



## **12<sup>th</sup> Annual Research Symposium**

**Sponsored by:  
CAS DEAN'S OFFICE**

**Friday, May 6, 2011**  
(light breakfast and lunch provided)

**Poster Session – 8:00 a.m. – 10:00 a.m.**  
Decary Upper Cafeteria

**Oral Presentation Session – 10:00 a.m. – 4:00 p.m.**  
Decary 202, 203, 208, 212

**Featuring Honors Thesis Presentations by:**

Holly Beaulac (Psychology – Neuroscience)  
Lauren Broderick (Marine Biology)  
Aaron Mitchell (History and Political Science)  
Anda Panaitiu (Psychology and Biology)  
Stephanie Podolski (Biological Sciences)  
Leonard Choon Huat Tan (Biological Sciences)  
Sara Young (Marine Biology)

Elisabeth Ziemba (English and Language Studies, Women's and Gender Studies)

**Opening Reception: Voyages and the Great Age of Sail**

A special exhibition curated by students in HIS 290: History Hands On  
See last page of program for details!

**ARTWORK AND POSTER PRESENTATIONS – 8:00 – 10:00 A.M. – DECARY UPPER CAFETERIA**

**1 - Feathers, Fins, Scales, and Tails**

Katie Dunbar (Creative and Fine Arts)

A collection of animal artwork in a variety of mediums, including watercolor, ceramics, and prints.

**16 - Freshwater Mussel Survey Assessment in Minnesota**

Kylie Bloodsworth (Environmental Studies – GIS)

With the majority of freshwater mussel species in North America being listed as Special Concern, Threatened, or Endangered, it becomes especially important to increase conservation and management efforts in order to maintain existing populations. Using a GIS approach, I identified streams with high mussel bed densities, historic presence of Threatened and Endangered species, and high species richness in order to assess the need for surveys or relocation work in Minnesota.

**31 - Music's Effect on Perceived Performance**

Elisabeth LeBlanc, Meghan McCann, Pratik Shah (Psychology)

We conducted an experiment concentrating on the effects that different types of music have on perceived performance. We used a survey to measure how positively or negatively the participants felt after participating in an intramural basketball game and compared responses between our three conditions (no music, fast music, and slow music).

**2 - Painting With Acrylics by Alexis Wells**

Alexis Wells (Creative and Fine Arts)

**5 -Interaction between the Sex Determination Hierarchy  
and Ecdysone Signaling in *Drosophila melanogaster***

Elizabeth Fisher (Biological Sciences)

The sex of *D. melanogaster* is determined by a series of RNA  
splicing events, which together comprise the sex

<p><b>9 - “Where my wins at?” A Study of Home Court Advantage and Sport</b>  Mike Williams, Franco Foti, Matt Thompson, Marcus Winn (Business and Communications)  An analysis of UNE’s men’s and women’s basketball win-loss performance at home and away contests.</p>	<p><b>24 - Creating an Animal Model of Dyspnea</b>  Aubrey White (Pharmacology)  Dyspnea (a.k.a. shortness of breath) is a common symptom in tertiary care and is the primary sensation associated with cardiopulmonary disease. Little is known about the underlying neural mechanisms of air hunger and currently, there are no effective therapies to relieve air hunger, perhaps due to the lack of an animal model. The study is a first attempt to create a behavioral animal model of air hunger.</p>	<p><b>39 - Drugs, Society and Behavior: A Tour of the Stevenson Psychopharmacology Laboratory</b>  Julio C. Dutra, Brandon Mulligan (Psychology)  A brief overview of our drug abuse and pain experiments, and the implications of these data on human and veterinary health.</p>
<p><b>10 - Computational Investigation of Transition States for Deprotonation and Lithium-Halogen Exchange During the Attempted Formation of 6-Desoxynaltrexone</b>  Vernon Chan (Chemistry and Physics)  Reaction mechanisms of the synthesis of possible opioid-receptor antagonists were modeled using quantum chemical calculations.</p>	<p><b>25 - Targeting Novel FAAH Inhibitors for the Treatment of Inflammatory Pain</b>  Jordan Faloon (Pharmacology and Neuroscience)  Fatty acid amide hydrolase (FAAH) is an enzyme that metabolizes anandamide (AEA), which is a key ligand of the endocannabinoid systems. Inhibition of FAAH increases signaling of AEA to CB1 receptors where there is active release of the enzyme. This research tests novel 2<sup>nd</sup> and 3<sup>rd</sup> generation FAAH inhibitors for the efficacy in treating inflammatory pain.</p>	<p><b>40 - The Effects of Repeated Winning and Losing Exposure on the Consistent Individual Differences of Male Siamese Fighting Fish</b>  Lindsay M. Forrette, Olivia L. Hebert (Psychology)  In our lab, we have already established that male Siamese fighting fish exhibit consistent individual differences in behavior when forced to decide between fighting and courting. Here we examined whether males remained consistent in their behavior expressions even after having won and lost repeated contests.</p>
<p><b>11 - Spectroscopic and Electrochemical Characteristics of a (4-methoxy)phenyl-substituted Silole</b>  Katie A. Edwards (Chemistry and Physics)  A novel silole derivative, 1, 1-dimethyl-2,3,4,5-tetraanisole silole, was characterized in dioxane and THF solutions. The characterization involved determining absorption, emission, molar absorptivity, and quantum yield in each of the solvents. A study of aggregate-induced emission in dioxane/water and THF/water systems and a determination of electrochemical properties were also completed. The results are compared with those of previous studies of 1,1-dimethyl-2,3,4,5-tetraphenyl silole and 1,1-dimethyl-2,3,4,5-tetrotolyl silole to illustrate the effect of a strongly electron-donating substitute on silole properties.</p>	<p><b>26 - In Vivo Characterization of Naloxone, an Inverse Agonist in Opioid</b></p>	

<p>young in the nest, to see if males adjust care in response to increasing loss of paternity.</p>		
<p><b>14 - Impacts of Agricultural Management on Nestling Ratios of Grassland Nesting Songbirds</b>  Derek Wright (Environmental Studies)  Anthropogenic activity has impacts on the ecology and evolution of species the world over. My study addresses the impact of agricultural activity (haying) on populations of obligate grassland nesting songbird species Savannah Sparrow (<i>Passerculus sandwichensis</i>).</p>	<p><b>29 - Balance Bracelet: Expectation or Fact?</b>  Stacie Antonovich, Garret Barcheski, Miles Hughes, Allison Walsh (Psychology)  The current study examined the effects of expectation on balance, while simultaneously determining if the iRenew Energy Bracelet has true physiological effects. The results showed that, regardless of whether the participants were wearing the placebo bracelet or iRenew Bracelet, scores on a balance test were significantly higher if the participants were told that the bracelet “works” as opposed to those participants that were told the bracelet “does not work.”</p>	<p><b>44 - Recalling Love and Acceptance: Priming Security in Insecure Individuals</b>  Bethany Kay, Shelby Peterson, Dr. Julia Longua Peterson (Psychology)  The current study investigated how recalling positive romantic relationship interactions can increase feelings of acceptance and commitment in individuals with high attachment anxiety.</p>
<p><b>15 -Land Cover Within Riparin Zones of the Kennebunk River</b>  Emily Baisden (Environmental Studies – GIS)  Poster will have a map of the Kennebunk River showing the land cover and land use classes along the river, along with</p>	<p>1(t)10.1(h)-17ef10.1(h)-17ef1060 319.26 1aipants Tc0.aipantxpectanv”</p>	

**ORAL PRESENTATIONS –10:00 A.M. – 4:10 P.M. DECARY SECOND FLOOR**

<b>TIME</b>	<b>DECARY 212</b>	<b>DECARY 202</b>	<b>DECARY 208</b>	<b>DECARY 203</b>
	<i>Marine Science</i>	<i>Political Science</i>	<i>Psychology Research Methods</i>	<i>Methods in Literary and Cultural Criticism</i>
10:00 – 10:20	<p><b>Feeding Preferences and Habitat Selection of <i>Octopus spp.</i> in Bahia Magdalena</b>                      Samantha M. Assarian (Marine Biology)                      This research focuses on the distribution and feeding preferences of octopuses in Magdalena Bay off the coast of Puerto San Carlos, Baja California Sur, with a particular focus on local pollution and economic consequences. Octopuses are generalist feeders that live in crevices, in holes in the substrate, and under rocks that utilize trash such as beer cans and PVC pipes as a central habitat from which to prey on commercially valuable species.</p>			

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TIME	DECARY 212	DECARY 202	DECARY 208	DECARY 203
11:20 – 11:40	<p><b>One Fish, Two Fish, Oiled Fish – Dead Fish (and other marine organisms)</b> Kelsey Thompson, Sara Young, Lauren Stephenson (Marine Science) The effects of oil spills on marine organisms.</p>	<p><b>Challenging Two Party Hegemony: Lessons From a King</b> Joseph Bussiere (Political Science) My senior thesis focuses on the necessary conditions for an independent candidate in the United States to be successful, drawing from the cases of Angus King and also the 1992 Presidential campaign of Ross Perot. Finally, my paper takes a close look at the likelihood of an independent’s success in the upcoming Presidential election.</p>	<p><b>Conspecific Communication as a Zeitgeber and its Effect on the Circadian Rhythm of Field Crickets, <i>Gryllus</i></b> Shelby Yahn (Psychology) Crickets foremost use light/dark cycles as zeitgebers to indicate appropriate times to chirp and attract mates. Crickets in an experimental manipulation were seen to use the communication of conspecifics as a</p>	



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<b>TIME</b>	<b>DECARY 212</b>	<b>DECARY 202</b>	<b>DECARY 208</b>	<b>DECARY 203</b>
12:20 – 1:00				<p><b>Free Will and the Budding Classes: Melville's <i>Billy Budd</i></b>                      Mike Nataupsky, Nick Jackson (English and Language Studies)                      This panel situates Herman Melville's novel <i>Billy Budd</i> in the context of late nineteenth century discourses of free will and determinism in order to complicate readings of the novel's central act of judgment and to explain its setting as an historical displacement of class inequalities.</p>
<b>HONORS PRESENTATIONS</b>				
12:30 – 1:00	<p><b>Activation of AMP-activated Protein Kinase as an Early Indicator for Stress in the Lobster, <i>Homarus americanus</i></b>                      Stephanie Podolski (Biological Sciences)                      Variations in water temperature, salinity, pH, and oxygen concentration are frequent stressors that marine invertebrates face on a daily basis. Each of these physiological stressors creates a large cellular demand for energy. In mammals, energy metabolism is regulated by the enzyme AMP-activated protein kinase (AMPK), which is highly conserved during evolution. This project was designed to test the hypothesis that AMPK is present and activated by temperature, hypoxia, and anoxia stress in the lobster, <i>Homarus americanus</i>.</p>	<p><b>Role of CD4+ T Lymphocytes in the CD40+ Microglial Response to Injury in a Neuropathic Pain Model</b>                      Holly Beaulac (Psychology – Neuroscience)                      An honors thesis investigating whether CD4+ T lymphocytes and CD40, an activation protein expressed by microglia, mediate their effects by affecting spinal cord microglial responses in a rodent model of neuropathic pain.</p>		
1:00 – 1:30	<p><b>Diet Comparisons of Steller Sea Lions (<i>Eumetopias jubatus</i>) and California Sea Lions (<i>Zalophus californianus</i>): Is Diet a Factor in Steller Sea Lion Decline?</b>                      Sara Young (Marine Biology)                      This study compares historical diet data of Steller and California sea lions to examine differences in diet diversity as a possible explanation for the decrease in overlapping habitat ranges of the two species on the southern California coast.</p>	<p><b>An Investigation of Steroidal Modulation of Nociception in <i>Drosophila melanogaster</i></b>                      Anda Panaitiu (Psychology and Biology)                      Nociception is essentially the set of physiological responses to harmful stimuli (in humans, nociception is often equated to pain). In this presentation, the role of steroid hormones in regulating nociception in the fruit fly <i>Drosophila melanogaster</i> is investigated.</p>	<p><b>Stonewall: The Discourage of Gay Liberation</b>                      Aaron Mitchell (History and Political Science)                      The Stonewall Riots loom large in the history of the Gay Rights movement. Why is this the case, and how have gay rights activists created the meaning of Stonewall.</p>	

**ORAL PRESENTATIONS –10:00 A.M. – 4:10 P.M. DECARY SECOND FLOOR**

TIME	DECARY 212	DECARY 202	DECARY 208	DECARY 203
1:30 – 2:00	<p><b>Diet Composition of Harbor Seals (<i>Phocavitulina</i>) Residing at Mount Desert Rock, Maine</b>                      Lauren Broderick (Marine Biology)                      An investigation into harbor seal diet with a more in-depth look at prey composition, trawl abundance, comparisons, age class preference and changes in diet over the past decade.</p>	<p><b>An Investigation of Pheromone Expression and Courtship Behavior in <i>Drosophila melanogaster</i> Males that have Altered Steroid Signaling Levels</b>                      Leonard Choon Huat Tan (Biological Sciences)                      In the fruit fly <i>Drosophila melanogaster</i>, hydrocarbons on the surface of the cuticle act as pheromones for intraspecific chemical signaling which is important for mate recognition and attraction. In this presentation, an inve(3.1( Tc0.0024n5.1(.1((()5r )Tj0 .4(o)4(n)-0788.2(o)4(n)-078To.9(te rs())an)- 14.9((o)4(no(n)2.TJ9k)0.4(eo.9(te rs()).2(o)4 an</p>		

**ORAL PRESENTATIONS –10:00 A.M. – 4:10 P.M. DECARY SECOND FLOOR**

<b>TIME</b>	<b>DECARY 212</b>	<b>DECARY 202</b>	<b>DECARY 208</b>	<b>DECARY 203</b>
2:30 – 2:50	<p><b>An Investigation of Pedagogical Techniques Appropriate for Educating English Language Learners in the Mathematics Classroom</b> Kylie Bragdon (Mathematics) My presentation is a reflection of my student teaching experience at Portland High School in an ESL mathematics classroom. Throughout the discussion I will discuss culturally and linguistically sensitive pedagogy techniques that I researched, how I implemented them in the classroom, and their overall effectiveness.</p>	<p><b>The Ontogeny of Fear Conditioning in the Rat: Freezing, and not Contextual Learning, is the Limiting Factor</b> Stephanie Shiers, Michael Burman (Psychology) The purpose of the present experiment was to analyze explicit cue and contextual fear learning in juvenile rats by manipulating the intensity of the aversive stimulus. The data showed that a higher shock may have removed an associative “ceiling” effect, revealing that older animals show stronger conditioning in general.</p>	<p><b>The Influence of Pheromones on Learning in <i>Betta splendens</i></b> Paul Ingargiola (Psychobiology) A study of how pheromones, or hormones outside of the body, may influence learning capabilities of the species <i>Betta splendens</i>.</p>	<p><b>Molecular Keypad Locks</b> Anda Panaitiu, Vernon Chan (Chemistry and Physics) Keypad locks allow an action to take place only when the right password (or sequence of numbers) is entered. This presentation describes how the keypad lock principle can be applied to certain chemical reaction systems and how some molecular systems can be used as molecular logic gates in electronics.</p>
2:50 – 3:10	<p><b>The Role of Slavery in Advancing American Medicine</b> Gillian Frisch (English and Language Studies) Slaves have played intricate roles in advancing medicine, including forced participation in experimentation, excavation of their graves in order to use their bodies as cadavers, and public lynchings by physicians. Later in history, their attempts in contributing to the medical field are hindered because of the segregation they were forced to endure.</p>	<p><b>Learning and spatial task ability in the common Goldfish</b> Cameron LaPlante (Psychobiology) Study of how spatial cognition increases due to exposure to spatial tasks.</p>	<p><b>Water Temperature Effects on Aggression of <i>Betta splendens</i></b> Aissa Edora, Christina Bell (Psychobiology) Water temperature increases and decreases aggressive behaviors depending on the female presence and time of data collection.</p>	<p><b>Photodecarboxylation of Photolabile Protecting Groups</b> Katie A. Edwards, Elisabeth Fisher (Chemistry and Physics) A review of two papers studying the efficiency of photodecarboxylation (PDC) reactions for substituents in the use of photolabile protecting groups (PPGs).</p>

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<b>TIME</b>	<b>DECARY 212</b>	<b>DECARY 202</b>	<b>DECARY 208</b>	<b>DECARY 203</b>
3:50 – 4:10		<b>The Creation, Medicalization and Pharmaceuticalization of Attention</b> Amanda Simmons (Sociology) This presentation analyzes how attention has become an integral part of our society, and how		