|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | **Poster Session I**  Saturday, November 7  9:45a.m.-11a.m.  Atrium  **P-01-01**  **Presenter:** Amara Balhorn, St. Olaf College **Title:** A comparison of free-field and headphone based sound localization using SoloArc **Advisor(s):** Jeremy Loebach  **P-01-02**  **Presenter:** Maddie Barron, Beloit College **Title:** Folypolygutamate Synthetae (FPGS) and the Plant Immune Response to Pathogen Infection **Advisor(s):** Amy G. Briggs  **P-01-03**  **Presenter:** Stuart Behling, St. Olaf College **Title:** Characterization of phototactic behavior in hatchling snapping turtles (Chelydra serpentina) **Advisor(s):** Jay Demas  **P-01-04**  **Presenter:** Beebie Boo, Macalester College **Title:** Repeated exposure to dinitrofluorobenzene (DNFB) induces local tissue changes **Advisor(s):** Devavani Chatterjea  **P-01-05**  **Presenter:** Chandra Bouma, Gustavus Adolphus College **Title:** Photodegradation of imazethapyr herbicide on soy and corn plant surfaces **Advisor(s):** Amanda Nienow  **P-01-06**  **Presenter:** Elizabeth Brown, St. Olaf College  **Title:** Choline deficiency alters lipid droplet composition and size **Advisor(s):** Laura Listenberger  **P-01-07**  **Presenter:** Lydia Craig, Macalester College **Title:** Heart Rate Variability and Canine Aggression **Advisor(s):** Julia Manor  **P-01-08**  **Presenter:** Shanaz Daneshdoost, Grinnell College **Title:** COX-2 gene expression at the Anole lizard neuromuscular junction **Advisor(s):** Benjamin DeRidder and Clark Lindgren  **P-01-09**  **Presenter:** Aline Desmarais, Washington University in St. Louis **Title:** Orexin system polygenic risk scores predict amygdala reactivity and habituation, as well as anxiety symptoms **Advisor(s):** Ryan Bogdan  **P-01-10**  **Presenter:** Kira Downey, Macalester College **Title:** Immune Dysregulation in Mammary Carcinogenesis: Characterization of macrophage polarization response to PELP1-cyto expressing epithelial cells **Advisor(s):** Julie Ostrander  **P-01-11**  **Presenter:** Katharine Dupree, Colorado College **Title:** Phylogenetic analysis of Pleurothallis (Orchidaceae) subgenera Anciptia and Scopula **Advisor(s):** Mark Wilson  **P-01-12**  **Presenter:** Harrisonford Fauni, Macalester College **Title:** Image Optimization of Immunostained Calcium-Binding Proteins in Neocortical and Hippocampal Pyramidal Cells **Advisor(s):** Dr. Felix Eckenstein  **P-01-13**  **Presenter:** Megan Freiler, Washington University in St. Louis **Title:** How intraspecific variation in metabolism and hypoxia tolerance relates to brain size in Brevimyrus niger **Advisor(s):** Bruce Carlson  **P-01-14**  **Presenter:** David Gao, University of Chicago **Title:** Enhancement of neural stem cell mediated anti-glioma therapy via hypoxic culture **Advisor(s):** Dou Yu  **P-01-15**  **Presenter:** Jacob Gray, Beloit College **Title:** Neuron survival and maintenance: Building a model to test IGF-1 signaling and trafficking **Advisor(s):** Rachel A. Bergstrom  **P-01-16**  **Presenter:** Laura Guderyon, Carthage College **Title:** Crushing grip and pinch strength amongst men’s NCAA Division III tennis and baseball athletes **Advisor(s):** Justin Miller, Paul Martino  **P-01-17**  **Presenter:** Yue Guo, Washington University in St. Louis **Title:** Age differences in accuracy of perceiving emotion regulation strategies and relationship satisfaction **Advisor(s):** Tammy English  **P-01-18**  **Presenter:** Brett Hahn, Macalester College **Title:** Relationship Between Adenosine Signaling & Host Microbiome **Advisor(s):** Martin J. Blaser  **P-01-19**  **Presenter:** Alexis Hahn, Carthage College **Title:** Crushing grip and pinch strength amongst men’s NCAA Division III tennis and baseball athletes **Advisor(s):** Justin Miller, Paul Martino  **P-01-20**  **Presenter:** Janet Haro, Carthage College **Title:** Genetic Engineering of a Lead Biosensor **Advisor(s):** Janice Pellino  **P-01-21**  **Presenter:** Gregory Harrison, Washington University in St. Louis **Title:** The Plant Hormone Auxin Promotes Pseudomonas syringae DC3000 Pathogenesis in Arabidopsis **Advisor(s):** Barbara N. Kunkel  **P-01-22**  **Presenter:** Charles Heller, St. Olaf College **Title:** Characterization of phototactic behavior in hatchling snapping turtles (Chelydra serpentina) **Advisor(s):** Jay Demas  **P-01-23**  **Presenter:** Shannon Henry, Knox College **Title:** Effects of Ethanol on Macrophage Cell Surface Morphology **Advisor(s):** Janet Kirkley, Linda Dybas  **P-01-24**  **Presenter:** Lauren Kennington, Hope College **Title:** Mutation of Putative Neddylation Site in VACM-1/Cul 5 Attenuates its Effect on Proliferation and MAPK Phosphorylation. **Advisor(s):** Maria Burnatowska-Hledin  **P-01-25**  **Presenter:** Danielle Klunk, Gustavus Adolphus College **Title:** Relationship between Injury Severity and Outcome in Adults with Traumatic Brain Injury (TBI) Receiving Post-Acute Rehabilitation  **Advisor(s):** Thomas Bergquist  **P-01-26**  **Presenter:** Samantha Knott, Lawrence University **Title:** Transcriptional regulation of prsA2, encoding a secretion chaperone in Listeria monocytogenes **Advisor(s):** Nancy Freitag  **P-01-27**  **Presenter:** Bryan Ko, Washington University in St. Louis **Title:** Building a synthetic anaerobic methanotroph to understand anaerobic methane oxidation **Advisor(s):** Arpita Bose  **P-01-28**  **Presenter:** Veronika Kondev, University of Chicago **Title:** Effect of phosphorylation of specific AMPA receptor subunit residues and the expression of sensitization **Advisor(s):** Paul Vezina  **P-01-29**  **Presenter:** Laura Krings, Carthage College **Title:** Characterization of the Polysaccharide Associated Protein (PSAP) from Botryococcus braunii into Chlamydomonas reinhardtii **Advisor(s):** Timothy Devarenne  **P-01-30**  **Presenter:** Ryan Lach, Colorado College **Title:** Influence of Bifidobacterium infantis on the Development of Anxiety, Depression, and Stress in Adolescent Rats **Advisor(s):** Lori Driscoll  **P-01-31**  **Presenter:** Maile Leathem-Rietz, Grinnell College **Title:** CAFO in Poweshiek County, Iowa is a reservoir for carbenicillin resistance genes. **Advisor(s):** Shannon Hinsa-Leasure  **P-01-32**  **Presenter:** Hark Joon Lee, Washington University in St. Louis **Title:** Investigating the Function of a Novel Mycobacterial Replication Protein **Advisor(s):** Christina Stallings  **P-01-33**  **Presenter:** Sieun Lee, Hope College **Title:** Structure-function properties of VACM-1/Cul5 and the regulation of cellular growth and angiogenesis **Advisor(s):** Maria Burnatowska-Hledin  **P-01-34**  **Presenter:** Xuan Li, Washington University in St. Louis **Title:** Exploring IAM to IAA conversion in Arabidopsis thaliana **Advisor(s):** Lucia Strader  **P-01-35**  **Presenter:** Charles Liggett, St. Olaf College **Title:** Bacteriological Analysis of Palar Stream, Dindigul District, Tamil Nadu, India **Advisor(s):** Anne Walter  **P-01-36**  **Presenter:** Jenny Liu, Washington University in St. Louis **Title:** N170 modulation due to affective interference and working memory load **Advisor(s):** Linda Larson-Prior  **P-01-37**  **Presenter:** Tomaz Manzoni, St. Olaf College **Title:** Modeling Interactions Between APOBEC3G and HIV Vif polymorphisms in vivo **Advisor(s):** Susan Ross  **P-01-38**  **Presenter:** Charles Martin, Lawrence University **Title:** Functionalizing [1,2,4]triazolo[4-3a]pyrazines as potential anti-malarial compounds **Advisor(s):** Stefan Debbert  **P-01-39**  **Presenter:** Rita McCall, Grinnell College **Title:** Atp22p interacts with Atp6/8 DNA in Saccharomyces cerevisiae **Advisor(s):** Alex Tzagoloff  **P-01-40**  **Presenter:** Beau McGinley, Washington University in St. Louis **Title:** Bioinformatic Analyses of Closely Related Strains of Rhodovulum **Advisor(s):** Arpita Bose |  |  | |  |  |  | | **Poster Session II**  Saturday, November 7  1:30 p.m.-2:45 p.m.  Atrium  **P-02-01**  **Presenter:** Queenster Nartey, Grinnell College **Title:** The Antimicrobial Effects of Copper-Alloys on High Touch Surfaces in Hospital Settings **Advisor(s):** Shannon Hinsa-Leasure  **P-02-02**  **Presenter:** Reina Nielsen, Gustavus Adolphus College **Title:** Lichen coverage and morphology on different aged basaltic lava flows **Advisor(s):** Christine Parent  **P-02-03**  **Presenter:** Halie Ostberg, Gustavus Adolphus College **Title:** Reproductive senescence negatively affects early egg development and embryonic viability in Drosophila **Advisor(s):** Margaret C. Bloch-Qazi  **P-02-04**  **Presenter:** Lydia Pagel, Hope College **Title:** Incidence of infection of Wolbachia bacteria in Botanophila flies **Advisor(s):** Thomas Bultman  **P-02-05**  **Presenter:** Log Park, Macalester College **Title:** Determining a More Efficient Fluorescent Protein for GPCR-Based Biosensor **Advisor(s):** Pamela Peralta-Yahya  **P-02-06**  **Presenter:** Hunter Patterson, Washington University in St. Louis **Title:** Constructing and exploring recall networks: what graph theory can tell us about narrative recall **Advisor(s):** Jonathan Peelle  **P-02-07**  **Presenter:** Phuong Pham, Macalester College **Title:** Coordinated functions of nonmuscle myosin II and membrane-remodeling proteins in Clathrin-mediated endocytosis **Advisor(s):** Indra Chandrasekar  **P-02-08**  **Presenter:** Dung Pham, Macalester College **Title:** Neural Changes Associated with Successful Antidepressant Treatment in Adolescents with Major Depressive Disorder **Advisor(s):** Kathryn Cullen  **P-02-09**  **Presenter:** Tiffany Phan, Colorado College **Title:** Identifying functionally redundant E3 ubiquitin ligase pairs in C. elegans by RNAi knockout **Advisor(s):** Nancy Huang  **P-02-10**  **Presenter:** Thomas Pranzatelli, Washington University in St. Louis **Title:** Investigating the Evolution of Gene Structure in D. biarmipes **Advisor(s):** Sarah C. R. Elgin  **P-02-11**  **Presenter:** Harrison Pravder, Washington University in St. Louis **Title:** Pif1A is required for actin cone movement during spermatid individualization in Drosophila **Advisor(s):** Kathryn Miller  **P-02-12**  **Presenter:** Ruth Riedl, Grinnell College **Title:** The biomass of the gut microbiota significantly contributes to total resting metabolic rate **Advisor(s):** Justin Grobe, John Kirby  **P-02-13**  **Presenter:** Lauren Roelike, St. Olaf College **Title:** Cellular mechanism for the prevention of lipotoxicity **Advisor(s):** Laura Listenberger  **P-02-14**  **Presenter:** Eva Roesel, Carthage College **Title:** comparing crushing and pinching strength between male lacrosse and soccer players **Advisor(s):** Paul Martino  **P-02-15**  **Presenter:** Lilianne Rothschild, Gustavus Adolphus College **Title:** Mood & Anxiety in Concussion & mTBI: A Systematic Review **Advisor(s):** Arthur Maerlender  **P-02-16**  **Presenter:** Corey Ruder, St. Olaf College **Title:** Lakeshed land use: exploring the biogeochemical implications of excess nutrients **Advisor(s):** Charles Umbanhowar  **P-02-17**  **Presenter:** Jordan Rudman, Colorado College **Title:** Examining spatial and environmental risk factors for non-tuberculosis mycobacterial lung disease, a GIS approach **Advisor(s):** Michael Strong  **P-02-18**  **Presenter:** Jiyeon Ryoo, Washington University in St. Louis **Title:** Emotions in Conflicts of Sexism **Advisor(s):** Tammy English  **P-02-19**  **Presenter:** Alia Sajani, Grinnell College **Title:** Characterization of TCR mediated down-regulation of CXCR4 surface expression **Advisor(s):** Karen Hedin  **P-02-20**  **Presenter:** Martin Salazar, Knox College **Title:** Effects of Ethanol on Macrophage Cell Surface Morphology **Advisor(s):** Janet Kirkley, Linda Dybas  **P-02-21**  **Presenter:** Kevin Saulnier, St. Olaf College **Title:** The impact of a memory aid on pattern learning in children **Advisor(s):** Patricia Reeder  **P-02-22**  **Presenter:** Christina Schicker, Carthage College **Title:** comparing crushing and pinching strength between male lacrosse and soccer players **Advisor(s):** Paul Martino  **P-02-23**  **Presenter:** Perrin Schupbach, Carthage College **Title:** Genetic Engineering of a Lead Biosensor **Advisor(s):** Janice Pellino  **P-02-24**  **Presenter:** Brianna Silver, Colorado College **Title:** An investigation in the evolution of sexual dimorphism and communication in the brown ghost knifefish **Advisor(s):** Adam R. Smith and G. Troy Smith  **P-02-25**  **Presenter:** Loraina Stinson, Lawrence University **Title:** Preliminary Assessment of DAF-19-Related Behavioral Defects **Advisor(s):** Elizabeth A. De Stasio  **P-02-26**  **Presenter:** Ellen Sutter, St. Olaf College **Title:** Identification and characterization of intrinsically photosensitive retinal ganglion cells in common snapping turtles (Chelydra serpentina) **Advisor(s):** Jay Demas  **P-02-27**  **Presenter:** Kali Thibault, Lawrence University **Title:** Avoid the amyloid? Elucidating the effects of prions on yeast during the fermentation process **Advisor(s):** David Hall  **P-02-28**  **Presenter:** Emma Thornton-Kolbe, Knox College **Title:** Electroretinogram phenotypes of Drosophila melanogaster mutants **Advisor(s):** Ilya Vilinsky and Elke Buschbeck  **P-02-29**  **Presenter:** Taylor Tibbs, Carthage College **Title:** Determining the unique molecular structure of the minimal HDV-like ribozyme drz-Mtgn-1 **Advisor(s):** Barbara Golden  **P-02-30**  **Presenter:** Stratton Tolmie, University of Chicago **Title:** A Cellular and Genetic Investigation of Regeneration in the Cnidarian Model, Clytia hemisphaerica **Advisor(s):** Jocelyn Malamy  **P-02-31**  **Presenter:** Julia Tomasson, University of Chicago **Title:** Anti-diabetic drug metformin decreases autophagy and increases apoptosis in multiple myeloma **Advisor(s):** Claire Edwards  **P-02-32**  **Presenter:** Alberto Torres, Beloit College **Title:** Exploring the Role of FPGS in Interactions Between Arabidopsis thaliana and Pathogens **Advisor(s):** Amy G. Briggs  **P-02-33**  **Presenter:** Roman Tyshynsky, St. Olaf College **Title:** A comparison of free-field and headphone based sound localization using SoloArc **Advisor(s):** Jeremy Loebach  **P-02-34**  **Presenter:** Natalie Vela, Hope College **Title:** Investigating the processing of Mga2p and Spt23p and their regulation of *OLE1* expression by unsaturated fatty acids in *Saccharomyces cerevisiae* **Advisor(s):** Virginia McDonough  **P-02-35**  **Presenter:** Kirstin Vogel, Colorado College **Title:** Identifying and determining roles of functionally redundant E3 ubiquitin ligases in embryogenesis in C. elegans **Advisor(s):** Nancy Huang  **P-02-36**  **Presenter:** Jacob Westerberg, St. Olaf College **Title:** A comparison of free-field and headphone based sound localization using SoloArc **Advisor(s):** Jeremy Loebach  **P-02-37**  **Presenter:** Carter Wolff, Hope College **Title:** Assessing the Role of Endophytic Fungi in Elymus canadensis **Advisor(s):** Thomas L. Bultman |  |  | |  |  |  | |  |  |  |

ORAL SESSIONS

**Oral Session I**

Saturday, November 7

8:00-9:30 am

Connor Auditorium

Moderator: Elena Tonc

**O-01-01**

**Presenter:** Banni Lopez Zavala, Carthage College  
**Title:** Bugs and Drugs: The Bioacculmulation and Biomagnification of Triclosan Using Macroinvertebrates  
**Advisor(s):** Sarah Rubinfeld

**O-01-02**

**Presenter:** Mahmoud AbuEid, Gustavus Adolphus College  
**Title:** Cleft Lip and Palate care in the middle east  
**Advisor(s):** John A. van Aalst,

**O-01-03**

**Presenter:** Anthony Massaro, Gustavus Adolphus College  
**Title:** Reproductive strategies of American Bison (Bison bison) bulls: a game theoretical analysis  
**Advisor(s):** Jon Grinnell

**O-01-04**

**Presenter:** Maya Agata and Clara Friedman, Macalester College  
**Title:** Species richness, diversity, and impact of life history strategies on distribution of freshwater mussels  
**Advisor(s):** Daniel Hornbach

**Oral Session II**

Saturday, November 7

8:00-9:30 am

Holden Auditorium

Moderator: Kim Sukhum

**O-02-01**

**Presenter:** Ricardo Tenente, Colorado College  
**Title:** Liquid imaging live, competent Acinetobacter baylyi with Atomic Force Microscope  
**Advisor(s):** Phoebe Lostroh and Kristine Lang

**O-02-02**

**Presenter:** Thomas Auen, Grinnell College  
**Title:** The Metabolic Consequences of Antisense Oligonucleotide-Mediated Knockdown of Mpzl3 In Vivo  
**Advisor(s):** Traci Czyzyk

**O-02-03**

**Presenter:** Matt Sorensen, Gustavus Adolphus College  
**Title:** The preservation of DNA using magnetic ionic liquids  
**Advisor(s):** Jared L. Anderson

**O-02-04**

**Presenter:** Nicole Ladd, Hope College  
**Title:** Interrogating the Role of xCT in Neuroregeneration through Laser Ablation of Zebrafish Neurons  
**Advisor(s):** Brent P. Krueger

**Oral Session III**

Saturday, November 7

2:45-4:15 pm

Connor Auditorium

Moderator: Gretchen Walljasper

**O-03-01**

**Presenter:** Jonathan Melms, Macalester College  
**Title:** Anti-inflammatory effects of turmeric  
**Advisor(s):** Eric Wiertelak

**O-03-02**

**Presenter:** Oleksandr Dmytrenko, St. Olaf College  
**Title:** Effect of human antibody IgM12 on cardiac differentiation of human induced pluripotent stem cells  
**Advisor(s):** Timothy Nelson

**O-03-03**

**Presenter:** Jefferine Li, University of Chicago  
**Title:** TSC2 reconstitution suggests a lymphatic endothelial origin for angiomyolipoma  
**Advisor(s):** Lucia Schuger

**Oral Session IV**

Saturday, November 7

2:45-4:15 pm

Holden Auditorium

Moderator: Vivian Lee

**O-04-01**

**Presenter:** Gustavo Pacheco, University of Chicago  
**Title:** TSC2 reconstitution suggests a lymphatic endothelial origin for angiomyolipoma  
**Advisor(s):** Lucia Schuger

**O-04-02**

**Presenter:** Aditya Rao, University of Chicago  
**Title:** The transcription factor LEF1 promotes intrathymic expansion and Th2-type effector differentiation in iNKT cells  
**Advisor(s):** Barbara Kee

**O-04-03**

**Presenter:** Eric Dai, Washington University in St. Louis  
**Title:** Stat3 promotes actin polymerization during zebrafish development  
**Advisor(s):** Lila Solnica-Krezel

**O-04-04**

**Presenter:** Alan Lu, Washington University in St. Louis  
**Title:** Localization of Proteins to the Outer Lateral Domain  
**Advisor(s):** Lucia Strader