

**Advisor(s):** Jason Merchant, Linguistics, University of Chicago

**Co-Author(s):** None

### **O-05-05**

**Presenter:** Jean-Paul Noel, Anthony Mefford, Gustavus Adolphus College

**Title:** Meta-awareness as a Spatial Baseline?

**Advisor(s):** Lauren Hecht, Psychology Department, Gustavus Adolphus College

**Co-Author(s):**

**ORAL SESSION VI**  
**SATURDAY, OCTOBER 29**  
**2:45-4:15 PM**  
**FLTC ROOM 214**  
**MODERATOR: JESSICA LUCAS**

**O-06-01**

**Presenter:** Jessica Korzynski, Lawrence University  
**Title:** Investigating Protein Regulation by daf-19: A Genetic Approach  
**Advisor(s):** Elizabeth De Stasio, Lawrence University  
**Co-Author(s):** De Stasio, Elizabeth

**O-06-02**

**Presenter:** Xingjie Zhang, Grinnell College  
**Title:** N-Acetylaspartylglutamate Modulates Nicotine Induced Nitric Oxide Release at Lizard Neuromuscular Junction  
**Advisor(s):** Clark Lindgren, Department of Biology, Grinnell College  
**Co-Author(s):** Elaine Marzluff, Clark Lindgren

**O-06-03**

**Presenter:** Yuwen Wu, University of Chicago  
**Title:** Alterations in global gene expression in abnormally myelinating mutant mice  
**Advisor(s):** Brian Popko, Neurology, University of Chicago  
**Co-Author(s):** Popko, Brian

**O-06-04**

**Presenter:** Shaunak Mulani, Knox College  
**Title:** Transcriptome Analysis of UV-Irradiated Dictyostelium discoideum through RNA Sequencing  
**Advisor(s):** Dr. Matthew W. Jones-Rhoades, Knox College  
**Co-Author(s):**

**O-06-05**

**Presenter:** Tsung Hung, University of Chicago  
**Title:** Grainyhead-Like 2 (Grhl2) Transcription Factor Is Essential For Normal And Malignant Mammary Ontogeny  
**Advisor(s):** Dr. John M Cunningham, Department of Pediatrics, Med School: University College, Dublin, Ireland  
**Co-Author(s):** none

**O-06-06**

**Presenter:** Bo Shiun Lai, University of Chicago  
**Title:** Development of a Novel Inhibitory System Against Apicomplexan Toxoplasma gondii Enoyl Reductase  
**Advisor(s):** Dr. Rima McLeod, Department of Paediatrics, University of Chicago  
**Co-Author(s):** El Bissati, Kamal; Witola, William; Mui, Ernest; Fomovska, Alina; McLeod, Rima