13th Annual Undergraduate Arts and Sciences Research and Scholarship Symposium
Sponsored by the College of Arts and Sciences

May 4, 2012 | 9:30am – 3:00pm

9:30–11:30 am  Open House: Art Displays and Poster Presentations
                Decary Upper Cafeteria
11:30–Noon     Welcome Address: Dean Hey
                Decary Cafeteria Function Room 2
Noon- 12:20 pm Lunch Break
                Refreshments available on the second floor of Decary Hall
12:20-3:00 pm  Honors Thesis and Oral Presentations
                Decary 202, 203, 205, 208, 210, 212
                Presentation schedule enclosed in program

Featuring Honors Thesis Presentations by:

Tyler Brown (Aquaculture - Marine Science)  Joseph Gousse (Political Science)
Vernon Chan (Chemistry & Physics)            Margaret Hutton (Marine Science)
Briana Chu (Education)                       Ryan Knotek (Marine Science)
Karson Couture (Marine Science)              Brittany Morley (Psychology)
Daniel Crear (Marine Science)                Casey Toombs (Marine Science)
ART/POSTER PRESENTATIONS

9:30–11:30 am
13th Annual Undergraduate Research Symposium
Sponsored by the College of Arts and Sciences

PRESENTATION 1
Airbrush, Acrylics, and Abstracts.
Presenter: Gavin Kuns
Advisor: Steven Travis
My display is a compilation of works of varying mediums. The subject matter is meant to be experiential and exploratory with hopes to make the viewer think.

PRESENTATION 2
3D Printing and Design
Presenters: Kevin Connell, Stephen Barton
Advisor: Andy Rosen
Using a kit bought from MakerBot industries, we constructed a 3D printer that can replicate any shape we upload using 3D graphing software. This cutting edge technology is still in its infancy in terms of practical applications, which continue to grow.

PRESENTATION 3
Giraffe Study
Presenter: Kimberly Hentz
Advisor: Sarah Gorham
This painting is the final image from a series featuring giraffes for Painting II.

PRESENTATION 4
Stakeholders of the Saco River
Presenter: Michael D’Apice
Advisor: Joe Habraken
This 20 minute documentary explores the relationship between businesses established along the estuary of the Saco River and how and why the healthy growth of local economy depends on the health of the River and vice versa.

PRESENTATION 5
Drift
Presenter: Nick Blunier
Advisor: Nancy Rankin
Sculptures created out of Driftwood found at local beaches
PRESENTATION 6  
Can Art Reduce Stress? A Study of Art Making and Responses to a Stress Induction  
Presenters: Nicholas Blunier, Rebecca Shedden, Nicole Bertone  
Advisor: Julie Longua Peterson  
This project explored whether making art (as compared to a control condition) could reduce the effects of a stress induction task on self-reported stress and mood.

PRESENTATION 7  
Sibling Relationships and Birth Order’s effect on Personality Development  
Presenters: Alex Bellows, Kerri Grant, Lisa Manchen  
Advisor: Amanda Hare  
The presentation is taking a look at the relationship the siblings have with each other, both as adults and when they were children, and we will see if any type of relationship correlates with any personality types. Birth order is also being looked at to see if there is a correlation between birth order and personality development.

PRESENTATION 8  
Channel Surfing for Mates: Using Video Playback to Assess Female Preference for Male Behavioral Strategy in Siamese Fighting Fish  
Presenters: Alyssa M. Russell, Lindsay M. Forrette, Krystal L. Mannion  
Advisor: Teresa Dzieweczynski  
We assessed female mate choice preference for male behavioral strategy using video playback techniques and both sequential and simultaneous choice tests.

PRESENTATION 9  
First Impressions: A Study of Canine (Canis lupus familiaris) Greeting Styles and Social Behavior  
Presenter: Alyssa Russell  
Advisor: Emily Chester  
I observed the greeting styles of dogs in the local area and analyzed the social behavior for differences between American Kennel Club breed groups.

PRESENTATION 10  
I Think you Have High Self-esteem, but am I Right?: Attachment Style and Percentions of Romantic Partner’s Self-Esteem  
Presenters: Bethany Kay, Shelby Peterson  
Advisor: Julie Longua-Peterson  
This study examined how accurately one predicts their romantic partner’s self-esteem compared to their romantic partner’s self-evaluations. People who are high in attachment avoidance significantly underestimate their partner’s self-esteem.
PRESENTATION 11
A Comparative Study Between Prey Item Variations in the Diet of Conspecific Great Horned Owls *Bubo virginianus* Residing in Different Ecological Home Ranges

*Presenter: Borah Kim*
*Advisor: Emily Chester*

This study examines the differences in diets between conspecific Great Horned Owls living in different ecological home ranges. A sample of Great Horned owl pellets collected in two different locations in Maine was dissected to identify and quantify the different prey items to be compared with published data from Colorado.

PRESENTATION 12
The Effect of Defendant Race and Crime Violence on Perception and Memory

*Presenters: Brendan Brickley, Mallory Morin, Julian Kingsley*
*Advisor: Julie Longua Peterson*

This project explored whether defendant race (Black vs. White) and Crime Violence (Violent vs. Non-violent) influence participants perceptions and memory of a crime.

PRESENTATION 13
Satisfaction in the Eye of the Beholder

*Presenters: Brittany Gough, Maryanne Connolly, Alyssa Garvey, Amanda Scarpon*
*Advisor: Jennifer J. Stiegler-Balfour*

This study compared participants' ratings of perceived relationship satisfaction of a couple, which was described as either having met through and online dating website or face-to-face in the park. The results showed that participant's attitudes toward relationships predicted how they rated other couple's happiness.

PRESENTATION 14
The Tidal Preference of the Common Mallard (*Anas platyrhynchos*)

*Presenter: Casey Howley-Brigham*
*Advisor: Emily Chester*

The current study examined whether the common Mallard (*Anas platyrhynchos*) had a preference for either low tide or high tide in the Back Bay of Biddeford Pool. Behaviors observed to enhance reasoning were resting and feeding. The results showed that the Mallards spent more overall time in the low tide and the amount of resting behaviors observed were significantly greater than feeding behaviors observed.

PRESENTATION 15
The Importance of Pointing Gestures and the Domestic Dog

*Presenter: Christiana M. Booth*
*Advisor: Emily Chester*

The present study looked at the influence of human pointing gestures directed towards pet dogs and shelter dogs using a food-discrimination experiment involving these simple pointing gestures. The results suggest that age and population have an effect on the outcome of pointing tasks.
PRESENTATION 16
Perceived Locus of Control and Beliefs in Psychokinesis
Presenters: Christiana M. Booth, Monique L. Guimond, Casey T. Howley-Brigham, and Leah B. Tustin
Advisor: Jennifer J. Stiegler-Balfour
The purpose of the current study was to examine whether participants' estimates of success of a die rolling task were predicted by their locus of control. The results revealed that when participants were actively involved in the task, individuals who scored higher on the internal locus of control measure gave higher estimates of their success than participants who scored lower on the internal locus of control measure.

PRESENTATION 17
Dyadic Problem Solving: Are Friends or Strangers better?
Presenters: Erica Page, Dearandra Galvin, Friedrich Kleinhempel, Allison Martin
Advisor: Julie Longua Peterson
This project explored the problem solving abilities of dyadic groups. We compared whether groups of friends are better or worse problem solvers than groups of strangers.

PRESENTATION 18
Perceived Paw Preference in the Domestic Dog Varies with Task
Presenter: Garret Barcheski
Advisor: Emily Chester
This study was conducted to expose the extent to which paw preference in the domestic dog is task dependent. Four of the most prevalent tests for paw preference were conducted on a small population of dogs each of which yielded contrasting results.

PRESENTATION 19
The Effects of Text Distracters on Comprehension in Skilled- and Less-skilled Readers
Presenters: Julia Rich, Hadleigh Smith
Advisor: Jennifer J. Stiegler-Balfour
To better understand the cognitive processes underlying reading comprehension, we examined what type of information (i.e., semantically related or -unrelated) is most distracting to readers and thus disrupting their comprehension of text. The results revealed that less-skilled readers are distracted by all irrelevant information whereas skilled readers only experienced interference when the distracter information was semantically related to the text.

PRESENTATION 20
Initial Characterization of the Reinforcing Effects of the Mixed-action Delta/mu Opioid Receptor Glycopeptide MMP-2200 in Rats
Presenters: Julio Dutra, Phillip Atherton, Brooke Bell and Julie Barker
Advisor: Glenn Stevenson
Currently, there is great interest in developing novel delta opioid receptor drugs as pain relievers with the hope that this class of opioid has a reduced risk of abuse liability, relative to standard mu opioid receptor drugs like morphine and fentanyl. This study evaluated the reinforcing effects of the mixed-action delta/mu agonist, MMP-2200 using a preclinical model of abuse liability, the drug self-administration procedure in rats.
PRESENTATION 21
The Effect of Human Activity on the Behavioral Responses of Eastern Gray Squirrels (Sciurus carolinensis)
Presenter: Julissa Good
Advisor: Emily Chester
I recorded the distance at which a behavioral response is elicited from squirrels in two different location types; one high human activity level and one low human activity level.

PRESENTATION 22
The Relationship between Body Image, Self-Esteem, and Gender Roles
Presenters: Kayla Anderson, Shelby Peterson, Brett Peterson
Advisor: Amanda Hare
A correlational analysis of responses about body image, levels of masculinity and femininity, and self-esteem. Two age cohorts, first year students and fourth years students, will be compared based on collected responses to distributed surveys at an undergraduate institution.

PRESENTATION 23
Birdie See Birdie Do: Observational Learning and the Foraging Preference of Zebra Finches, Taeniopygia Guttata
Presenter: Kristin Cattrano
Advisor: Emily Chester
This study examined the effects of observational learning on foraging preference in captive male zebra finches, a gregarious species.

PRESENTATION 24
Food Preference and Foraging Behavior of Grey Squirrels
Presenter: Kylie Galliani
Advisor: Emily Chester
Grey Squirrel foraging behaviors alter depending on what type of food they choose.

PRESENTATION 25
Escape Distances in Herring Gull Populations: UNE Campus v. Fortunes Rocks Beach
Presenter: Lauren Stephenson
Advisor: Emily Chester
Observational study looking at the difference in escape distance of herring gulls between the UNE campus and Fortunes Rocks Beach. I tested whether gulls from the UNE campus have a higher tolerance for human proximity than a population from Fortunes Rocks Beach.

PRESENTATION 26
Effects of Music Styles on Task Performance and Frustration Levels
Presenters: Lindsey Carleton, Elizabeth Graham, Kristin Cattrano
Advisor: Amanda Hare
In this study we looked at the effects of different styles of background music on frustration levels and task performance in college students.
**PRESENTATION 27**

**Becoming Aware: The Effect of Locus of Environmental Control on Anticipated Environmental Behaviors**

*Presenters: Lindsey Lavin, Hannah Tavella, Daniel O’Gorman*

*Advisor: Julie Longua Peterson*

This project explored whether participants could be influenced to increase intentions to recycle and to report more control over their recycling behavior. Participants were assigned to one of three conditions (recycling fact sheet, recycling video, or control) and then reported on intentions to recycle and control over recycling behavior.

**PRESENTATION 28**

**Competition Behaviors of Harbor (Phoca vitulina) and Grey Seals (Halichoerus grypus) during Feeding while in Rehabilitation**

*Presenter: Lisa Manchen*

*Advisor: Emily Chester*

This study looks at agnostic behaviors and dominance relationships among seals during feeding.

**PRESENTATION 29**

**Social Status and Conformity**

*Presenters: Lydia Colbert, Krista Maynes, Felicia Mazzone*

*Advisor: Amanda Hare*

This project is on the correlational relationship between social status, social conformity, and conformity. Participants completed a survey and watched a few videos then were asked questions to see if they would conform to the three confederates.

**PRESENTATION 30**

**Paw Preference in the Domestic Cat (Felis silvestris catus)**

*Presenter: Meaghan Richard*

*Advisor: Emily Chester*

Presentation of research conducted on the paw preference of the domestic cat.

**PRESENTATION 31**

**Predictors of Drug and Alcohol Use During the Transition to College: Parental Psychological Control and Student Rebelliousness**

*Presenter: Nicole Baker, Samantha Baker*

*Advisor: Amanda Hare*

The transition into college can be a tumultuous time for adolescents as they leave home and emerge into adulthood. The purpose of this longitudinal study was to examine the ways in which parents’ use of psychological control and students’ predisposition to rebelliousness may predict increases in drug and alcohol use during this transition. Implications for academic adjustment are also discussed.

**PRESENTATION 32**

**Social Networking and Relationships: The Influence of Attachment Styles and Self-Esteem on Facebook Use**

*Presenters: Samantha Baker, Jane Parker, Beth Giguere*

*Advisor: Amanda Hare*

The purpose of this project is to investigate the ways in which attachment styles and self-esteem influence Facebook use and Facebook generated behaviors amongst undergraduate students.
PRESENTATION 33
Herring Gulls: Does Vigilance Decline with Increasing Group Size?
Presenter: Samantha Kelly
Advisor: Emily Chester
My project determines whether vigilance behavior decreases as group size increases in herring gulls.

PRESENTATION 34
The Effect of Mating Display Intensity on Likelihood of Copulation in the Mallard Duck (Anas platyrhynchos)
Presenter: Sara Winchenbach
Advisor: Emily Chester
This research project focused on whether an increase in duration or number of male Mallard mating displays lead to an increase in the number of overall copulations. Two common mating displays were observed and recorded for this study and a statistical analysis was performed to determine if there was a significant increase in number of copulations for males who performed more, or longer displays.

PRESENTATION 35
The Effect of Food Availability on Aggressive Behaviors in Feeder Birds
Presenter: Scott Deschenes
Advisor: Emily Chester
I am looking at how birds interact to other birds when access to food is limited.

PRESENTATION 36
Social Interaction in Cats: Does it Lead to Play Behavior?
Presenter: Stephen Barton
Advisor: Emily Chester
Project sought to discover if group oriented behavior led to play behavior.

PRESENTATION 37
The Role of Inhibition in Reading Comprehension Among Skilled and Less-Skilled Readers
Presenters: Tiffany Shahin, Michael Wilson
Advisor: Jennifer Stiegler-Balfour
A cued task-switching paradigm was used to assess skilled- and less-skilled readers’ ability to inhibit irrelevant information to complete a task. The results of three experiments revealed that less-skilled readers not only took significantly longer to suppress irrelevant task information than skilled readers but were also unable to adapt to the switch task after several practice trials.

PRESENTATION 38
Facebook and the Big Five; The Role of Personality in Social Networking
Presenter: Andrew May, Samantha Binder, Alison Marchand
Advisor: Jennifer Stiegler-Balfour
The current study investigated the relationships among aspects of an individual’s personality traits and their Facebook usage habits. Participants took a self-reported survey on their social networking habits and their personality, measured using the Big Five Inventory.
Hippocampus Disruption Caused by Lesion, but not Genetic Knockout, Disrupts Contextual Fear Conditioning in Mice

Presenter: Miles Hughes, Rose Jacobson, Cassandra Simmons, Lei Lei, Michael Burman
Advisor: Michael Burman

The goal of this project is to determine the neural substrates involved in the formation of traumatic memories. Conditional knockout mice were created using a dorsal forebrain progenitor cell-specific Cre-lox system to delete the SOX11 or KLF-7 genes. When these conditional knockout mice went through the learning task, there was no difference compared with control mice. However, mice with electrolytic lesions were impaired. We are currently examining the role that conditioning parameters, lesion size and trace interval duration play in this effect.

Development of Contextual Fear in Post-Weanling Conditioned Rats Associated with Enhanced Activation of the Perirhinal Cortex

Presenter: Maria Kuehl, Miles Hughes, Rose Jacobson, Cassandra Simmons, Kerri Grant, Lucas Bohn, Michael Burman
Advisor: Michael Burman

Our research seeks to identify the contribution of memory development to pediatric anxiety in rats. We focus on environmental (contextual) fear, and fear to a particular stimulus (cued fear). By examining c-Fos proteins, we can discern which structures were active in older vs. younger rats during these learning tasks. Overall, our data supports our hypothesis that emergence of contextual fear conditioning at PD 23 depends upon development of the perirhinal cortex.

Blue Jays Prefer Feeders Under High Tree Coverage

Presenter: Christina Buckman
Advisor: Emily Chester

Three feeders were placed in trees under different degrees of branch coverage and the number of visits Blue Jays made to each feeder were recorded.

Women in Baseball in the 1940s-1950s and Women in Baseball in the 1990s

Presenter: Christina Buckman
Advisor: Elizabeth DeWolfe

A comparison of women’s experiences in baseball during WWII and in the 1990s.

Exploring the Unconscious during Roommate Conflict: Satisfaction in Roommate Relationships Predicts Implicit Evaluations of the Roommate in Times of Threat

Presenter: Michelle Arkow, Beth Giguere, Lyle Vintinner
Advisor: Julie Longua Peterson

In a study of roommates at University of New England, we found that those roommates who are dissatisfied with their roommate relationship report decreased implicit, or unconscious, regard for that roommate when the relationship is threatened. Conversely, students whose relationship was not threatened do not differ in implicit roommate regard, regardless of how satisfied they are with their relationship.
PRESENTATION 43
Skin in a Can, Lips in a Tube: A History of Make-Up
Presenter: Lynsey Carr
Advisor: Elizabeth DeWolfe
A comparison of the use, popularity, and consumption of cosmetics between the 1920s and the 1950s.

PRESENTATION 44
Women in the Work Force; Secretary Work in the 1920s Versus Rosie the Riveter of the 1940s
Presenter: Aisling Donohoe
Advisor: Elizabeth DeWolfe
Research comparing the work of women as secretaries in the 1920s to the “Rosie the Riveter’s” of the 1940s and how feminine beauty played an important part in the work force.

PRESENTATION 45
False Confessions; False History
Presenter: Brittany Mayou
Advisor: Elizabeth DeWolfe
In 1993, three West Memphis, Arkansas boys all ages eights and under were brutally murdered. In 1994, Damien Echols, Jesse Misskelley, Jr., and Jason Baldwin, also known as the “West Memphis 3”, were convicted for these heinous crimes and sentenced to life in prison, and death. Almost twenty years later, history is being modified. The trial of 1994 led to the imprisonment of three falsely prosecuted boys, and a made-up history. This fabricated historical gap all originates from a forced confession from Jesse Misskelley pressured by law enforcement. Much research has been done on false confessions, but how does it relate to history? Inaccuracy of any kind, including a false confession in a trial results in insincere history.

PRESENTATION 46
Who Buys the Dress?: Gender Roles in Wedding Planning from 1920 to Today
Presenter: Jessie Roh
Advisor: Elizabeth DeWolfe
A look at changes and continuities in the roles of men versus women in planning the “big day.” Focused on 1920’s weddings and ceremonies of today.

PRESENTATION 47
Birth Control From Margaret Sanger to the Pill
Presenter: Katy Rabasco
Advisor: Elizabeth DeWolfe
A Look Back at Margaret Sanger’s Work in the 1920s and the Development of the Pill in the 1960s.

PRESENTATION 48
Women In Sports
Presenters: Molly Shannon, Craig Alaimo
Advisor: Elizabeth DeWolfe
This is the history of women between late 19th century and 2000 in the life of sports. This will show the participation of women in different sports.
PRESENTATION 49

Media, Feminism and the American Woman
Presenter: Samantha Fields
Advisor: Elizabeth DeWolfe
Feminism never died; it merely transitioned from a political focal point to a more socially cognitive focus. American women are influenced by the social and political culture of their time, simultaneously; the progression of these arenas has been greatly influenced by the women who feel oppressed by American society, culture and government.

PRESENTATION 50

American Fertility
Presenter: Sara Kindness
Advisor: Elizabeth DeWolfe
A look back at the struggles faced due to infertility in American women from the 1950’s through today.

PRESENTATION 51

Comparative Analysis of the Effects of Distraction on Athletic Focus and Execution
Presenters: Kari Pelletier, Nicole Cayer, Michael Tiano, Emily Fougere, Edward Fabian
Advisor: Timothy Robinson
This research was undertaken to determine whether or not crowd size or fan interference impacts the focus and performance of athletes in a scoring situation. Athletes were asked to hit targets or make a basket, first with no distraction, and then with outsiders watching and making loud noises.

PRESENTATION 52

Analyses of Covariates in the Determination of Professional Athlete's Salaries within the United States: A Historical-Explanatory Perspective
Presenters: Lauren Ball, Tyler Crabtree, Nathan Frechette, Channing Tobey
Advisor: Timothy Robinson
Has the increase in athlete's salaries over the past sixty years been due to a boom in technological innovations that have enhanced media exposure? Have new laws and regulations directly impacted salaries in professional sports? This study aims to discover the causes for the tremendous rise in salaries of professional athletes in the four major sport leagues in the United States over the last sixty years.

PRESENTATION 53

The Use of Supplements Among Males and Females
Presenters: Sean Purdy, J.D. Winn, Brian Jones, Derek Arnold
Advisor: Richard LaRue
The purpose of the study is to discover if females use supplements for different reasons than males.

PRESENTATION 54

Classification and Assessment of Land Cover Change (1962-2003) of the lower Saco River Watershed, Maine, U.S.A.
Presenter: Cassandra Smith
Advisors: Mark Adams, Michelle Steen-Adams
This project was developed in cooperation with the EPSCoR Saco River Estuary Project grant. The purpose of this project is to see how historical land cover, circa 1962, has changed up until 2003.
PRESENTATION 55

Minor Fitness Benefits for Edge Avoidance in Nesting Grassland Birds in the Northeastern United States

Presenter: David Perkins
Advisor: Noah Perlut

Learn about the effects of edge on the Savannah Sparrow, and Bobolinks.

PRESENTATION 56

Using Stomach Content and Stable Isotope Analysis to Identify Direct and Indirect Competition by Spiny Dogfish, Squalus acanthias, on Commercially Important Fish Species from Southern New England

Presenter: Anna Clabaugh
Advisor: James Sulikowski

This study investigates the diet of spiny dogfish and other groundfish species from Southern New England by examining stomach content and analyzing stable isotope ratios of muscle and liver samples. From these analyses we will gain a better understanding of direct and indirect competition and the trophic structure of Gulf of Maine.

PRESENTATION 57

Photo Identification of Whale Sharks (Rhincodon typus) and Evaluation of Whale Shark Tourism in Kilindoni, Mafia, Tanzania

Presenter: Royale Hardenstine
Advisor: Emily Dragon

As an independent study project while studying abroad with SIT in Tanzania, photo identification of whale sharks (Rhincodon typus) was performed. In addition, the developing tourism centered around the whale sharks in Kilindoni a small village on Mafia Island off the coast of Tanzania, was analyzed based on the code of conduct established there.

PRESENTATION 58

In Vivo Characterization of Two Novel Mu Selective and Reversible Neutral Opioid Antagonists in Rodent Models of Antinociception and Physical Dependence

Presenter: Amanda Braithwaite
Advisors: Edward Bilsky, John Streicher, Yan Zhang

Opioid use, abuse and addiction have risen dramatically over the past few years, and there is increased concern with the consequences of this exposure in both chronic pain patients and in individuals who are using these drugs recreationally. Our groups are interested in developing reversible and selective mu opioid antagonists that also exhibit neutral antagonist (rather than inverse agonists) profiles.

PRESENTATION 59

Glycosylation of Opioid Peptides: A Strategy for Developing Novel Treatments for Pain

Presenter: Lindsay St. Louis
Advisors: Edward Bilsky, John Streicher

Current pain management relies heavily on the use of opioid analgesics for the treatment of moderate to severe pain; consequentially it is associated with several negative side effects. The glycosylation of opioid peptides is a new strategy for developing novel treatments for pain and it has favorably shown to improve peptide stability and transport across the blood-brain barrier and into the central nervous system.
Functions of Transcription Factor Sox11 in Rodent Models of Inflammatory and Neuropathic Pain

Presenter: Aubrey White, Emilea Y. Lee, Jordan Faloona
Advisor: Lei Lei, Ling Cao, Edward Bilsky

We generated nociceptor-specific Sox11 conditional knockout (CKO) mice and are currently using these mice to test whether the upregulation of Sox11 after nerve injury is anti-nociceptive or pro-nociceptive in two nerve injury models. We are also testing whether Sox11 is involved in inflammatory pain. These studies might provide insight into the pathophysiology of neuropathic pain and inflammatory pain states and suggest novel treatment strategies.

Optimizing the Synthesis of 1,1-dimethyl-2,3,4,5-tetraphenyilsilacyclopentadiene

Presenter: Abby Jones
Advisor: Amy Keirstead, Jerome Mullin

Siloles are substituted cyclopentadienes where a silicon atom replaces one of the ring carbons. This novel class of molecules has been found to have unusual electronic and photophysical properties. One of the most interesting aspects of siloles is that they exhibit aggregation-induced emission (AIE); in other words, their photoluminescence increases when they are forced to aggregate, in contrast to the aggregation-induced quenching that most luminophores exhibit. Consequently, siloles are being examined for use in electroluminescent devices and as chemical sensors. This poster will present advances towards optimizing the synthesis and purification of the silole 1,1-dimethyl-2,3,4,5-tetraphenyilsilacyclopentadiene.

Fibroblast Growth Factor 1's Role in Preadipocyte Recruitment and Adipogenic Potential

Presenter: Jessica Archer
Advisor: Deena Small

The focus of this project was to determine if fibroblast growth factor 1 (FGF1) alters the number or differentiation potential of preadipocytes in mice. In addition, research was also completed to determine if FGF1 promotes the development of brown adipose tissue within the fat depot.

Effect of Fibroblast Growth Factor 2 on the Differentiation of Adipocytes

Presenter: Josephina V. Papailia
Advisor: Deena Small

Fibroblast Growth Factor – 2 (FGF2) is a growth factor essential for the formation of healthy blood vessels and adipocytes. In this study, we determined the effect that FGF2 had directly on the differentiation potential of adipocytes.

The Effects of Probe Density on DNA Hybridization in Microarrays

Presenter: Matthijs Van den Berg
Advisor: John Stubbs

Using Monte Carlo molecular simulations of multiple double-stranded DNA helices bound to a surface, this project investigated the effect of how close the DNA strands are to each other on their hybridization stability.
PRESENTATION 65
The Creation of Two, Stable Plasmid Constructs for Use in Testing the Activity of Thyroid Hormone Alpha
Presenter: Megan Bagdon
Advisor: Deena Small
This research was centered around the creation of two PGL4.17 plasmid constructs, one containing an Osteopontin (OPN) insert with an endogenous thyroid hormone receptor, and the other containing a smaller insert consisting of the thyroid hormone receptor itself and tandem repeats. These constructs will be used to determine the effects of poly-brominated diphenyl ethers on thyroid hormone alpha activity.

PRESENTATION 66
Investigating the Photochromism of Spiropyrans in the Ionic Liquid [BMIM][BF4]
Presenter: Sean Naughton
Advisor: Amy E. Keirstead
Ionic liquids are “green” solvents that may provide applications for molecular electronic devices such as switches. In this project, a spiropyran molecule was used as a probe to investigate the properties of the ionic liquid using UV-Vis and emission spectroscopy.

PRESENTATION 67
Investigating the Behavior of Siloles in Ionic Liquids and Other Viscous Media
Presenters: Regina E. Scalise, Justin D. Crumrine, Caryn K. Prudente, Henry R. Tracy
Advisors: Jerome L. Mullin, Amy E. Keirstead
Quantifying the characteristics of ionic liquids has been a topic of interest because it will aid in the improvement of their efficiency in applications such as dye-sensitized solar cells. The photoluminescence of siloles is known to be solvent-dependent and the research here aims to use siloles as probe molecules to discover more about the polarity of ionic liquids.

PRESENTATION 68
The Effect of Solute Polarity on Solubility in Polyethylene Glycol with Varying Concentrations of Supercritical Carbon Dioxide
Presenter: Michael T. Huber
Advisor: John M. Stubbs
Molecular simulation was used to calculate the solubility of four different solutes in polyethylene glycol, as a function of supercritical carbon dioxide concentration. Solutes differed in terms of rigidity, polarity, and hydrogen bonding ability.

PRESENTATION 69
Differential Lumbar Spinal Cord Mononuclear Cell Responses Among Wild Type, CD4 Knockout, and CD40 Knockout Mice in Spinal Nerve L5 Transection-Induced Neuropathic Pain
Presenters: Adriana Eurich, Holly Beaulac
Advisor: Ling Cao
We have previously demonstrated that both lumbar spinal cord-infiltrating CD4+ T cells and lumbar spinal cord microglial CD40 contribute to the maintenance of mechanical hypersensitivity in the murine model of neuropathic pain spinal nerve L5 transection (L5Tx). To further delineate the CD4 and CD40-mediated mechanisms involved in the development of L5Tx-induced neuropathic pain behaviors, we examined the lumbar spinal cord mononuclear cells of wild type (WT) BALB/c, BALB/c-CD4 knockout (KO), and BALB/c-CD40 KO mice in time course studies via flow cytometry.
Measurement of breathing (rate and tidal volume) in animals can be confounded by behavioral respiratory maneuvers, such as sniffing or vocalization, particularly when automated analysis methods are used. To describe and resolve this problem we have defined the airflow characteristics of a sniff so to distinguish it from a normal tidal breath and consequently demonstrate the significant impact behavior can have on analysis of ventilation.
<table>
<thead>
<tr>
<th>Time</th>
<th>Room 203</th>
<th>Room 205</th>
<th>Room 202</th>
<th>Room 208</th>
<th>Room 212</th>
<th>Room 210</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:20-12:30</td>
<td>Good, Dvorak, Morley, Hotham</td>
<td>Dzis, Malsbury, Panaitiu, Violette</td>
<td>Coutré Thesis Marine</td>
<td>Faloone Pharmacology</td>
<td>Gildea Political Science</td>
<td></td>
</tr>
<tr>
<td>12:30-12:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:40-12:50</td>
<td>Psychology Panel I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:50-1:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00-1:10</td>
<td>Sleboda, Taatjes, Kaulback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:10-1:20</td>
<td>Psychology Panel II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:20-1:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30-1:40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:40-1:50</td>
<td>Barton, Zannoni, Ashner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:50-2:00</td>
<td>Psychology Panel III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00-2:10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:10-2:20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:20-2:30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:30-2:40</td>
<td>Morley Thesis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:40-2:50</td>
<td>Psychology / Sociology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:50-3:00</td>
<td>Kaulback Thesis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PSYCHOLOGY PANEL I: SCHOOL PROJECTS 12:20 – 1:00
Piloting Interventions to Improve Nutrition in Elementary School Students
Presenter: Julissa Good, Jesalyn Dvorak
Advisor: Maryann Corsello
Evaluating pilot interventions used to improve the BMI of students attending Atwood Primary School. Also analyzed results from the Family Nutrition and Physical Activity screening tool distributed to parents at the Second grade health fair at the school.

The ‘Go Grgrls’ Program: A Look at Findings from a Local Female Empowerment Group
Presenter: Brittany Morley
Advisor: Maryann Corsello
This presentation reports findings from a six-week female empowerment program within a local middle school. The program was aimed at atrisk 8th grade females to build social competencies and positive identity.

Analysis of the Maine Integrated Youth Health Survey (2009 and 2011) and its Use and Implications for a Maine High School
Presenter: Brandon Hotham
Advisor: Maryann Corsello
This project assisted in the analysis of data from the Maine Integrated Youth Health Survey (MIYHS) from the years of 2009 and 2011 for a Maine high school. The project aims to make use of this data in a functional way for the community members.

PSYCHOLOGY PANEL II: UNITED WAY PROJECTS 1:00 – 1:40
Toxic Stress and School-based Programs in York County
Presenter: Krystal-Kalene Sleboda
Advisor: Maryann Corsello
A review of the prevalence and effects of Toxic Stress in Maine and what school-based programs are being offered in York County to address these effects.

Child Abuse Prevention Programs in Maine
Presenter: Andrea Taatjes
Advisor: Maryann Corsello
This project focused on child prevention programs in the state of Maine and the effectiveness of these programs.

Evaluating Parent Education Programs in York County
Presenter: Katelyn Kaulback
Advisor: Maryann Corsello
Made possible through the REACH Collaborative, this project examined multiple parenting education programs in York County.
Survey of Parent Engagement
Presenter: Lauryn Barton
Advisor: Maryann Corsello
Evaluation of Parent survey data for the Greater Waterville Communities for Children and Youth (Youth Matter) for insight on how to achieve better parental communication and attendance.

Evaluating and Addressing Substance Abuse in a Diversion Program for Maine at-risk Youth
Presenter: Amanda Zannoni
Advisor: Maryann Corsello, Ph.D.
Identified a “medium” drug use in juvenile diversion programs (has used drugs before but is not a severe user or addict). Problem is prevalent and unaddressed. Created a research based program to address this issue, as well as the tools to evaluate the program’s effectiveness.

Parent Resource Center: Preparing People for the Most Important Job They Will Ever Have
Presenter: Rose Ashner
Advisor: Maryann Corsello
This project examined an already designed parent education program, the Parent Resource Center Inc. A weekly evaluation form was created and implemented along with evidence based pre and post test surveys to measure the effectiveness of the program through parent self-report.

HONORS THESIS
The Importance of Best Practices in Mentoring Relationships
Presenter: Brittany Morley
Advisors: Maryann Corsello, Samuel Mcreynolds
This Honors thesis explores the importance of three best practices within a single college community mentoring program. These practices include the duration of the mentoring relationship, mentoring structure, and the amount of mediating factors.

ROOM 205 Listed in order of appearance.

ENGLISH COMP PANEL
Why Small Healthcare Practices Should Switch to EMRs
Presenter: Alissa Dzis
Advisors: Michael Cripps, Eric Drown, Joseph Hessert, Joshua Pahigian
This project was a research paper that was based on the findings of whether or not small practices in the human healthcare field would benefit the same as large practices by switching to electronic medical records instead of the continued use of paper records.

Go Green, Make Green
Presenter: Katelyn Malsbury
Advisors: Michael Cripps, Eric Drown, Joseph Hessert, Joshua Pahigian
Discusses the benefits of the legalization of marijuana.
The Economist and Masculinity
Presenter: Ioana D. Panaitiu
Advisors: Michael Cripps, Eric Drown, Joseph Hessert, Joshua Pahigian
The presentation deals with how the financial publication perpetrates masculine and misogynistic values.

Father Sébastien Rasle: Friend to the Abenakis
Presenter: Renée Violette
Advisors: Michael Cripps, Eric Drown, Joseph Hessert, Joshua Pahigian
This research focused on the little-known story of an influential Jesuit missionary, Father Sébastien Rasle. Rasle lived among the Abenaki people during the late seventeenth and early eighteenth centuries and was a key figure in securing the Abenakis as allies of the French.

ORAL PRESENTATION
1:20 – 1:40
An Examination of How Celtic Lore, and in Particular; the Visual Motifs of the Book of Kells, are Reflected in the Lyric Poetry of W.B. Yeats and How This is Emblematic of an Irish Nationalism that Emerged in Irish Literature in the Early 1900s
Presenter: Constance Glynn
Advisor: Matthew Anderson
An examination of how Celtic lore, and in particular: the visual motifs of the Book of Kells, are reflected in the lyric poetry of W.B. Yeats and how this is emblematic of an Irish nationalism that emerged in Irish literature in the early 1900s.

ORAL PRESENTATION
1:40 – 2:00
Pecan Pies and Passion: 1940s Sexuality through the WWII Letters of Ruth Banfield Lowderback
Presenter: Caitlin Tetreau
Advisors: Beth DeWolfe, Cally Gurley
This paper was written for this year’s Maine Women Writers Consortium Conference, which took place on March 31st. It examines the sexual nature of the letters of a WWII flight nurse and attempts to explain why women who worked during WWII were given increased sexual freedom.

ORAL PRESENTATION
2:00 – 2:20
Desertion in the Seventeenth Maine Regiment during the Civil War
Presenter: Megan Bagdon
Advisor: Elizabeth DeWolfe
This project explores the Seventeenth Maine Regiment’s experiences with military desertion during the Civil War. The soldiers of the Seventeenth Maine held different views of deserters, based on the reason for desertion: cowards were spurned and scorned, while those who deserted to help their families at home were often seen as victims to be pitied. A soldier’s rank in the Regiment complicated their beliefs and actions regarding desertion.

ORAL PRESENTATION
2:20 – 2:40
Food for Thought: Advertising Taste and the Evolution of Womanhood
Presenter: Anna Lisa D. Ferrante
Advisor: Elizabeth DeWolfe
An analysis of women featured in food advertisements from the 1900s to the 1960s
Psychological Control: The Implications of Differences in Parent and Child Perceptions for Adolescent Adjustment
Presenter: Katelyn Kaulback
Advisor: Amanda Hare
This longitudinal, multi-reporter study examines how differences in perceptions of student and parent behaviors of psychological control affect student emotional adjustment during their first year in college. Implications for academic success will also be discussed.

ROOM 202 Listed in order of appearance.

HONORS THESIS
Age and Size at Sexual Maturity of the Barndoor Skate, *Dipturus laevis*, based on Morphological Analyses
Presenter: Karson Coutré
Advisor: James Sulikowski
The objectives of the current study were to evaluate the age, growth and maturity of the barndoor skate and determine if density dependent changes in these life history parameters have occurred within the sampled population.

HONORS THESIS
Age Distribution of Six Shark Species within the Mississippi Sound Nursery Ground
Presenter: Daniel Crear
Advisor: James Sulikowski
The objectives of this study were to describe the age distribution and population structure of local shark species within the MS Sound over a three year period.

HONORS THESIS
Investigating Potential Reproductive Anomalies in the Spiny Dogfish (*Squalus acanthias*) along the United States East Coast
Presenter: Ryan Knotek
Advisor: James Sulikowski
This study aims to better understand how the reproductive biology of the spiny dogfish (*Squalus acanthias*) may be contributing to an observed population increase.

HONORS THESIS
Substrate Analysis, Juvenile Lake Sturgeon, and the Taxonomic Identification of Macroinvertebrates in the Detroit River – East of Fighting Island
Presenter: Margaret Hutton
Advisor: Charles Tilburg
A complete analysis of benthic composition including substrate and invertebrates was conducted in the Detroit River east of Fighting Island with a focus on lake sturgeon (*Acipenser fulvescens*) presences. The information is used to gain a better understanding of the life history of juvenile and young of year lake sturgeon.
Differential Stress Tolerance of the Color Morphs in the Green Crab, *Carcinus Maenas*

*Presenter: Casey Toombs*
*Advisor: Markus Frederich*

An honors thesis presented to investigate the stress tolerance of the two color morphs of Carcinus maenas to the exposure of anoxia and hypoxia. This study measures both organismic parameters, including running endurance on a treadmill, and whole animal level parameters including HSP70 protein levels and AMPK activity.

**ROOM 208** Listed in order of appearance.

**ORAL PRESENTATION**

12:20 – 12:40

Targeting Novel FAAH Inhibitors for the Treatment of Chronic Pain

*Presenter: Jordan Faloon*
*Advisors: Edward Bilsky, John Streicher*

This project investigates the analgesic potency and efficacy of two novel fatty acid amide hydrolase (FAAH) inhibitors in the treatment of two chronic pain states, inflammatory pain and neuropathic pain.

**ORAL PRESENTATION**

12:40 – 1:00

Grey Squirrel (*Sciurus carolinensis*) Habitat Use on the University of New England's Biddeford Campus

*Presenter: Cody Chretien*
*Advisor: Noah Perlut*

This ecological study looks to understand squirrel habitat use and home ranges on UNE’s Biddeford Campus. The research looks to compare home range differences between males and females, and individuals caught within the campus core are in the campus periphery.

**ORAL PRESENTATION**

1:00 – 1:20

Impact of Ocean Acidification on Predator Induced Defenses in Blue Mussels, *Mytilus edulis* and *M. Trossulus*

*Presenter: Christopher M. Smith*
*Advisor: Phillip Yund*

Investigates the impact of ocean acidification on two species of blue mussel and compares their abilities to respond to (*Carcinus maenas*) chemical cues.

**ORAL PRESENTATION**

1:20 – 1:40

Bacteria in the Saco River: Indicators of Watershed Health

*Presenter: Tyler Spillane*
*Advisor: Stephan Zeeman*

The project involves the monitoring of indicator bacteria in the Saco River, to determine the health of the river. Data over the course of a year and a half will be presented; which includes experimental studies on the bacteria.

**ORAL PRESENTATION**

1:40 – 2:00

Steller Sea Lions, Will We Ever Know?

*Presenter: Kelsey Thompson*
*Advisor: Kathryn Ono*

This presentation will review of the suspected causes for the decline of Steller sea lions in Alaska.
Determining the Gestation Period of Spiny Dogfish (*Squalus acanthias*) Using Ultrasound and Plasma Hormone Analysis

*Presenter: Cassidy Peterson*

*Advisor: James Sulikowski*

My project is to develop a new methodology of monitoring the gestation period of live, captive spiny dogfish (*Squalus acanthias*) over their full pregnancy using two non-lethal methods: ultrasound imaging and steroid hormone analysis.

Evaluating the Saco Bay Estuary System as a Nursery Ground for Commercially Valuable and Ecologically Important Fish Species

*Presenter: Kayla M Smith*

*Advisor: James Sulikowski*

Coastal river systems, such as the Saco River, are known to play an important role as fish nursery grounds for many marine species within the Gulf of Maine (GOM). Examining early life history characteristics and compiling an up to date baseline ecosystem structure of the significant species richness present in these waters is essential for future conservation and management of commercially important and threatened GOM fish stocks.

**ROOM 212** Listed in order of appearance.

Spectroscopic Characterization of a Series Substituted Siloles and Germoles

*Presenter: Katie A. Edwards*

*Advisor: Jerome Mullin*

Siloles have received much recent attention due to the unusual luminescence properties of many of the members of this class of compounds. The UV-Vis absorption and emission behavior, including luminescence quantum yields, luminescence lifetimes, and aggregation-induced emission (AIE) of several substituted siloles and germoles will be reported and compared to each other and a tetraphenylsilole, with particular emphasis on the effects of the positions of substitution on the heteroatom core ring and the point of attachment of the substituents.

The Breeding and Microhabitat of Sandlance (*Ammodytes americanus*)

*Presenter: Tyler A. Brown*

*Advisor: Jeri L. Fox*

Sandlance, *Ammodytes americanus*, are an important trophic link between zooplankton and the top marine predators including many commercially important fishes, such as cod, haddock, and mackerel. Because of this, it is important to understand the life history and most notably, the spawning of these fish, such that they can be used as an appropriate food item for the aquaculture of these commercially important fish. The present study looks at the substrate preference of adult sandlances and incorporates the determination of appropriate substrate into an examination of possible induced spawning techniques.
Computational Investigation and Nuclear Magnetic Resonance Spectroscopy Analysis of 6β-Naltrexol Derivatives
Presenter: Vernon Chan
Advisors: Amy Deveau, John Stubbs
In a previous attempt to synthesize derivatives of the mu opioid receptor antagonist naltrexol, an unexpected alkene product was formed. Quantum chemical calculations, transition state searches, and NMR analysis were utilized to better understand this surprising reaction.

The Value of Cursive Writing: Teachers' Thoughts on its Current Usefulness
Presenter: Briana Chu
Advisor: Susan J. Hillman
This research project investigates whether or not cursive writing is still being taught in schools as well as current teachers’ attitudes and beliefs on the value of cursive writing. A survey was developed with twenty Likert-formatted attitudinal statements based on prior research identifying the benefits of cursive writing as well as two open-ended questions exploring whether cursive writing is taught and general feelings as to its usefulness.

Institutionalized Racism and the Politics of Justice: Disproportional Incarceration of Native Americans in the State of Maine
Presenter: Joseph G. Gousse
Advisor: Ali Ahmida
Institutionalized Racism and the Politics of Justice focuses on a little-discussed, often unknown issue that exists in Maine’s contemporary prison system: racial disparity. This presentation will identify and explore the causal factors that have historically acted to create a social system which yields a disproportionately high number of incarcerated minority citizens in Maine, particularly those of Native American descent. Through the exploration of the Native American population’s interaction with Maine’s criminal justice system, state government, and general society, this presentation will provide a narrative of, and explanation for, the racial disparity that exists in Maine prisons today.

Room 210 Listed in order of appearance.

College Education in America and the Middle Class: The Forces, Opportunities, and Politics Behind Around it
Presenter: Zachary Gildea
Advisor: Ali Ahmida
This presentation will cover the forces that are driving middle class America to seek higher education. It will also discuss the opportunities and complications that come with a higher education.
The Struggle over Ukraine’s Future: The Question of Integration with Russian Federation and the European Union
Presenter: Roman Khromushkin
Advisor: Ali Ahmida
Analysis of particular events and forces which influence the political, social, and economic life of Ukrainian people as well as attempting to answer the meaning of Ukrainian national identity.

James Scott, Social Media and the Politics of Mobilization: The 25th January 2011 Egyptian Revolution
Presenter: Kathryn Leyden
Advisor: Ali Ahmida
As my senior thesis for the Political Science Department, I examine to what extent social media played a role in the January 25th Egyptian Revolution.

The Politics of Immigration – Two Cases from Texas and Arizona, and Immigration Reform in America
Presenter: Marcus Winn
Advisor: Ali Ahmida
Immigration in the United States has been dealing with immigration from Mexico for hundreds of years, and up until the past 20 years has it become a big problem in America. Border States deal with it differently than everyone else because they are heavily affected by its influence. Texas and Arizona deal with the problem differently and this paper looks to explore why are some states are stricter and more aggressive handling the issue than others. Why is immigration a problem and what people saying about it, and what people are doing to try to “fix” the problem, in Texas and Arizona, and what this does for immigration reform going forward is what I am looking to address.

Recurrence of Punishment-as-Spectacle: Foucault and the UC Davis Pepper-Spraying
Presenter: Chase Sheaff
Advisors: Ali Ahmida, Jennifer Denbow
The UC Davis pepper-spraying incident shocked many Americans and raised questions about police forces. Foucault’s analysis is used to make sense of the situation and mark how far America has come from the age of punishment-as-spectacle.

Oil, Hegemony and the Making of American Foreign Policy towards Saudi Arabia 1938-1945
Presenter: Whitney Underwood
Advisor: Ali Amida
This presentation will provide a critical analysis to the formulation of American foreign policy toward Saudi Arabia throughout the Second World War, and the extent to which it was influenced by oil. It will examine the international system through the lens of political theorist Michel Foucault to discern the assimilation of American hegemony during this era.
ORAL PRESENTATION 2:20 – 2:40

Presenter: Courtney Mellen
Advisors: Ali Ahmida, Julie Mueller
I applied Chomsky, Scott and Foucault’s assessments about media filters, language and power to The New York Times editorials to examine how the Bush administration used the corporate media to strategically connect the 2003 Iraq war with the terrorist attacks of 9/11 to gain support for the Iraq invasion.

ORAL PRESENTATION 2:40 – 3:00

The Supreme Court’s Resolution on Citizens United: Corporate Power and the Politics of Representation
Presenter: Matthew Anderson
Advisor: Ali Ahmida, James Roche
Investigates the intended and unintended consequences of the Supreme Court ruling in the Citizens United Case. Investigates two cases on the California legislature and Montana State Court and how this was impacted by the Ruling. Determines how this case undermines the speech of individuals in the democratic system.