

Undergraduate Research Symposium
Biological Sciences and Psychology
The University of Chicago

Program Schedule

Friday, November 9, 2012

5:30 – 6:30 p.m.	Registration	Holiday Inn Hotel
6:30 – 7:30 p.m.	Dinner Buffet	Holiday Inn Hotel Ballroom
7:15 p.m.	Greetings	Holiday Inn Hotel Ballroom
	Associate Dean Victoria Prince, The University of Chicago	
	Megan McNulty, Symposium Organizer, The University of Chicago	
	Brandy Russell, Director of the Midstates Consortium, Gustavus Adolphus College	
7:30 – 8:00 pm	“Helping Another in Need: Lessons from Rats” Dr. Peggy Mason Department of Neurobiology The University of Chicago	Holiday Inn Hotel Ballroom
7:45 – 9:00 p.m.	Janet Andersen Award Lecture	Holiday Inn Hotel Ballroom
	"Building a Window Between Cells" Professor Eric Cole Department of Biology St. Olaf College	
9:00 pm	Faculty reception	Holiday Inn Restaurant and Lounge

Saturday, November 10th, 2012

7:30am Load Bus for Transportation to University of Chicago Campus

Participants traveling in vans or cars will drive to the U of C campus in those vehicles.

8:00 - 9:00am Light Buffet Breakfast at the Gaylord and Dorothy Donnelley Biological Sciences Learning Center on the University of Chicago Campus Lobby

Morning Sessions: Parallel Sessions of Oral Presentations and Poster Session 1

9:00 - 10:00am Oral Presentations of Student Papers, Sessions A and B Session A – room 109
Session B – room 115

10:00 - 10:15am Break and Group Picture (Poster Set-up)

10:15-11:00 am Sessions A and B continued Session A – room 109
Session B – room 115

11:00-12:00 am Poster Session 1 Mezzanine level

12:00 – 12:45 pm Lunch Buffet Lobby
(Poster session 1 takes down posters)

12:45 – 1:15 pm Graduate School Information Session
or
Careers in Liberal Arts Institutions

Afternoon Sessions: Parallel Sessions of Oral Presentations and Poster Session 2

1:30 - 2:30 pm Oral Presentations of Student Papers, Sessions C and D Session C – room 109
Session D– room 115

2:30 - 2:45pm Break (Poster Set-up)

2:45 - 3:45 pm Sessions D and E continued Session C – room 109
Session D– room 115

3:45 – 4:45 pm Poster Session 2 Mezzanine level

4:45 pm Final remarks; complete evaluations Room 115

5:00pm Meeting Concludes, box dinners available Lobby

5:00 pm Bus Leaves

SESSION A – Saturday, 9:00am

Facilitator: Tom Bultman, Hope College

Biological Sciences Learning Center 109

# of Presenter	Presenter Name	College / University	Title of Presentation
A.1 (9:00)	Mary Patterson	Gustavus Adolphus College	Ecological Assessment of the Cone Flower Prairie
A.2 (9:15)	Mike Howe	Gustavus Adolphus College	Mechanistic Approach to Plant Demography
A.3 (9:30)	Ze Hong	Grinnell	Pollinator abundance and reproductive success decline with population size and isolation distance in <i>Echinacea pallida</i>
A.4 (9:45)	Jesse Lundgren	Carthage College	Using Soil Properties and Plant Species Composition to Distinguish Dry Prairie Types
BREAK 10:00-10:15am			
A.5 (10:15)	Sophia Frank	Carthage College	How the Predatory Dinosaur Allosaurus Grew Up
A.6 (10:30)	Penny Poeschl	Gustavus Adolphus College	Older Females Deregulate Oogenesis in <i>Drosophila melanogaster</i>
A.7 (10:45)	Paige Miller	Gustavus Adolphus College	Age affects female reproductive behavior and physiology in <i>Drosophila melanogaster</i>

SESSION B – Saturday, 9:00am

Facilitator: Karla Marz, Gustavus Adolphus College

Biological Sciences Learning Center 115

# of Presenter	Presenter Name	College / University	Title of Presentation
B.1 (9:00)	Zijie Xia	St. Olaf College	Lipid Droplets Formation Within Freshwater Algae Species
B.2 (9:15)	John Egner	Carthage College	The Effect of Nitric Oxide on Mitochondrial Metabolism and Proliferation in Breast Cancer Cells
B.3 (9:30)	Alexander Greiner	Luther College	The Pathogenic Actin Mutation E117K Exhibits Aberrant Behavior
B.4 (9:45)	Matthew Harder	Hope College	Investigating Fer Kinase Regulation of Gene Transcription During Development
BREAK 10:00-10:15am			
B.5 (10:15)	Mariecus Jarvis	Gustavus Adolphus College	The Binding of Two Circadian Rhythm Proteins, Cryptochrome and Period
B.6 (10:30)	Megan Kelly	Washington University	Elucidating the identity and function of novel volatile signaling molecules in <i>Plasmodium falciparum</i>
B.7 (10:45)	Mary Schulz	Lawrence University	Identifying the Regulatory Portion of Bacterioopsin

SESSION C – Saturday 1:30pm

Facilitator: Bruce Carlson, Washington University

Biological Sciences Learning Center 109

# of Presenter	Presenter Name	College / University	Title of Presentation
C.1 (1:30)	Dipika Mohan	Washington University	Enhanced alternative splicing induced by missense mutations in U2AF1 splicing factor
C.2 (1:45)	Cheng Cheng	Knox College	The importance of ITSN-1 on embryo development of <i>Xenopus laevis</i>
C.3 (2:00)	Xingjie Zhang	Grinnell College	A Subset of Abd-B Neurons Are Required for Female Fly Pausing Response during Courtship
BREAK 2:15 – 2:45 pm			
C.4 (2:45)	Oscar Jimenez	Knox College	Identifying the Expression of Two Isoforms of Intersectin 1 During Early Embryonic Dorsal-Ventral Patterning of <i>Xenopus laevis</i>
C.5 (3:00)	Maria Eguiluz	Hope College	Taming of the Shew - Metabolic Modeling of the Genus <i>Shewanella</i>
C.6 (3:15)	Lucy Li	University of Chicago	Naturalistic Activity Contributes to Bidirectional Synaptic Plasticity in Neocortex

SESSION D – Saturday 1:30pm

Facilitator: Kimberly Dickson, Lawrence University

Biological Sciences Learning Center 115

# of Presenter	Presenter Name	College / University	Title of Presentation
D.1 (1:30)	Bo Shiun Lai	University of Chicago	Molecular target validation, antimicrobial delivery, and potential treatment of <i>Toxoplasma gondii</i> infections
D.2 (1:45)	Elena Tonc	Macalester College	Characterization of Hypernociception and Inflammatory Responses to SPE-7 and N52624 Immunoglobulin E Clones in Mice
D.3 (2:00)	Dawn Comstock	Gustavus Adolphus College	Identifying Rare Genetic Variants in Familial Waldenström Macroglobulinemia
D.4 (2:15)	Nick Waldner	Lawrence University	Regulation of Bacterioruberin Production in <i>H. salinarum</i> by Bacterioopsin and Putative Associated Proteins
BREAK 2:30 – 2:45pm			
D.5 (2:45)	Emily Hoylman	Lawrence University	Bacterioopsin Regulation of Bacterioruberin Production in a Model System
D.6 (3:00)	Kristen Wells	Colorado College	A novel mutation in the daf-19 gene affects ciliated neuron development in <i>C. elegans</i>
D.7 (3:15 – 3:45)	Yagmur Esemen & He Zhang	Lawrence University	The Gene Targets of DAF-19 in <i>Caenorhabditis elegans</i>

Poster Session 1
Saturday, 11:00 – 12:00 pm

Biological Sciences Learning Center Mezzanine

Poster number	Presenter Name (s)	Presenter's College or University	Presentation Title
P1.1	Sami Beard & Alex Nelson	Carthage College	Monitoring Bat Activity Over Water and Land Routes
P1.2	Amanda Beck & Jacob Johnson	Hope College	The Effect of Intermittent Heat Acclimation on Thirst and Body Water Status in Rats
P1.3	Miles Black	Washington University	Biochemical Characterization of a Potential Mammalian Nucleotidyltransferase
P1.4	Natalie Camplair	Macalester College	A construal level theory approach to understanding differences in attitudes toward local wind energy projects
P1.5	Re-I Chin	Washington University	Metformin: Taking Away the Candy from Cancer?
P1.6	Cassandra Cramer	Hope College	Real Time Analysis of System xc-
P1.7	John Cusimano	Knox College	Bacteriophage N4 gp6 disrupts preformed FtsZ filaments to inhibit E. Coli cell division
P1.8	Brenna Decker	Lawrence University	What's For Dinner?: Philippine Bat Diet
P1.9	Andrew Dimond	Beloit College	To Be or to A: fMRI and Behavioral Investigation of Categorical Evidence Integration
P1.10	Heidi Fenske & Maxwell Machurick	Carthage College	Chemical Modification of Cowpea Mosaic Virus (CPMV) To Create Advanced Cancer Therapeutics
P1.11	Felipe Giuste	Washington University	Elucidating the Role of KLF7 in Hematopoiesis
P1.12	Katharine Hamilton, Nathan Scheiner, & Zhenmei Zhang	Macalester College	PSA-NCAM in an siRNA-mediated knockdown of STX and its role in persistent inflammatory pain in a mouse model?
P1.13	Kelli Huebner	Knox College	In vivo imaging of <i>Xenopus laevis</i> development using an Ultra-Compact MRI
P1.14	Chiamaka Isiguzo & Charles Whitmore	St. Olaf College	The Impact of Contrast on Non-Visual Photoreceptors
P1.15	Abby Johnson	Grinnell College	Metacognitive Emotion Regulation: Does Exposure Contribute to Strategy Development in Preschool Children?
P1.16	Leah Kellogg	Colorado College	The Role of RNA Binding Proteins in Dendrite Morphogenesis

P1.17	Teodora Kljaic	Grinnell College	N22 Subunit C loop is involved in Nicotinic Acetylcholine Receptor Modulation
P1.18	Nicole Lee	University of Chicago	Hsp90 inhibition targets glucocorticoid receptor (GR) activity and potentiates triple negative breast cancer (TNBC) sensitivity to chemotherapy
P1.19	Qingyang Liu, Brianna Morseth, & MacKenzie Speer	Macalester College	Working Memory for Unfamiliar Objects: An fMRI Study
P1.20	Ho-Ting Liu	Macalester College	The Impact of a Small Dam on Mussel Assemblages and Habitat in Sunrise River, MN
P1.21	Adam Lombroso	Colorado College	Screening of Ubiquitin Ligases Thought to be Involved in Early Embryonic Development of <i>C. elegans</i>
P1.22	Joseph Lownik	Beloit College	Solute Studies of <i>E. Coli</i> Alkaline Phosphatase
P1.23	Jiaqi Luo	Beloit College	Overexpression and Characterization of Novel Dyp-Type Peroxidases from <i>Schistosoma mansoni</i> as Drug Targets
P1.24	Garrett Nodell	Beloit College	Differential expression of innate immunology genes in <i>Salmonella enterica</i> challenged poultry spleens
P1.25	Michael Roth	St. Olaf College	In vivo Investigation of the Thioesterase-catalyzed Cyclization Mechanism in <i>Lysobacter enzymogenes</i> Production of HSAF
P1.26	Mengyuan Sun	Gustavus Adolphus College	Differential Life History Investment in American Bison-Within Season Changes in Offspring Sex Ratio
P1.27	Jiayi Wang	St. Olaf College	Nickel Catalyzed C-H Activation/C-C Bond Formation
P1.28	Alan Zhang	Washington University	Effects of Crx mutation on photoreceptor gene expression

Poster Session 2

Saturday, 3:45 – 4:45 pm

Biological Sciences Learning Center Mezzanine

Poster Number	Presenter Name(s)	Presenter's College or University	Presentation Title
P2.1	Mariah Blegen	Macalester College	Transgenerational Effects of Perinatal Iron Deficiency on Gene Expression in Developing Rat Hippocampus
P2.2	Hannah Caffee	St. Olaf College	The Impacts of Damsselfly Behavior, Wing Shape, and Wing Pigmentation on Spider Predation
P2.3	William Callison	Washington University	Is your immunity compromised by being nice to your bacteria? Insights from a social amoeba.
P2.4	Guillermo Flores	Hope College	Schizophrenia-like Symptoms Induced in Homocysteic Acid Treated Neonatal Rats
P2.5	Michelle Frank	St. Olaf College	Syntactic and Lexical Alterations in Noisy Environments
P2.6	Amanda Goslawski	Knox College	Low magnitude mechanical stimulation-- An effective treatment for pancreatitis?
P2.7	Rachel Hammer & Molly Haywood	Carthage College	Effect of Acute Stress on Object and Olfactory Recognition Memory
P2.8	Madison Heckel	Gustavus Adolphus College	Lexical Development in Toddlers
P2.9	Michelle Hulke	Gustavus Adolphus College	Bellowing of American Bison and Variance in Tongue Positions
P2.10	Annie Klodd	Grinnell College	The effect of herbicide safeners on antioxidant responses in cotton
P2.11	Amanda Lee	Knox College	Treating Bovine Mastitis: Finding the Antibacterial Properties of Phyto-mast
P2.12	Rebecca Mandt & Rachel Weinstein	Grinnell College	The <i>C. elegans</i> Hailey-Hailey disease homologue pmr-1 plays a critical role in early embryonic calcium dynamics
P2.13	Derek Miller	Washington University	The Roles of JNK2 and MKK4 in a DLK-Mediated Axon Degeneration Pathway
P2.14	Dagmara Moscoso	University of Chicago	Gut microbiota effects circadian gene expression in peripheral tissues involved in metabolism
P2.15	Paul Rebman	Macalester College	Looking for the big picture? The effect of temporal distance priming on eye movements

P2.16	Blake Reichert	Colorado College	Cloning and Initial Purification of a Novel Cysteine Protease from <i>A. Baylyi</i>
P2.17	Melanie Reschke	Macalester College	Exploiting SIMPLE in the Secretion of Membrane Protein Cargos in Exosomes
P2.18	Avery Rowlison	Grinnell College	Visual phenotypic characterization of <i>Acinetobacter baylyi</i> wild type and mutant strains
P2.19	Laura Taylor	Carthage College	Monitoring Conformational Changes in the Sodium-Galactose Co-transporter vSGLT
P2.20	Hanna Tepsa	Beloit College	PARG and PARP detection and identification of cis elements in <i>PARG</i> promoters of <i>Aradopsis thalina</i>
P2.21	Brianna Traxinger	Colorado College	RNA interference to isolate E3 ubiquitin ligases responsible for MEX-3 degradation in <i>Caenorhabditis elegans</i> embryogenesis
P2.22	Alec Uebersohn	Lawrence University	Investigation of Oxidation-Resistant Human Ribonuclease Inhibitor Activity & Structure
P2.23	Li Wan	Beloit College	Interaction of T-type Calcium Channels with Ganglioside GM1 and the Pre-Metazoan Origins of T-type Calcium Channels in Unicellular Protists
P2.24	Hannah Wiesner	Macalester College	Phylogeny of the Wet Tropics Mite Harvestmen
P2.25	Katharine Wolf	Beloit College	Evolution of a Memory-Associated Neurotransmitter Signalling Pathway Predates the Origin of Multicellular Life
P2.26	Nancy Zhang	Washington University	Opioid Receptor Like-1 (ORL1) intracellular trafficking & JNK signaling require c-terminal S363