14th Annual Student Research and Scholarship Symposium

May 3rd, 2013 | 8:30 am-4:10 pm

8:30-11:30am	Open House: Art Displays and Poster Presentations Alfond Forum Multipurpose Courts
11:30-11:45am	Welcome Address: Jeanne Hey, PhD - Dean, College of Arts and Sciences Tim Ford, PhD - Interim Dean, Westbrook College of Health Professions Alfond Forum Multipurpose Courts
11:45am-12:30pm	Lunch Break *Refreshments available on the second floor of Decary Hall*
12:30-4:10pm	CAS Honors Thesis and Oral Presentations *Decary 202, 203, 205, 206, 207, 208, 210, 212* Presentation schedule enclosed in program

Honors Thesis Presenters:
Anna Clabaugh, Joselle O'Brien, Cassidy Peterson, Matthijs van den Berg

Art Showcase

8:30-11:30 am

14th Annual Student Research Symposium

ART DISPLAY 1

Complexion

Presenter: Jessfor Baugh

Advisor: Stephen Burt

Series of acrylic paintings dealing with light and color. Artworks that will require a second look to notice what is really there.

ART DISPLAY 2

Tempted

Presenter: Daniel Riley

Advisor: Andy Rosen

The art project is based off the work of hyperrealist Ron Mueck and his 1997 sculpture entitled Angel.

ART DISPLAY 3

"Peek Through My Window"

Presenter: Kalyn LeBlanc

Advisor: Stephen Burt

This project is a personal representation of the changing world we live in, and things that have inspired my creative view of that world.

ART DISPLAY 4

Studies of the Pottery Wheel

Presenter: Gavin Kuns

Advisor: Charles Thompson

I have composed and executed a semester long study in which I experimented with many of the possibilities of throwing. After learning to throw several years ago, I wanted to explore new techniques while further developing my own artistic ability.

ART DISPLAY 5

Drosophila Neural Circuitry: DopEcR and fruitless

Presenter: Jess Davis-Knowlton

Advisor: Geoff Ganter

Confocal image overlay of two Drosophila neural circuits: DopEcR expressing neurons in green, fruitless expressing neuron nuclei in red, and brain proper neuron nuclei in blue. Fluorescent activity in DopEcR and fruitless neurons was endogenous to the genetic strains, fluorescent activity in brain proper neurons was accomplished with 4',6-diamidino-2-phenylindole staining.

POSTER 6

Transcription Factor Sox11 Plays Essential Roles in Proliferation and Neuronal Migration

Presenters: Michael Anderson and Emilea Lee

Advisor: Lei Lei

Exploring the role of the transcription factor Sox11 in the maintenance of the hippocampus, dentate gyrus, and somatosensory cortex using a transgenic mouse model.

POSTER 7

Thermal Nociception in *Drosophila melanogaster*

Presenters: Kelsey Kincaid and Jenna Selander

Advisor: Geoffrey Ganter

We studied how both larval and adult fruit flies react to noxious heat under various genetic manipulations. Specifically, we hypothesized that the steroid hormone ecdysone helps in larval perception of noxious heat, and that the pickpocket neurons form a thoracic circuit for the perception of noxious heat in adults.

POSTER 8

Steroid Signaling and Mechanonociception in *Drosophila melanogaster*

Presenters: Aidan McParland and Amanda Madu

Advisor: Geoffrey Ganter

Using genetic manipulation, we studied the involvement of the steroid hormone ecdysone in the perception of noxious mechanical stimuli by fruit fly larvae.

POSTER 9

A Preclinical Model of Central Sensitization in Advanced OA Pain

Presenter: Jennifer Cormier

Advisor: Tamara King

A rat model of advanced NSAID resistant osteoarthritis pain demonstrates that the persistent ongoing pain state is associated with the development of central sensitization.

POSTER 10

The Identification of the Agonist-Induced Intracellular Protein Complex of The Mu Opioid Receptor

Presenter: Justin LaVigne

Advisor: John Streicher

My project involves the identification and functional assessment of intracellular proteins recruited to the mu opioid receptor by immunoprecipitation and proteomics. Identifying these agonist-dependent proteins may prove to be useful in developing novel, therapeutic, mu opioid receptor agonists to effectively combat pain.

POSTER 11

In Vivo Assessment of SoRI-9409, a Novel Mixed Activity Mu-Agonist/Delta-Antagonist Ligand, for the Management of Pancreatitis Induced Pain

Presenter: Anne Leslie

Advisor: Edward Bilsky

This project compares the novel opioid agonist, SoRI-9409, to current pancreatic pain therapeutics in the abdominal hypersensitivity model using von Frey filaments. We predict that SoRI-9409 will have comparable or better efficacy with reduced side effects than current therapeutics.

POSTER 12

In Vitro and In Vivo Characterization of the Novel Opioid Antagonists NAP and NAQ

Presenter: Amanda Braithwaite

Advisors: Edward Bilsky, John Streicher

Opioid use, abuse and addiction have risen dramatically over the past few years. Opioid antagonists are used to manage acute opioid withdrawal, addiction, and peripheral side effects of opioid therapy. We have developed two novel 6ß-N-heterocyclic naltrexamine derivatives (NAP and NAQ) to aid in opioid overdose therapy and have characterized them in mouse models of opioid-mediated antinociception, locomotor activity, gastrointestinal transit, physical dependence and acetic acid writhing as well as in the in vitro beta-arrestin2-GFP translocation assay.

POSTER 13

Gene Expression and Organismal Parameters as a Measure of Salinity Tolerance in the Green Crab, *Carcinus maenas,* Exposed to an Oscillating Salinity Environment

Presenters: Sean Balschi and Anthony Himes

Advisor: Markus Frederich

Our project focuses on examining the oscillating salinity tolerance in two color morphs of the European green crab, *Carcinus maenas.* We are using a variety of whole animal parameters as well as molecular techniques to quantify the variations in tolerance between the two morphs.

POSTER 14

Variations in Sea Level and Temperature at Different Locations in the Delaware Bay

Presenter: Kiera L. O'Donnell

Advisor: Charles E. Tilburg

We analyze variations in temperature as well as sea level at two locations in the Delaware Bay to gain a better understanding of the physical properties that occur in the Bay. Properties such as sea level and temperature are important to study because they can affect where the invasive species of mitten crabs, a competitor of the commercially valuable blue crab, inhabit and repopulate.

POSTER 15

Analysis of Skeletal Structure in Young Mice Exposed to Polybrominated Diphenyl Ethers

Presenter: Patrick Randall

Advisor: Deena Small

Polybrominated diphenyl ether (PBDE) is a chemical compound that is used in a variety of household products to meet federal flame retardant guidelines. It has been hypothesized that the chemical structure of the PBDE's (DecaBDE specifically) allows them to interact with the thyroid hormone receptors and modify their activity. Since bone development is dependent on thyroid hormone receptor activity we hypothesized that early exposure to decaBDE would affect bone structure.

POSTER 16

The Effects of PBDE on Early Zebrafish Larval Development

Presenter: Jason Viggiano

Advisor: Deena Small

Polybrominated diphenyl ethers or PBDEs are a flame retardant compound that has been found in higher concentrations in house dust, breast milk, and infants. PBDE has a similar structure to thyroid hormones and may bind to the thyroid hormone receptor and interfere with its function. This study used zebrafish to test the hypothesis that early PBDE exposure would have a negative effect on early development including morphological differences, and thyroid hormone receptor gene expression.

POSTER 17

Nesting Herring Gulls of Portland, ME

Presenter: Sarah Kelting

Advisor: Noah Perlut

I researched herring gulls in portland last summer to better understand their city rooftop nesting habits.

POSTER 18

The Effect of Shortened Target Strands on DNA Hybridization in a Model Microarray System

Presenter: Sarah Cooper

Advisor: John Stubbs

DNA hybridization was studied between a shorter target strand and a longer probe strand for three different complementary sequences both in solution and on a surface.

POSTER 19

Technology and You

Presenters: Stephanie Ackerson, Whitney Arnold, Sarah Cooper, Destiny Doyle and Gina Newsome

Advisor: Susan Jarmuz-Smith

Our project explored the relationship among technology use and diet, exercise, sleep habits, socialization, and academic success for students on the University of New England Biddeford campus.

POSTER 20

Social Rejection and Motivations for Connection

Presenters: Alex Bellows and Kayla Britt

Advisor: Julie Longua Peterson

We manipulated feelings of social rejection in participants and looked at their motivations for social connections.

POSTER 21

Perspective Taking: Helping Narcissists Feel More Connected and More Committed to Close Relationship Partners

Presenters: Shelby E. Peterson and Alex Bellows

Advisor: Julie Longua Peterson

After taking the perspective of a close other, those who were high in narcissism on the Narcissism Personality Inventory (NPI) were more optimistic towards the future of their relationship. Implications of this study suggest that perspective taking can help narcissists become better close relationship partners.

POSTER 22

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

Presenters: Lucas Bohn, Sara Capobianco and Kerribeth Szolusha

Advisor: Michael Burman

This research seeks to understand the relationship between the hippocampus and amygdala in the formation of contextual and fearful memory while focusing on the development of the perirhinal cortex. We use behavioral experiments, fos protein expression, and PCR to evaluate these relationships in post-weaning rats.

POSTER 23

The Effects of Media Images on Male Preference for the Female Body

Presenters: Victoria Bryan, Rachel Russell and Allison Amato

Advisor: Julie Longua Peterson

This study focuses on the relationship between media images and evaluations of the female body.

POSTER 24

Family Dynamics on Young Adults Perception of Others

Presenters: Marissa Collard-Doney, Stephanie Brule and Andrew Gauthier

Advisor: Julie Longua Peterson

This study looked at the effects of parental marital status and family conflict on college students ability to process information about peers.

POSTER 25

UNE Biddeford First-Year Students and Social Media

Presenters: Kaylee Dubois, Cassidy Lund, Krista Cooper, Olivia Dumont and Jen Demarest

Advisor: Susan Jarmuz-Smith

Our project explored the relationship between social media site use and daily activities of first year students over the age of eighteen at the University of New England at Biddeford. Data was collected through distributing a survey that collected measurements of participants' behaviors. We focused on specific behaviors of students such as sleep, exercise, eating habits, studying habits, and on campus involvement.

POSTER 26

Acute 17α-Ethinylestradiol Exposure on Audience Effects During Male-Female Interactions in the Siamese Fighting Fish, Betta Splendens

Presenters: Lindsay M. Forrette and Krystal Mannion

Advisor: Teresa Dzieweczynski

This study examined whether an acute 4 hour exposure to the endocrine disrupting chemical17α-ethinylestradiol (EE2) altered audience effects during male-female interaction in the Siamese fighting fish Betta splendens. This project expands upon recent work which has focused on how endocrine disrupting chemicals affect aggression and courtship behavior in this species as well as the implications that these changes might have on an individuals fitness.

POSTER 27

Including Others in the Self Predicts Stable Implicit Evaluations Following Conflict

Presenter: Beth Giguere

Advisor: Julie Longua Peterson

Our research suggests that when people include their roommates in their sense of self, they are able to maintain stable implicit evaluations of their roommate following conflict. Conversely, people who do not include their roommates in their sense of self implicitly devalue their roommates following conflict.

POSTER 28

The Context Preexposure Facilitation Effect of Contextual Fear Conditioning Emerges During the Periweanling Period in Rats

Presenters: Rose Jacobson and Maria Kuehl

Advisor: Michael Burman

Our research seeks to identify the contribution of limbic system development to anxiety in rats making the transition from infancy to weaning. In order to assess the neural substrates of the memory and emotional components separately, we used a paradigm in which the episodic memory and fear aspects can be dissociated.

POSTER 29

Cooperative Foraging Behavior in Several Species of New England Birds

Presenter: Melanie Ostrowski

Advisor: Teresa Dzieweczynski

This project was a field study which looked at whether or not New England birds were able to cooperate in order to obtain seed from a bird feeder

POSTER 30

How Do Problem Focused and Emotion Focused Coping Styles Affect Test Performance and Anxiety?

Presenters: Alyssa Paquin, Valeria Motter and Jessica Poti

Advisor: Julie Longua Peterson

Based on what coping style someone is will predict how high/low their test performance and test anxiety will be.

POSTER 31

Local and Global Coherence Differences Among Skilled and Less-Skilled Readers

Presenter: Alyssa Paquin

Advisor: Jennifer Stiegler-Balfour

The current study examined whether less-skilled readers struggle to comprehend text because they fail to activate memory traces from earlier portions of the text or whether comprehension difficulty occurs during the integration process. The results suggest that both skilled- and less-skilled readers integrate incoming text information into their developing text representation at the local level; however, only skilled readers integrate the activated information into their developing text representation at the global level.

POSTER 32

The Effects of Romantic Movies on Expectations of a Romantic Partner

Presenters: Xiomarah Ramos, Danielle Gagnon and Cassandra Simmons

Advisor: Julie Longua Peterson

In this experimental study participants were randomly assigned into two groups, a romantic movie group and a neutral movie group. After being shown the romantic clips or the neutral clips participant expectations of a romantic partner were measured.

POSTER 33

Development of Trace and Delay Fear Conditioning Protocols in the C57/Bl6 mouse

Presenters: Cassandra Simmons and Miles Hughes

Advisor: Micheal Burman

The goal of this project is to develop behavioral protocols which can be used to examine the neural substrates of traumatic memory. The effects of various manipulations of environmental and neurological factors were explored.

POSTER 34

Mood and Music Choice

Presenters: Danielle Smerald, Kirsta Adie and Nick Opolski

Advisor: Julie Longua Peterson

This study manipulated mood and looked at participant's choice of music.

POSTER 35

The Expertise Reversal Effect and Its Implications for Classroom Instruction

Presenter: Andrea Taatjes

Advisor: Jennifer Stiegler-Balfour

According to the expertise reversal effect, interventions that benefit less skilled readers sometimes do not affect or even hinder the learning of skilled students. The current study demonstrated that providing students with guiding questions which highlight what information they should focus on while reading improved less-skilled readers' performance on exams but did not change the performance of skilled readers

POSTER 36

Caffeine Use on the UNE Biddeford Campus

Presenters: Alexa Vockley, Kristine Franklin, Amanda Homer, Hilary Boulier and Nicole Marando

Advisor: Susan Jarmuz-Smith

Our survey consisted of questions that addressed the relationship between eating, studying, sleeping, exercise, and caffeine tolerance of the students attending UNE on the Biddeford campus.

POSTER 37

Understanding of Numeric Quantities in *Canis lupus familiaris*

Presenter: Steffanie Bell

Advisor: Teresa Dzieweczynski

Testing domesticated dogs ability to show preference for large and and small quantities. Also associating a numerical tag for those quanities.

POSTER 38

Conspecific Influence on Food Choice in the Land Hermit Crab, Coenobita Clypeatus

Presenters: Naomi Bourque and Jacqueline Adams

Advisor: Teresa Dzieweczynski

It was investigated the influence that conspecifics of a social species such as the Land Hermit Crab play on foraging behaviors of specific individuals and their preferences for a food item.

POSTER 39

Sex Differences in Reward Type Preference in Betta Splendens (Siamese Fighting Fish)

Presenters: Jennifer Kellner and Sarah Heath

Advisor: Teresa Dzieweczynski

The intention of the study was to investigate the preferences in rewards within the Betta splendens (Siamese fighting fish) species, specifically the similarities and differences between males and females in regards to social and food rewards.

POSTER 40

Audience Effect on Mate Choice in Fancy Guppies (Poecilia Reticulata)

Presenters: Jacqueline LaLiberte and Samantha Dunmire

Advisor: Teresa Dzieweczynski

The purpose of this study is to investigate whether female fancy guppies alter their mate-choice preference when a female audience is present. Further, we aim to validate previous experiments on audience effect and mate-choice by allowing a physical choice to be made.

POSTER 41

Handedness in Birds

Presenter: Marissa Simoneau

Advisor: Teresa Dzieweczynski

This observational study sought to find if birds expressed handedness when performing natural behaviors.

POSTER 42

The Role of Klf7 in Neurological Disorders

Presenter: Kristina Michaud

Advisor: Lei Lei

We generated Klf7 conditional knockout mice and observed certain structures in their brains compared to controls in hopes of finding an association between the Klf7 gene and neurological disorders such as depression.

POSTER 43

Determination of Salience of Varying Stimuli Related to Aggressiveness in Siamese Fighting Fish, Betta Splendens

Presenters: Jaclyn Stone and Ellen Davignon

Advisor: Teresa Dzieweczynski

Using a combination of previous studies, a novel experiment was conducted to determine salience strength from aggression-causing stimuli in male Siamese fighting fish.

POSTER 44

Characterization of the Abuse Liability and Respiratory Depressant Effects of the Mixed-Action Delta/Mu Opioid Receptor Agonist BBI-11008 in Rats

Presenters: Brooke Bell, Phillip Atherton, Katie Cone and Sam Baker

Advisor: Glenn Stevenson

These studies compared side effect profiles of a novel delta/mu receptor opioid analgesic BBI-11008 to prescription mu receptor opioids morphine and fentanyl, using drug self-administrataion procedures and full body plethysmograph apparatus. Our data indicate that, relative to the standard prescription drugs morphine and fentanyl, BBI-11008 had a much safer side effect profile with no abuse liability and no respiratory depression.

POSTER 45

When Religion is Ignored

Presenter: Gary Whelpley

Advisor: Ayala Cnaan

The attention religion has been given in sociology undergraduate courses in the U.S. is lacking. Sociology Professors are focusing less on religion's impact on human behavior compared to such topics as race/ethnicity, gender, the family, inequality, deviance/crime, and so on despite proof that religion impacts people's decision-making.

POSTER 46

Shirley Temple: America's Sweetheart

Presenter: Katlyn Davis

Advisor: Elizabeth DeWolfe

How a little girl was able to set the bar for ideal girlhood in a time of crisis, and inspired triumph over adversity during the depression era.

POSTER 47

College Women and World War II

Presenter: Krista Boutin

Advisors: Elizabeth DeWolfe, Caitlin Tetreau

The need to maintain domestic skills and uphold gender roles opposed new ideas of political and social activism during wartime. University women responded with varying degrees of activism during wartime, but despite their level of activism, women maintained their femininity through talk of the domestic sphere such as fashion, marriage and childbirth.

POSTER 48

The Inner Meaning of Tattoos and Girls

Presenters: Daryan Lemire and Allie Braley

Advisor: Elizabeth DeWolfe

We are doing a POSTER on the objective of tattoos relating to the female body.

POSTER 49

Pollard vs. Breckenridge- Breach of Promise

Presenter: Korin Nickerson

Advisor: Elizabeth DeWolfe

This project describes the 19th century scandal between Madeline Pollard and Colonel Breckenridge. The project describes the historical research process.

POSTER 50

History of Girls and Physical Education

Presenters: Katherine Wallace and Emilie Newbern

Advisor: Elizabeth Dewolfe

Our project focuses on the history of girls and their involvement with physical education. We have researched how physical education has evolved over time to allow girls to participate in the same activities as boys.

POSTER 51

Applications of Categorical Data Analysis in Political Science

Presenter: Colin Longhurst

Advisor: Woon Yuen Koh

This project investigates the mathematics, applications and advantages of Pearson's chi-squared ($\chi 2$) test, Fisher's Exact test, the G-test and the Cochran-Mantel-Haenszel as applied to categorical survey data.

14th Annual Student Research and Scholarship Symposium

Oral Presentations

May 3rd, 2013 | 12:30-4:10pm

	Room 202	Room 203	Room 205	Room 206
12:30-:35	**Van den Berg** Honors Thesis	**Abelmann**	**Smith**	**Boag**
12:35-:40				
12:40-:45				
12:45-:50				
12:50-:55				
12:55-1:00		**Featherstone**	**A. Thomas**	**Carleton**
1:00-:05				
1:05-:10	**Clabaugh** Honors Thesis			
1:10-:15				
1:15-:20				
1:20-:25		**Longhurst**	**Wheeler**	**Harder**
1:25-:30				
1:30-:35				
1:35-:40				
1:40-:45	**Peterson** Honors Thesis			
1:45-:50		**Maiers**	**Langan**	**Hunter**
1:50-:55				
1:55-2:00				
2:00-:05				
2:05-:10				
2:10-:15		**Pickus**	**Brown and Liberty**	**Ingram**
2:15-:20				
2:20-:25				
2:25-:30				
2:30-:35			**Riley**	
2:35-:40	**Campbell and Farinelli**	**Stetson**		**Meserve**
2:40-:45				
2:45-:50				
2:50-:55				
2:55-3:00				
3:00-:05	**Farinelli and Campbell**	**T. Thomas**	**Brown**	**Novak**
3:05-:10				
3:10-:15				
3:15-:20				
3:20-:25				
3:25-:30	**ENV 313 class members – Wetland Restoration: Science & Policy**	**Streim**	**Hernandez, Benoit, Frantz, Kowal, Minck, Perkins and Sherman**	**Reynolds**
3:30-:35				
3:35-:40				
3:40-:45				
3:45-3:50				
3:50-:55				
3:55-4:00				
4:00-:05				
4:05-:10				

	Room 207	Room 208	Room 210	Room 212
12:30-:35	**Barankevich and Kinuthia**	**Forrette**	**Ouellette, Dadiego and Herman**	**Brown and Anderson** English Panel I
12:35-:40				
12:40-:45				
12:45-:50				
12:50-:55				
12:55-1:00	**Fields and LaPointe**	**Hughes and Hentz**	**Morrissey, Wells and Duplisea**	
1:00-:05				
1:05-:10				
1:10-:15				
1:15-:20				
1:20-:25	**Flatley and Perry**	**Taatjes**	**Draleau, Carville, Murphy and Dwyer**	**Danley, Levesque and Muller** English Panel II
1:25-:30				
1:30-:35				
1:35-:40				
1:40-:45				
1:45-:50	**Newell, Butland and Sinik**	**Tatsak**	**Fields and Spaeth**	
1:50-:55				
1:55-2:00				
2:00-:05				
2:05-:10				
2:10-:15	**van den Berg and Scalise**	**Colbert and Lingyak**	**Massingale**	
2:15-:20				
2:20-:25				
2:25-:30				
2:30-:35				
2:35-:40	**Eggleston, Lodge, French and Kuns**	**Evans and Serson**	**Mazzone**	**Vunk and Ampomah** English Panel III
2:40-:45				
2:45-:50				
2:50-:55				
2:55-3:00				
3:00-:05	**O'Brien** Honors Thesis	**Mazzone and May**	**Smith**	
3:05-:10				
3:10-:15				
3:15-:20				
3:20-:25				
3:25-:30	**Eurich**	**Walsh and Antonovich**		
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3:55-4:00				
4:00-:05				
4:05-:10				

Oral Presentations

12:30-4:10 pm

14th Annual Student Research Symposium

DECARY ROOM 202 *Listed in order of appearance*

HONORS THESIS **12:30 PM - 1:00 PM**

DNA Hybridization in Microarrays: The Effects of Probe Density and Other Variables

Presenter: Matthijs van den Berg

Advisor: John Stubbs

DNA microarrays are widely used in disease diagnosing and specified genotyping, though current limitations of this technology can lead to both false positive and false negative results. In this Honors Research Project DNA interactions in these microarrays we studied by means of Monte Carlo computational modeling. Several variables were altered, to investigate the possible optimization of microarray use.

HONORS THESIS **1:05 PM -1:35 PM**

Using Stomach Content and Stable Isotope Analysis to Identify Direct and Indirect Competition by Spiny dogfish, *Squalus scanthias,* on Sommercially Important Fish Species from Southern New England

Presenter: Anna Clabaugh

Advisor: James Sulikowski

Spiny dogfish are opportunistic feeders and may compete with other commercially important species, such as Atlantic cod, black sea bass, bluefish, and striped bass for resources, potentially negatively impacting their populations. This study will look at 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.

HONORS THESIS **1:40 PM - 2:10 PM**

Analysis of the Northwest Atlantic Spiny Dogfish *(Squalus acanthias)* Population Through Matrix Modeling and Sensitivity Analysis

Presenter: Cassidy Peterson

Advisors: James Quinlan, Charles Tilburg, Craig Tennenhouse

Using historical data, a mathematical matrix model was developed in order to measure the rate of population growth, and the sensitivity and elasticity of the nuisance spiny dogfish population.

ORAL PRESENTATION **2:35 PM - 2:55 PM**

Creation of a School Garden: Towards a Social Innovation Theory

Presenters: Emily Campbell and Amy Farinelli

Advisor: Alex Campbell

A school garden in rural Maine tells the story of a social innovator's intent to address sustainability and dietary health. This study analyzes the process of the social innovation and situates it amid social movements and structures. By assessing the integration and transformation of the school garden, this study contributes to the development of social innovation theory.

ORAL PRESENTATION **3:00 PM - 3:20 PM**

Identity Performance as a Means of Behavior Change Amid Global Climate Change

Presenters: Amy Farinelli and Emily Campbell

Advisor: Alex Campbell

Using a grounded theory approach in an attempt to understand how to better foster long-term sustainable behaviors and paradigm shifts within individuals in light of global climate change, I conducted phone interviews with a handful of the activists which I met at the "Forward on Climate Change" protest in Washington, D.C. on February 17, 2013. Once this data was gathered, it became clear that there were reoccurring themes of environmental justice, civil rights, as well as a feeling of identity and identification with other environmentalists. Drawing on testimonials and transcribed interviews from the environmental activists across the country as well as existing literature on identity performance and the environmental justice movement, I intend to prove that by capitalizing on pre-existing beliefs and salient identities relating to civil rights in the form of ecological justice, the environmental movement can instigate an environmental identity formation within a larger populace. Through identity formation, a reiterative process of behaviors and attitudes are adopted and performed in order to uphold and solidify standing both to in-group members as well as ones self-concept. As these environmentally oriented performances become increasingly more important to our overall identity, a committed behavior change and paradigm shift with regards to sustainability and climate change are the results.

Environmental Group- Oral Presentation **3:25 PM - 4:10 PM**

Status of Impacted and Enhanced Vernal Pools on UNE's Biddeford Campus

Presenters: ENV 313 class members – Wetland Restoration: Science & Policy

Advisors: Pam Morgan, Bethany Woodworth

We surveyed eight vernal pools (Impacted, Enhanced and Reference sites) on campus this spring. Pool characteristics were measured, and frog and salamander egg masses were counted and compared to data collected in previous years. Recommendations for the future conservation of vernal pools on campus will be discussed.

Decary Room 203 *Listed in order of appearance*

ORAL PRESENTATION **12:30 PM - 12:50 PM**

Mixing Promise With Politics: **Upper Class and the Crisis of Marriage in the US**

Presenter: Amanda Abelmann

Advisors: Ali Ahmida, Brian Duff

The way we think about marriage today is bad for those who marry and for those who dont/ It leads to troubling inequality and undermines our citizenship.

ORAL PRESENTATION **12:55 PM - 1:15 PM**

American Support for Israel: Hegemony, Discourses and Politics, A Critical Analysis

Presenter: Daniel Featherstone

Advisors: Ali Ahmida, Julies Mueller

A critical analysis of the politics of foreign policy regarding Israel through an examination of aid, political lobbying and the power of language.

ORAL PRESENTATION **1:20 PM - 1:40 PM**

Production and Consumption of News Media: Chomsky, Zaller and the Challenge of the Internet

Presenter: Colin Longhurst

Advisors: Ali Ahmida, Brian Duff

This project traces and articulates the political consequences of the Internet as applied to the production and consumption of news media.

ORAL PRESENTATION **1:45 PM - 2:05 PM**

Revolution, Gender and the Politics of Feminism: The January 25, 2011 Egyptian Case

Presenter: Chloe Maiers

Advisors: Dr. Ali Ahmida, Dr. Jennifer Denbow

This research analyzes the role of women during the Egyptian Revolution, a part of the greater Arab Spring movement in 2011. Using a combination of first-hand accounts and political feminist theoretical analysis, a unique and diverse perspective on the role of women during the Egyptian revolution is examined.

ORAL PRESENTATION **2:10 PM - 2:30 PM**

Gay Marriage & Legalization in the United States: Agency, Struggles, and Strategies

Presenter: Gregory Pickus

Advisors: Ali Ahmida, Brian Duff

An examination on the best route to legalize same-sex marriage.

ORAL PRESENTATION **2:35 PM - 2:55 PM**

Apollo 11 and the Cold War: An Instrument of Hidden Policy

Presenter: Timothy Stetson

Advisors: Ali Ahmida, Julie Mueller

An analysis of the Apollo Program set within the Cold War context. How the program originated and the hidden transcripts that were adopted by its founders.

ORAL PRESENTATION **3:00 PM - 3:20 PM**

Presidential Election 2012: A Crisis in the Republican Party?

Presenter: Tyler Thomas

Advisors: Ali Ahmida, James Roche

I will be presenting my senior thesis which will analyze the 2012 election. The purpose of my thesis and presentation will be to show my findings on whether or not there is a crisis in the GOP.

ORAL PRESENTATION **3:25 PM - 3:45 PM**

African Feminism and the Politics of Environmentalism: Wangari Maathai and The Green Belt Movement

Presenter: Erika Streim

Advisors: Ali Ahmida, Jennifer Denbow, Brian Duff, Richard Peterson

I have examined the 1977 Green Belt Movement, founded by Professor Wangari Maathai, in Kenya and how it has since served as an agent in the mobilization of women in politics. This Senior Integrative Essay has incorporated gender studies, environmentalism and political matters.

Decary Room 205 *Listed in order of appearance*

ORAL PRESENTATION **12:30 PM - 12:50 PM**

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

The goal of this project is to compile an up to date baseline ecosystem structure of the fish assemblage inhabiting the lower portion of the Saco River estuary.

ORAL PRESENTATION **12:55 PM - 1:15 PM**

From the Ocean to a Pool: Diving Development of Rehabilitating Harbor Seal Pups

Presenter: Amber Thomas

Advisor: Kathryn Ono

This study investigates the early life physiological and behavioral diving development of young harbor seal pups undergoing rehabilitation.

ORAL PRESENTATION **1:20 PM - 1:40 PM**

Determining Sex Ratios and Sexual Maturity of Atlantic Sturgeon (*Acipenser oxyrinchus*) in the Saco River, ME

Presenter: Carolyn R. Wheeler

Advisor: James Sulikowski

The Atlantic sturgeon (Acipenser oxyrinchus) is a threatened species in the Gulf of Maine because of over fishing; however, in 2007 this species made an anomalous reappearance in the Saco River. Through the use of circulating steroid hormones, ultrasonography, and external morphology, this study will aim to identify the sex ratio and the number of sexually mature individuals in the Saco river Atlantic sturgeon population to better understand their role in the ecology of the river.

ORAL PRESENTATION **1:45 PM - 2:05 PM**

Evaluating the Recreational Discard Mortality of the Atlantic Cod (*Gadus morhua*)

Presenter: Joseph Langan

Advisors: James Sulikowski, James Quinlan, Michael Arciero

Despite being responsible for 35% of the total Atlantic cod landings in the Gulf of Maine over the last five years, the impact of the recreational fishery on cod populations is not fully understood. This study is investigating the recreational discard mortality rate and how it may affect annual harvest totals.

ORAL PRESENTATION **2:10 PM - 2:30 PM**

Gender and Authenticity: A Struggle for Authority in the Slave Narrative

Presenters: Erica Brown and Miranda Liberty

Advisor: Jennifer Tuttle

This session consists of two presentations that illuminate the genre of the slave narrative. Erica Brown analyzes how gender shapes the role of literacy in the narratives of Frederick Douglass and Harriet Jacobs; Miranda Liberty compares how Douglass's autobiography and the recent film Django Unchained handle the issue of authenticity and display the slave's struggle for the authority to tell and own his story.

ORAL PRESENTATION **2:35 PM - 2:55 PM**

Oppression and Resistance in the Short Stories of Kate Chopin, Zora Neale Hurston and Joyce Carol Oates

Presenter: Daniel Riley

Advisor: Jennifer Tuttle

This presentation explains how each of these authors' short stories give a voice to the victims of injustice and why these writings are still important to learn about today.

ORAL PRESENTATION **3:00 PM - 3:20 PM**

Nationality and Identity: Bridging the Gap Between Cultures

Presenter: Erica Brown

Advisor: Jennifer Tuttle

I will be looking at the manner in which those of multiple nationalities identify themselves, specifically in reference to Edith Maud Eaton's "Leaves from the Mental Portfolio of an Eurasian".

ORAL PRESENTATION **3:25 PM – 3:45 PM**

LGBTQ Civil Rights: Global Perspectives

Presenters: Chito Hernandez, Mariah Benoit, Stephanie Frantz, Alyssa Kowal, Lisa Minck, Tess Perkins and Katie Sherman

Advisor: Julia M. Garrett

This panel will provide a comparative perspective on how the civil rights of LGBTQ individuals have changed recently in the following countries: Australia, Uganda, Israel, China, and South Africa.

DECARY ROOM 206 *Listed in order of appearance*

ORAL PRESENTATION **12:30 PM - 12:50 PM**

Age and Size at Sexual Maturity of the Black Dogfish, *Centroscyllium fabricii*

Presenter: Tara Boag

Advisor: James Sulikowski

The black dogfish, Centroscyllium fabricii, is a small, deepwater shark commonly caught as bycatch in the waters off of Newfoundland that is missing life history information vital to management. To determine the age, growth and size at maturity, black dogfish were dissected for reproductive measurements and samples from the vertebrae and testes were processed histologically.

ORAL PRESENTATION **12:55 PM - 1:15 PM**

Factors that Control Maturation of the Shell Gland in *Oviparous elasmobranchs*

Presenter: Liese Carleton

Advisors: David Koester, James Sulikowski, John Streicher

The shell gland in female elasmobranchs plays a vital role in reproduction by making the protective egg case around embryos. In this study, the maturation of the shell gland is documented by looking at structural features, sex steroid hormone concentrations, and hormone receptor abundances in individuals of varying maturities.

ORAL PRESENTATION **1:20 PM - 1:40 PM**

Morphology, Sedimentology, and Velocities in the Saco River Estuary

Presenter: Timothy Harder

Advisors: C.E. Tilburg, P. Morgan, G.C.L. David, J.T. Kelley

Channel shape and sediment characteristics were studied following large scale dredging operations in the Saco River Estuary.

ORAL PRESENTATION **1:45 PM - 2:05 PM**

Hermit Crab (*Pagurus longicarpus*) Conspicuousness and Consistent Individual Differences in Behavior

Presenter: Nicole Hunter

Advisor: Kathryn Ono

This project was conducted in order to determine to what extent hermit crabs (Pagurus longicarpus) are aware of their surroundings and how they react to potentially threatening or unfamiliar situations. The project also aimed to determine whether or not hermit crabs exhibit consistent behaviors that differ from individual to individual.

ORAL PRESENTATION **2:10 PM - 2:30 PM**

Temperature Effect on Survivability and Gestation of the Little Skate (*Leucoraja erinacea*)

Presenter: Natalie Ingram

Advisor: James Sulikowski Ph.D

Recent studies indicate that global water temperatures have increased by 1°C since 1970 and are projected to continue this trend, increasing as much as 5°C by 2080 in the Northwest Atlantic. My study aims to use the little skate (*Leucoraja erinacea*) as a model to investigate how climate change will effect the gestation, survivability, and growth of benthic elasmobranchs.

ORAL PRESENTATION **2:35 PM - 2:55 PM**

A Comparative Study of the Factors Affecting Nest Survival of Great Blue Herons in Maine

Presenter: Margaret Meserve

Advisor: Kathryn Ono

This project compares nest survival of Great Blue Herons in a coastal and inland colony.

ORAL PRESENTATION **3:00 PM - 3:20 PM**

Is Movement Related to the Diet of Atlantic Sturgeon (*Acipenser oxyrinchus*) in the Saco River Estuary?

Presenter: Ashleigh Novak

Advisor: James Sulikowski

To investigate the reappearance of the Atlantic sturgeon, a threatened species to the Saco River watershed, a comprehensive study of the distribution and movement patterns by means of acoustic telemetry and diet analysis has been established. Preliminary observations suggest that this species are utilizing this estuary as a feeding ground, which will be further investigated through the use of beach seines, benthic sediment grabs, beam trawls and gastric lavage.

ORAL PRESENTATION **3:25 PM - 3:45 PM**

Preliminary Observations of the Larval Fish Assemblage in the Saco River

Presenter: Julia Reynolds

Advisor: James Sulikowski

Since 2007, an ongoing ichthyoplankton survey has been conducted to better understand the diversity, abundance and distribution of larval fish within the Saco River estuary. These findings, as well as their commercial and ecologic value, make understanding the early life history of these fish essential in order to properly manage and protect Gulf of Maine nursery ground habitats.

DECARY ROOM 207 *Listed in order of appearance*

ORAL PRESENTATION **12:30 PM - 12:50 PM**

A Survey of Organic Reactions in Metal-Organic Frameworks (MOFs)

Presenters: Marina Barankevich and Caroline Kinuthia

Advisor: Amy Keirstead

Metal-organic frameworks (MOFs) are an interesting class of porous materials comprised of metal ions coordinated to rigid organic molecules. This presentation will examine organic chemical reactions carried out in MOFs and how these novel media influence the product distribution compared to "traditional" organic solvents.

ORAL PRESENTATION **12:55 PM - 1:15 PM**

Reactions in Zeolites

Presenters: Christina Fields and Lindsey LaPointe

Advisor: Amy Keirstead

This presentation will discuss what zeolites are as well as what they are used for. Further discussion will focus on structure as well as some common reactions associated with zeolites.

ORAL PRESENTATION **1:20 PM - 1:40 PM**

Photoresponsive Receptors for Binding and Releasing Anions

Presenters: Patrick Flatley and Jacob Perry

Advisor: Amy Keirstead

We will present the article Photoresponsive receptors for binding and releasing anions from the journal of physical organic chemistry. This paper discusses how photochemistry can be used to change binding affinities in molecules and control the acceptance and release of anions.

ORAL PRESENTATION **1:45 PM - 2:05 PM**

Insights into the Cycloaddition of Thymine

Presenters: Tim Newell, Stephen Butland and Milos Sinik

Advisor: Amy Keirstead

A review of past and present research relating to thymine dimerization with a focus on photochemical cycloaddition.

ORAL PRESENTATION **2:10 PM - 2:30 PM**

Exploring Molecular Logic Gates

Presenters: Matthijs van den Berg and Regina Scalise

Advisor: Amy Keirstead

Logic gates, in the simplest terms, combine binary inputs to produce a single output, the sign of which depends on the inputs given. Though initial efforts were to synthesize a molecule that would perform a simple AND operation, over recent years the molecular interpretation of binary logic has become vastly more sophisticated and complex, including applications in flexible electronic devices. This presentation provides an overview of these compounds, ranging from molecules that perform simple logic operations to those at the current frontier of research applications.

ORAL PRESENTATION **2:35 PM - 2:55 PM**

Psychological and Autonomic Effects of Art Making in College-Aged Students

Presenters: Daniel Eggleston, Emily Lodge, Cecelia French and Gavin Kuns

Advisor: David Grimm, Nancy Rankin, Sarah Gorham, David Sandmire

Using first year students before final exam time as subjects, we analyzed the effects of a 30 minute art making session on anxiety levels. Data was drawn and analyzed from both subject completed surveys and from physiological measurements.

HONORS THESIS **3:00 PM - 3:20 PM**

The Novel G-Protein Coupled Receptor, DopEcR, is Involved in Chemonociception in *Drosophila melanogaster*

Presenters: Joselle O'Brien

Advisor: Geoffrey Ganter

I am using the fruit fly model system to discover novel pathways that can be the target of new medications to control pain. I am employing a genetic approach to study the modulation of pain thresholds by the fly's steroid hormone, ecdysone, via DopEcR.

ORAL PRESENTATION **3:25 PM - 3:45 PM**

Phenotyping Microglial Responses Among Wild Type and CD40 Knockout Mice in Spinal Nerve L5 Transection-Induced Pain

Presenters: Adriana Eurich

Advisor: Ling Cao

We have previously examined the composition of spinal cord mononuclear cells of wild type, CD4 knockout, and CD40 knockout mice in the maintenance of L5 nerve transection induced pain. Using this model, we further examined the microglia-mediated mechanisms involved in neuropathic pain by phenotyping lumbar spinal cord microglia over a time course study via flow cytometry.

DECARY ROOM 208 *Listed in order of appearance*

ORAL PRESENTATION **12:30 PM - 12:50 PM**

You Smell! Testing the Detection of Male Reproductive State Via Odor Cues in Female Siamese Fighting Fish, *Betta splendens*

Presenter: Lindsay Forrette

Advisor: Teresa Dzieweczynski

I assessed whether female Siamese fighting fish attended to odor cues of males than differed in their receptivity (i.e. receptive - had a nest; non-receptive - no nest).

ORAL PRESENTATION **12:55 PM - 1:15 PM**

The Not So Clever Hans

Presenters: Miles Hughes and Kimberly Hentz

Advisor: Teresa Dzieweczynski

The cognitive ability for the domesticated *Equus caballus* to use human given cues on a two-way object choice task

ORAL PRESENTATION **1:20 PM - 1:40 PM**

A Strength-based Approach to Juvenile Crime: Preliminary Results from the Diversion to Assets Program

Presenter: Andrea Taatjes

Advisor: Maryann Corsello

Diversion to Assets (D2A) is a strength-based diversion program for first time juvenile offenders in the state of Maine that prevents youth from entering the criminal justice system. The mission of this program is to meaningfully involve youth offenders in their community by connecting them to positive opportunities that build on their strengths, develop their social skills and strengthen their relationships. The research consisted of three phases; (1) distinguishing the characteristics of the youth enrolled in D2A and how they differ from the state and national data; (2) investigating program effectiveness in increasing developmental assets in youth; and (3) collecting and analyzing the recidivism data from the youth who have successfully completed the program.

ORAL PRESENTATION **1:45 PM - 2:05 PM**

The Evolution of Teaching: Is Online Learning a Comparable Form of Education?

Presenter: Heather Tatsak

Advisor: Jennifer Stiegler-Balfour

This study looks at the effectiveness of online instruction with particular importance placed on whether the learning outcomes are equivalent to a traditional face to face teaching style. The results suggest that students were able to meet learning goals in both the face-to-face and online versions of the course; however, students had to be more self-motivated and goal-directed in order to master the material of the online lecture.

ORAL PRESENTATION **2:10 PM - 2:30 PM**

Operant Conditioning Capabilities of Male Versus Female *Betta splendens*

Presenters: Lydia Colbert and Jackie Lingyak

Advisor: Teresa Dzieweczynski

Male and female Bettas were trained to approach a small submerged flashlight for a food reward only when the light was on.

ORAL PRESENTATION **2:35 PM - 2:55 PM**

Shape Recognition and Discrimination in Domesticated Ferrets (*Mustela putorius furo*) and Cats (*Felis catus*): A Comparative Study

Presenters: Ariel Evans and Emily Serson

Advisor: Teresa Dziewezynski

This study aims to compare the ability of domestic ferrets and cats to recognize and discriminate between shapes.

ORAL PRESENTATION **3:00 PM - 3:20 PM**

Spatial Learning in Cows

Presenters: Felicia Mazzone and Andrew May

Advisor: Teresa Dzieweczynski

A research experiment to see if cows can learn where food is located using two criteria: the side of the pen it was on as well as the color of the bucket it was in.

ORAL PRESENTATION **3:25 PM - 3:45 PM**

The Effects of Time in a Shelter in Response to Human Cues in Dogs

Presenters: Allison Walsh and Stacie Antonovich

Advisor: Teresa Dzieweczynski

This study examined the effect of the amount of time a dog spent in a shelter on thier response to human cues, such as pointing.

DECARY ROOM 210 *Listed in order of appearance*

ORAL PRESENTATION **12:30 PM - 12:50 PM**

BEATS: The Effect of Music on Performance Among Basketball Players

Presenters: Chris Ouellette, Joseph Dadiego and Ben Herman

Advisor: Timothy Robinson

Music is everywhere in athletics and its effect on shooting percentages when analyzing basketball players is examined through two treatments to represent the "Home Court Advantage" as well as the "Road Trip Experience".

ORAL PRESENTATION **12:55 PM - 1:15 PM**

Does Tracking Statistical Data Change Player Performance?

Presenters: Dan Morrissey, Ethan Wells and Jeff Duplisea

Advisor: Tim Robinson

Observing the difference in player performance and effort level in basketball when statistical data is being recorded and when it is not.

ORAL PRESENTATION **1:20 PM - 1:40 PM**

The Effect of Performance Enhancing Clothing on an Athlete

Presenters: Conor Draleau, Brian Carville, Mike Murphy and Derek Dwyer

Advisor: Timothy Robinson

Looking into performance enhancing clothing such as head bands and shooting sleeves and their effect on performance

ORAL PRESENTATION **1:45 PM - 2:05 PM**

A Case Study of Collaboration Between Western Science and Native American Values

Presenters: Samantha Fields and Caitlyn Spaeth

Advisor: Richard Peterson

An analysis of how the EPA and the National Pesticide Tribal Program utilizes a forum to discuss indigenous values and federal law, providing the opportunity for native communities to have a voice in federal regulations.

ORAL PRESENTATION **2:10 PM - 2:30 PM**

Conflict Between the Fanalei and Earth Island Institute Regarding the Slaughter of Dolphins

Presenter: Paige Massingale

Advisor: Richard Peterson

Discussion of the recent events concerning the Solomon Islands and Earth Island Institute. Presentation will analyze both groups interpretation of the events and what, if anything is being done to resolve the conflict.

ORAL PRESENTATION **2:35 PM - 2:55 PM**

Three Whales and How They Brought the World Together

Presenter: Felicia Mazzone

Advisor: Richard Peterson

A presentation about the whale rescue in 1988 in Barrow Alaska that inspired the 2012 movie, Big Miracle. A comprehensive look at portrayals in the movie and the reality of Operation Breakthrough.

ORAL PRESENTATION **3:00 PM - 3:20 PM**

Variation in Home Range Size of the Eastern Gray Squirrel (*Sciurus carolinensis*) on University of New England's Biddeford Campus

Presenter: Cassandra Smith

Advisor: Noah Perlut

With radio telemetry and mark-recapture techniques, students involved in Project Squirrel track movements of individual squirrels across and around the University of New England's Biddeford campus. With a total of twenty three individuals, I use a Geographic Information System (GIS, ArcMap 10), incorporating the coordinates for each time we locate a given squirrel, to assess their home range size and determine how the squirrels overall movements differ among the seasons.

DECARY ROOM 212 *Listed in order of appearance*

ENGLISH PANEL I **12:30 PM - 1:15 PM**

Environmental Influence in Victorian England

Presenters: Erica Brown and Kayla Anderson

Advisor: Catherine Frank

Kayla Anderson will be looking at how ones future is not predetermined by their envrionmental influnces using Mary Shelley and her novel Frankenstein.

Erica Brown will be looking at how the social confines present in Victorian England resulted in the disorders and diseases represented in novels such as Emily Bronte's Wuthering Heights.

ENGLISH PANEL II **1:20 PM - 2:30 PM**

Hawthorne's Working Girl: Agency, Allure and Ambition

Presenters: Meghan Danley, Lauren Levesque and James Muller

Advisor: Cathrine Frank

A panel of presenters will analyze various aspects of the Scarlet Letter from methodological, Marxist, and feminist viewpoints, drawing upon a range of secondary criticism and biographical sources.

ENGLISH PANEL III **2:35 PM - 3:20 PM**

Dogma, Dissent, and Delineation: Observing the Transition and Upkeep of Justice Within the "The Scarlet Letter" and "Billy Budd Sailor"

Presenters: Tyler Vunk and Belinda Ampomah

Advisor: Cathrine Frank

By surveying Nathaniel Hawthorne's "The Scarlet Letter," the transition of law will be observed from its roots in Christianity to its final secularized destination of nature. Additionally, through an exploration of Herman Melville's "Billy Bud Sailor," a subtle act of dissent within the novella will be investigated for its ability to balance the imperfection intrinsic to manmade justice.