

**POSTER SESSION I**  
**SATURDAY, OCTOBER 31**  
**8:30-9:45 AM**  
**ATRIUM**

**P-01-01**

Cyd Marie Castro Rojas, The University of Chicago

**Co-Author(s):** Fiebig, Aretha, Crosson, Sean

**Specificity of Chromosomal Toxin-Antitoxin Complexes in *Caulobacter crescentus*.**

**P-01-02**

Michael Dyle, Grinnell College

**Co-Author(s):** DeRidder, Ben

**Inducible Expression of Rubisco Activase Protein and mRNA in a Transgenic *Arabidopsis* System**

**P-01-03**

Matthew Craig, Augustana College

**Co-Author(s):** Lepore, Jessie

**The Effects of Duckweed Removal on the Biogeochemistry of an Urban Riparian Marsh**

**P-01-04**

Scott Sapp, Knox College

**Co-Author(s):** Allison, Stuart, Knox College, Biology

**A Survey of Arthropod Diversity on Goldenrod**

**P-01-05**

Yan Wang, Washington University

**Co-Author(s):** P. YAN, A. KRAFT, Q. XIAO, M. Pekny, J.-M. LEE

**Activated Astrocytes Modulate Microglial Activation in APP/PS1 Mice**

**P-01-06**

Samantha Miller, Carthage College

**Co-Author(s):** Radwanski, Elaine, Carthage College, Biology

**Initiating a long-term monitoring program of invasive riparian plants in Kenosha County, Wisconsin**

**P-01-07**

James Cheng, Colorado College

**Co-Author(s):** Chan, Emily, Colorado College, Psychology

**LGBT Organizations as Stronger Predictor of Campus Climate Satisfaction than Positive Attitudes of LGBT Issues**

**P-01-08**

Katherine Linstrand, Gustavus Adolphus College

**Co-Author(s):** Bedekovics, Tibor & Isaya, Grazia

**Effect of ISCU Mutations on Protein Interaction and Iron-Sulfur Cluster Assembly**

**P-01-09**

Laura Bond, St. Olaf College

**Co-Author(s):** Nicole Becker, Ph.D., Jim Maher, Ph.D.

**DNA loops in bacteria: How tightly can DNA be bent?**

**P-01-10**

Radostin Penchev, Macalester College

**Co-Author(s):** Benjamin D Humphreys, MD Ph.D, and Steven Fabian, MD

**A role for Hedgehog Signaling in Perivascular Fibroblast Differentiation During Kidney Injury**

**P-01-11**

Zhaoying Xu, Grinnell College

**Co-Author(s):** Schneider, Judsen; Miller, David M.

**Characterization of blr-9, a New Unc-4 Suppressor Gene Responsible for Neuronal Wiring in Caenorhabditis elegans**

**P-01-12**

Spencer Campbell, Augustana College

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

**Emotional Valence of Metaphor In Political Satire**

**P-01-13**

Akina Nagata, Knox College

**Co-Author(s):** Jez, Joseph and Lee, Soon Goo

**Study on Plasmodium falciparum Phosphoethanolamine N-methyltransferase (PfPMT)**

**P-01-14**

Adam Salazar, Washington University

**Co-Author(s):** Cannon, Carolyn

**Identification of PA3920 as the primary sil-like silver resistance determinant in Pseudomonas aeruginosa, MPAO1**

**P-01-15**

Marie Pichler, Carthage College

**Co-Author(s):** Hegrenes, Scott

**Distribution and Dispersal of Aquatic Invasive Species in Kenosha County, Wisconsin**

**P-01-16**

Amy Fleig, Colorado College

**Co-Author(s):** Chan, Emily

**Impact of Undergraduate Students' Financial Situation on General and Social Satisfaction**

**P-01-17**

Linnea Schmidt, Gustavus Adolphus College

**Co-Author(s):** Guanjing Hu, Jonathan Wendel

**Genetic Analysis of Seed Storage Proteins in Gossypium**

**P-01-18**

Allison Christiaansen, St. Olaf College

**Co-Author(s):** Freedberg, Steve, St. Olaf College

**Investigation of 5' and 3' UTR elements in dengue virus RNA replication**

**P-01-19**

Dogukan Dalgalan, Macalester College

**Co-Author(s):** Wilson, Jean M.

**Investigating the Interaction Between Rab14 and aPKC to Better Characterize Apical Targeting in Epithelial Cells**

**P-01-20**

Lindsay Hunter, Grinnell College

**Co-Author(s):** VanDunk, Cassandra; Ling, Guang Yi; Gray, Paul A

**Expression of Bmal1, Lhx1, RORA, Six3, Six6 and VIP in the olfactory bulb and retina**

**P-01-21**

Allison Johnson, St. Olaf College

**Co-Author(s):** Freedberg, Steve

**Among-colony genetic differentiation and group selection in the cliff swallow, *Petrochelidon phyrnonta***

**P-01-22**

Leonor Añó, Macalester College

**Co-Author(s):** Chatterjea, Devavani

**Immune Semaphorin Expression in the Thymus and Bone Marrow of the C57BL/6 Mice**

**P-01-23**

Zheng Su, Grinnell College

**Co-Author(s):** Lindgren, Clark

**Prostaglandin E2 glycerol ester, a main COX-2 oxidative product, enhances synaptic transmission at the lizard neuromuscular junction**

**POSTER SESSION II**  
**SUNDAY, NOVEMBER 1**  
**9:45-11:00 AM**  
**ATRIUM**

**P-02-01**

Ivy Hsieh, Grinnell College

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

**Proton Uptake in the Oxidative Half Reaction of MTHFR from E. coli**

**P-02-02**

Josef Goldufsky, Beloit College

**Co-Author(s):** Nadine Lerret, Amanda L. Marzo

**By the Numbers: the efficacy of adoptively transferred self-antigen-specific CD8+ T cells in rejecting mesothelioma tumor**

**P-02-03**

Nicholis Fox, Augustana College

**Co-Presenter:** Corts, Daniel, Augustana College, Psychology

**The testing and generation effects: Can they work together?**

**P-02-04**

Pascal Schaefer, Washington University

**Co-Author(s):** Lee, Elvis

**Imaging of Mechanical Traction and Their Effect on Focal Adhesion Dynamics in 3D**

**P-02-05**

Scolastica Njoroge, Carthage College

**Co-Author(s):** Choffnes, Dan, Carthage College, Biology

**Endocrine Disrupting Chemical Exposed Xenopus laevis**

**P-02-06**

Adrienne Wood, Colorado College

**Co-Author(s):** Chan, Emily, Colorado College, Psychology

**Alcohol Consumption and its Effects on Social Belonging**

**P-02-07**

Kimberly Sukhum, Gustavus Adolphus College

**Co-Author(s):** Ponsawakul, Pagkapol Y.; Green, Carla B.; Marz, Karla E

**Altered activity and nuclear localization of hybrids of mCRY1 and mCRY2, circadian clock**

**P-02-08**

Sara Johnson, St. Olaf College

**Co-Author(s):** Jelinek, Diane; Mihalcik, Stephen

**Characterization of the BCMA and TACI Promoter Structure**

**P-02-10**

Arthur Sillah, Macalester College

**Co-Author(s):** Schwartz, Robert MD

**Left Atrium in Hypertrophic Cardiomyopathy (HCM): Determination of size and function From MRIs.**

**P-02-11**

Julie Stutzbach, Beloit College

**Co-Author(s):** Salus, Melinda; Eulgem, Thomas

**Identification and Characterization of Small Molecules that Induce Disease Resistance in Arabidopsis Thaliana**

**P-02-12**

Samuel Peterson, Grinnell College

**Co-Author(s):** Rempel-Clower, Nancy

**Amygdala projections terminating in the orbitofrontal cortex of the rat display laminar patterns suggesting functionality**

**P-02-13**

Bridgette Martinak, Washington University

**Co-Author(s):** Maurer, Joshua, Washington University, Chemistry

**Cloning Ephrin Genes Using Ligase-Free Methods**

**P-02-14**

Lori Kollath, Carthage College

**Co-Author(s):** Radwanski, Elaine

**Determination of Chromosome Number in Alliaria Petiolata**

**P-02-15**

Daniela Lopez-Morales, Colorado College

**Co-Author(s):** Huang, Nancy

**Selective RNAi Screen of C. elegans for Embryonic Lethality and Characterization of Arrested Embryos**

**P-02-16**

Karen Bieraugel, St. Olaf College

**Co-Author(s):** Huiras, Seth; Pellino, Janice

**Characterization of C0293: a small, non-coding RNA from Escherichia coli**

**P-02-17**

Solaire Finkenstaedt-Quinn, Macalester College

**Co-Author(s):** Payne, Lab

**Functionalization of Nanoparticles for Cellular Uptake**

**P-02-18**

Tianqi Zhang, Grinnell College

**Co-Author(s):** Trimmer, Elizabeth, Grinnell College, Chemistry

**Model Studies of Formaldehyde (CH<sub>2</sub>O) and Tetrahydrofolate (H<sub>4</sub>folate) Nonenzymatic Conversion to 5, 10-methylenetetrahydrofolate (CH<sub>2</sub>-H<sub>4</sub>folate)**

**P-02-19**

Alejandro Akrouh, Washington University

**Co-Author(s):** Harley T. Kurata; Joseph C. Koster; Karen Lochner; Colin G. Nichols

**Novel Mutation in Pancreatic KATP Channels Leads to Inactivation-Induced Congenital Hyperinsulinism**

**P-02-20**

Amanda Eigner, Carthage College

**Co-Author(s):** Adler, Lynn

**Direct and Indirect Impacts of Florivory on Butternut Squash Reproduction**

**P-02-21**

Joshua Davendonis, Beloit College

**Co-Author(s):** Menke, Sean, North Carolina State University, Entomology and Biology

**Protection at a price? Ant interactions with pollinators on the aspen sunflower (*Helianthella quinquenervis*)**

**P-02-22**

Jessica Olson, Colorado College

**Co-Author(s):** Huang, Nancy

**Identification of genes required for cell differentiation and translational regulation in the *Caenorhabditis elegans* embryo**

**P-02-23**

Shahid Jaffer, St. Olaf College

**Co-Author(s):** Springer, Patricia

**PENNYWISE Negatively Regulates LATERAL ORGAN FUSION1 Expression within the Shoot Apical Meristem and Developing Fruit in *Arabidopsis thaliana*.**

**P-02-24**

Emil Mellgrin, Macalester College

**Co-Author(s):** Calderone, Christopher

**Characterization of Enzymes Involved in Biosynthesis of the Hydroxamate-Containing Siderophore Triacetylfusarinine C in *Aspergillus Nidulans***

**ORAL SESSION I**  
**SATURDAY, OCTOBER 31**  
**9:45-11:15 AM**  
**CONNOR AUDITORIUM**

**O-01-01**

Yanwen Xu, Grinnell College

**Co-Author(s):** Hershey, Tamara PhD., Washington University School of Medicine in St. Louis, Psychiatry  
**Mood Response to STN Deep Brain Stimulation in Parkinson's Disease**

**O-01-02**

Joshua Morris, Washington University

**Co-Authors:** Green, Leonard and Myerson, Joel

**Similarities and differences between the discounting of delayed and probabilistic rewards**

**O-01-03**

Sven Steen, Augustana College

**Co-Author(s):** Shinn, Eileen, University of Texas, M.D. Anderson Cancer Center, Behavior Science

**The effects of a swallowing exercise regimen on long-term swallowing function in head & neck cancer Patients**

**O-01-04**

Patrick Rich, Grinnell College

**Co-Author(s):** Ances, Beau, Thomas, Jewell

**Functional Connectivity and Psychometrics as Early Markers for Alzheimer's Disease**

**O-01-05**

Corrine Butzen, Knox College

**Co-Author(s):** Templeton, Jennifer

**Examining the bottlenose dolphins' interpretation of human given social cues as a function of age**

**ORAL SESSION II**  
SATURDAY, OCTOBER 31  
9:45-11:15 AM  
HOLDEN AUDITORIUM

**O-02-01**

Han Yi, Colorado College

**Co-Author(s):** Laniohan, Nicole; Nguyen, Nguyen; Holmes, Whitney

**The effects of oxidative stress on *Vibrio fischeri***

**O-02-02**

Sarah Kosmicki, Knox College

**Co-Author(s):** Schwartzman, Peter

**Factors Influencing Invasibility at Blackthorn Hill Nature Preserve**

**O-02-03**

Nguyen Nguyen, Colorado College

**Co-Author(s):** Lostroh, Phoebe; Laniohan, Nicole; Yi, Han; Holmes, Whitney; Sorrick, Cindy

**Oxidative and Nitrosative Stress on *Vibrio Fischeri***

**O-02-04**

Katherine Geist, Beloit College

**Co-Author(s):** Parchman, Thomas L.; Buerkle, C. Alex; Grahnen, Johan A.; Benkman, Craig W.

**454 transcriptome sequencing in an ecologically important tree species: assembly, annotation, and marker discovery**

**ORAL SESSION III**  
**SATURDAY, OCTOBER 31**  
**9:45-11:15 AM**  
**FLTC ROOM 214**

**O-03-01**

Dana Watt, Carthage College

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

**The hyperpolarization-activated inward current and spinal cord-generated cyclic locomotion**

**O-03-02**

Adam Eltorai, Washington University

**Co-Author(s):** Kim, Jungsu; Holtzman, David

**APOE ANTIBODY AS A MEANS FOR REDUCING AMYLOID PLAQUE DEPOSITION IN A MOUSE MODEL OF ALZHEIMER'S DISEASE**

**O-03-03**

Kevin Dalton, The University of Chicago

**Co-Author(s):** Crosson, Sean

**The Crystal Structure of ParDE1 from *C. crescentus*: /toxin-antitoxin recognition in the ParDE family.**

**O-03-04**

Alexander Winter, Lawrence University

**Co-Author(s):** Gong, Mei and Dickson, Kim

**Engineering oxidation-resistant cysteine-free ribonuclease inhibitor**

**O-03-05**

Dylan McLaughlin, Washington University

**Co-Author(s):** Rogers, Stephen<sup>1</sup>, and Doctor, Allan

**NITROSO THIOLS REGULATE RED BLOOD CELL ANITOXIDANT DEFENSE**

**ORAL SESSION IV**  
**SATURDAY, OCTOBER 31**  
**2:00-3:30 PM**  
**CONNOR AUDITORIUM**

**O-04-01**

Yedda Li, Washington University

**Co-Author(s):** Cahan, Patrick; Izumi, Masayo; Graubert, Timothy A.

**Caspase-9: A Candidate Susceptibility Factor for Murine Alkylator-Induced Leukemia**

**O-04-02**

Shirley Bradley, Hope College

**Co-Author(s):** Burnatowska-Hledin, Maria,

**Antiproliferative effect of VACM-1/cul5 is regulated by its posttranslational phosphorylation by PKA  
And by neddylation**

**O-04-03**

Vanessa Kleckner, St. Olaf College

**Co-Author(s):** Ely, Bert

**CYP1A1 and IL4 Intron 3: Effects on Breast Cancer Aggressiveness**

**O-04-04**

Elizabeth Wanous, St. Olaf College

**Co-Author(s):** Johnson, Rebecca; , Evans, Rickie; Eglund, Kristi

**Characterization of LRP10, QSOX1, and ST14: MAPcL Genes that Are Highly Expressed in Breast Tumors**

**ORAL SESSION V**  
**SATURDAY, OCTOBER 31**  
**2:00-3:30 PM**  
**HOLDEN AUDITORIUM**

**O-05-01**

Allyse Hellmich, Grinnell College

**Co-Author(s):** Hinsa-Leasure, Shannon, Grinnell College, Biology

**Use of molecular methods to resolve taxonomic status and unknown pedigrees in a captive macaw Population**

**O-05-02**

Sarah Dunn, Beloit College

**Co-Author(s):** Carson, John

**Identification of a Transport Element in FMRP mRNA**

**O-05-03**

Lu Yu, Lawrence University

**Co-Author(s):** Lange, Amy

**Exploring the Role of Daf-19A in Regulating Synaptic Function Maintenance**

**O-05-04**

Jennifer Bickle, Carthage College

**Co-Author(s):** Choffnes, Dan, May, Sara; Escobar, Kristiena

**The Combinatory effects of endocrine disruptors on *Xenopus laevis* development**