

2013 Biology Department Senior Project Symposium Allegheny College

Student Presentations:

Monday - Wednesday, April 22 - 24, 1:30 - 4:10 p.m.

Steffee Hall of Life Sciences, Rooms 208, 212, 306, and 312

The Department of Biology is pleased to host its Sixteenth Annual Senior Project Symposium to celebrate the biological research accomplishments of the Class of 2013. All members of the college community are invited and welcome to attend. Juniors, sophomores, and freshmen who are majoring or intending to major in Biology are especially encouraged to attend and participate.

Instructions for speakers

Time limits. Presentations will be limited to a maximum of 20 minutes — 15 minutes for formal presentation and 5 minutes for questions. Moderators at each session will enforce these time limits.

Audiovisual equipment. A computer presentation projector will be available in all rooms. Students wishing to illustrate their talks using PowerPoint should bring copies of their PowerPoint file on a flash drive *and* be prepared to download their presentation from their network account via FTP or Sakai. ***Students should load their PowerPoint presentation onto the presentation computer in their assigned room between 12:45 and 1:15 pm on the day of the presentation.***

Evaluation of presentations. Biology department faculty will evaluate talks based on nine criteria:

- (1) Adequacy of the introduction for persons unfamiliar with the specific area of research.
- (2) Clarity of the statement of objectives and hypotheses.
- (3) Adequacy of the explanation of methods and results.
- (4) Interpretation and discussion of results within the context of the particular sub-discipline.
- (5) Overall organization and clarity.
- (6) Engaging and enthusiastic delivery.
- (7) Quality and appropriateness of visual aids.
- (8) Adherence to the 15-minute time limit.
- (9) Effectiveness of response to questions.

Students should prepare their presentations with these criteria in mind.

2013 Biology Senior Project Symposium

Monday, April 22

Time		Session A: Steffee 208 Moderator: Brad Hersh, LC, CL	Session B: Steffee 212 Moderator: Milt Ostrofsky, CC, JP	Session C: Steffee 306 Moderator: Ann Kleinschmidt, LF, LW	Session D: Steffee 312 Moderator: Tricia Humphreys, SR, RM
1:30	<i>Speaker</i>	Alexis Stoner	Linnea Homa	Cleo Burnett	Barry Marchetto
	<i>Title</i>	Disturbed tadpole development as a result of UV light-induced stress response in <i>Xenopus laevis</i>	Expression of Genes Involved in the Regulation of the Intrinsic Apoptotic Pathway in IRBP ^{-/-} <i>Mus musculus</i>	Analysis of Single Nucleotide Polymorphisms in the Mitochondrial Genome of the Domestic Cat for Forensic Use	Searching for microsatellites towards investigating diversity between two populations of <i>Cyprinus carpio</i> in Pymatuning Lake
	<i>Advisor</i>	Dr. Rankin	Dr. Donmoyer	Dr. Webb	Dr. Webb
1:50	<i>Speaker</i>	Brandon Intrieri	Jessica Pindzola	Jason Dempsey	Dylan McCreary
	<i>Title</i>	Auxin Effects on Antibiotic Resistance in <i>Pseudomonas fluorescens</i> Strain Pf-5	Effects of an Odorant's Chemical Structure and Environmental Relevance on Olfactory Receptor Responses in Frogs and Salamanders	Additive Effects of Flame Retardant and BPA Exposure on Behavioral Development in Male Mice	Optimizing Methods to Investigate the Regulation of BK Channel Trafficking by the β 4 Subunit
	<i>Advisor</i>	Dr. Coenen	Dr. Coates	Dr. Palmer	Dr. French
2:10	<i>Speaker</i>	Erika Murphy	Gillian Green	Sara R. Schombert	Korey Bartolomeo
	<i>Title</i>	Expanding the Phylogeography of <i>Eurosta solidaginis</i> in the Southeastern United States	The effects of fluoxetine on cortisol levels in <i>Poecilia reticulata</i>	Synergistic Effects of Arbuscular Mycorrhizal Fungi and Plant Growth Promoting Bacteria on Phytoremediation Activity in <i>Helianthus annuus</i> in Lead Polluted Soil	The role of <i>innexins</i> in hemocytes in response to <i>Serratia marcescens</i> infection of <i>Drosophila melanogaster</i>
	<i>Advisor</i>	Dr. Webb	Dr. Rankin	Dr. Coenen	Dr. Hersh
2:30		***** COOKIE BREAK! -- 2 nd floor lobby *****			
2:50	<i>Speaker</i>	Shannon Savol	Sarah Steimer	Elizabeth Lennon	Michael E. Shogry
	<i>Title</i>	Canine Appendicular Osteosarcoma Cell Proliferation Rates in Response to Nonylphenol Exposure <i>in vitro</i>	The effects of overexpression of vinnexins on the immune response in <i>Drosophila melanogaster</i>	Effect of ibuprofen and aspirin on experimental model of induced diabetes in rats: focus on glucose and insulin serum levels	The Effects Bisphenol A and High Fat Diet on Regulation of Insulin and Glucose in C57/BL6 Mice
	<i>Advisor</i>	Dr. Kleinschmidt	Dr. Hersh	Dr. Rankin	Dr. Palmer
3:10	<i>Speaker</i>	Jennifer Cipullo	Jeff Vandever	Neil Whaley	Jeff Fleming
	<i>Title</i>	The Effects of <i>Conus marmoreus</i> Venom on KCa3.1 (IKCa1) Channel Conductance	Bird diversity and abundance in beaver vs. non-beaver wetlands	Defining Growth Factors in <i>Haemophilus ducreyi</i> : IsoVitaleX Derivatives, L-Serine, Selenium, Proteose Peptone No. 3, and Bovine Albumin	Effects of Chronic CO ₂ Exposure on Olfactory Receptor Response to CO ₂ in Mice
	<i>Advisor</i>	Dr. French	Dr. Wissinger	Dr. Humphreys	Dr. Coates
3:30	<i>Speaker</i>	Kelly Nicol	Dosalyn Thompson	Craig Flint	Colleen Friel
	<i>Title</i>	DNA Demethylating Drug Treatment to stimulate Aquaporin-4 Expression in Normal Mice: A Potential Epigenetic Regulation and Treatment	Age-related ventilatory response to hypercapnia as a result of prenatal nicotine exposure in neonatal mice	The effects of water soluble leachates from autumn-shed leaves on the bacterial community of wetlands	Auxin effects on root exudation
	<i>Advisor</i>	Dr. Palmer	Dr. Coates	Dr. Ostrofsky	Dr. Coenen
3:50	<i>Speaker</i>	Michael Vlah		Kelsey Ream	
	<i>Title</i>	Role of Caddisflies in Liberating Detritus-bound Nutrients and Energy to Food Webs in Temporary Alpine Ponds		Biogeochemical Cycling and Decomposition: Influence of Fecal Pellet Deposition along White-tailed Deer (<i>Odocoileus virginianus</i>) Trails	
	<i>Advisor</i>	Dr. Wissinger		Dr. Bowden	

2013 Biology Senior Project Symposium

Tuesday, April 23

Time		Session E: Steffee 208 Moderator: Lisa Whitenack, TH, BH	Session F: Steffee 212 Moderator: Kristen Webb, CC, SW	Session G: Steffee 306 Moderator: Jim Palmer, AK, LF	Session H: Steffee 312 Moderator: Susan Rankin, GW, MO
1:30	<i>Speaker</i>	Tim Savatt	Rebecca Bajkowski	Anna Zimmerman	Annie Homan
	<i>Title</i>	Bioaccumulation and biomagnification of polychlorinated biphenyls in wetland organisms	Effects of Neonicotinoids: Imidacloprid and Thiamethoxam on the Development of <i>Xenopus laevis</i> Tadpoles during Tail Regeneration	Fish indices of biotic integrity (IBIs) exhibit a subsidy-stress response to forest land cover in streams of Northwestern Pennsylvania	Vitamin A deficiency attenuates olfactory receptor neuron responses in mice
	<i>Advisor</i>	Dr. Palmer	Dr. Rankin	Dr. Wissinger	Dr. Coates
1:50	<i>Speaker</i>	Peter Pietrandrea	Stephanie Fort	Katrina Gazsi	Christine DeCapite
	<i>Title</i>	Total Evidence Analysis of Arthropod Visual Opsins: An Attempt to Improve the Understanding of the Evolution of Chelicerata Spectral Sensitivities	The effect of human indicator gender on performance of dogs in an object choice task	The relationship between stomach pH and lead concentration found in bone matter of some raptor species.	The effects of <i>Conus quercinus</i> venom on the IKCa1 ion channel
	<i>Advisor</i>	Dr. Webb	Dr. Mumme	Dr. Ostrofsky	Dr. French
2:10	<i>Speaker</i>	Kayla Owens	Molly V. Steimer	Ryan Napper	Michael Iacono
	<i>Title</i>	Auxin-related responses of tomato root peroxidases to colonization by <i>Pseudomonas fluorescens</i> Pf-5	The Behavioral Response of RNAi Knockdowns of Innexins 1 and 8 in <i>Drosophila melanogaster</i>	Promotion of growth in <i>Haemophilus ducreyi</i> by Mycobacterium smegmatis culture supernatant and the antibiotic effects of redblush grapefruit essential oil	The effects of altering innexins on anesthetic tolerance in <i>Drosophila</i>
	<i>Advisor</i>	Dr. Coenen	Dr. Hersh	Drs. Humphreys and Waggett	Dr. Hersh
2:30		***** COOKIE BREAK! -- 2 nd floor lobby *****			
2:50	<i>Speaker</i>	Austin Becker	Jacob Brezinsky	Ashley Baronner	Aaron M. Nehilla
	<i>Title</i>	The role of oxidative stress tolerance and competence genes for antibiotic resistance acquisition in <i>Haemophilus ducreyi</i> .	A Diabetogenic Effect of Bisphenol A on Pancreatic β -cell Function	An Investigation of the Hypoglycemic and Hypolipidemic Effects of Cinnamon Oil on Streptozocin-induced Type 2 Diabetic Rats	Pursuing the Evolutionary Divergence between Class I and II Strains of <i>Haemophilus ducreyi</i> by Using Multilocus Sequence Analysis
	<i>Advisor</i>	Dr. Kleinschmidt	Dr. Palmer	Dr. Rankin	Dr. Humphreys
3:10	<i>Speaker</i>	Kaitlyn Horan	James Kim	Aaron Haag	Alex Mitchell
	<i>Title</i>	An Analysis of Mitochondrial DNA Control Region Variation Within and Among the Siberian Husky Breed of Domestic Dog (<i>Canis lupus familiaris</i>)	Effects of hard and soft water on behavioral performance and food consumption in mice	Genetic Influences on the Posterior Lobe of <i>Drosophila melanogaster</i>	Effect of preservation on shark tooth microstructure and the tooth histology of squaliform sharks.
	<i>Advisor</i>	Dr. Webb	Dr. Mumme	Dr. Hersh	Dr. Whitenack
3:30	<i>Speaker</i>	Lauren Nord	Max Hennessy	Shelby Penn	Hudson Stoner
	<i>Title</i>	A novel dual-gender Wistar rat model for Seasonal Affective Disorder (SAD)	Determining the roles of <i>innexin2</i> and 5 in the <i>Drosophila melanogaster</i> immune system	A comparison of the feeding morphology between two species of darter, <i>Etheostoma caeruleum</i> and <i>Etheostoma nigrum</i>	The Effects of Vitamin A Deficiency on Olfaction in Mice
	<i>Advisor</i>	Dr. Mumme	Dr. Hersh	Dr. Whitenack	Dr. Coates

2013 Biology Senior Project Symposium

Wednesday, April 24

Time		Session J: Steffee 208 Moderator: Chris Lundberg, LW, TH	Session K: Steffee 212 Moderator: Christine Donmoyer, KW, RM	Session L: Steffee 306 Moderator: Lee Coates, JP, AK	Session M: Steffee 312 Moderator: Catharina Coenen, BH, SW
1:30	<i>Speaker</i>	Travis Tasker	Jeff Demjanenko	Jessica Giles	Jocelyn Gruskiewicz
	<i>Title</i>	Using carbon substrates for point source acid mine drainage bioremediation.	Transgenerational Effects of Exposure to Bisphenol-A on Histone Acetylation of C57BL/6 Mice	The Gene Expression of TRADD, ASK-1, AATF, and IRBP in IRBP ^{-/-} <i>Mus musculus</i>	Impaired Olfactory Functioning Related to Age and Alzheimer's Disease in Mice
	<i>Advisor</i>	Dr. Ostrofsky	Dr. Palmer	Dr. Donmoyer	Dr. Coates
1:50	<i>Speaker</i>	Ellie Weyant	Jillian Ranker	Andrew Bean	Kelly Smith
	<i>Title</i>	Territoriality effects on the dear enemy phenomenon in <i>Anolis carolinensis</i> , the green anole.	Effects of Repeated vs. Acute Carbon Dioxide Exposure on Age-Related Ventilatory Response to Hypercapnia in Neonatal Mice	A Search for New Subtypes of the Feline Immunodeficiency Virus (FIV) Through Identification of Hawaiian Viral Haplotypes	The effects of <i>Conus textile</i> venom on the BK channel, <i>hSlo1.1</i>
	<i>Advisor</i>	Dr. Mumme	Dr. Coates	Dr. Webb	Dr. French
2:10	<i>Speaker</i>	Dana D'Amico	Juliann Koenig	Kara Gacovsky	Jessica Chase
	<i>Title</i>	A possible role for auxin efflux in auxin-induced promoter activation	Mechanisms of UBX Regulation of <i>CG13222</i> in the <i>Drosophila melanogaster</i> haltere	The Investigation of the Effects of the Crude Venom of <i>Conus Marmorosus</i> on Cav2.2 Channels	The Effect of Bisphenol A on Prostate-Specific Antigen Level and Motor Activity of C57/BL-6 Mice
	<i>Advisor</i>	Dr. Coenen	Dr. Hersh	Dr. French	Dr. Palmer
2:30		***** COOKIE BREAK! -- 2 nd floor lobby *****			
2:50	<i>Speaker</i>	Kelsey Raver	Christina Mucci	Peter Masschelin	John Hecht
	<i>Title</i>	The effects of vibrissa removal on detection of predatory odor in mice	Comparative Expression of <i>Brassica rapa</i> Peroxidase Ohnologs	Inactivation of CG9140 in muscle and neuronal tissue of <i>Drosophila melanogaster</i> through RNAi	The Effect of Benzalkonium Chloride Residues on Adhesion and Biofilm Formation by Wild-Type and Benzalkonium Chloride-Adapted <i>Haemophilus ducreyi</i>
	<i>Advisor</i>	Dr. Mumme	Dr. Kleinschmidt	Dr. Hersh	Dr. Humphreys
3:10	<i>Speaker</i>	Alex Glasgow	Erin Nawrocki	Alycia Maltony	Ryan Vietmeier
	<i>Title</i>	Role of predator defense along a permanence gradient: behavioral plasticity in <i>Nemotaulius hostilis</i>	Formation and Structure of Biofilms in Wild Type and Mutant <i>Haemophilus ducreyi</i>	Anatomical Localization and Regulation of Pheromone Production in the Ring-legged Earwig, <i>Euborellia annulipes</i>	Investigation of the Effect of Salicylic Acid on Ascorbate Peroxidase in <i>Brassica rapa</i> Leaves
	<i>Advisor</i>	Dr. Wissinger	Dr. Humphreys	Dr. Rankin	Dr. Kleinschmidt