



UNIVERSITY OF
NEW ENGLAND

15th Annual Student Research and Scholarship Symposium

May 2nd, 2014 | 9:00 am-4:00 pm

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|-----------------|--|
| 9:00am-11:00am | Open House: Art Displays and Poster Presentations
Alfond Forum Multi-Purpose Courts and Classroom# 238 |
| 11:00am-11:30am | Welcome Address:
Jeanne Hey, PhD - Dean, College of Arts and Sciences
Edward Bilsky, PhD – Vice President, Research and Scholarship
Elizabeth Francis-Connolly, PhD – Dean, Westbrook College of Health Professions
Alfond Forum Multipurpose Courts |
| 11:30am-1:00pm | Lunch Break
<i>Refreshments available on the second floor of Decary Hall</i> |
| 1:00pm-4:00pm | CAS Honors Thesis and Oral Presentations
<i>Decary 202, 203, 205, 206, 208, 210, 212</i>
Presentation schedule enclosed in program |

Honors Thesis Presenters:

*Tara Boag, Liese Carlton, Nicole Hunter, Natalie Ingram,
Janithri Wichramanayake,*

Art Showcase

9:00am-11:00am

15th Annual Student Research Symposium

ART DISPLAY 1

Exploration in Scientific Illustration

Presenter: Shelby Braese

Advisors: Sarah Gorham, Oran Suta

Collection of both traditionally drawn and painted, as well as digitally produced illustrations covering a diverse range of specimens drawn from life both on campus, as well as off campus. Most specimens were obtained on campus by working with various science departments including the Marine Science, Environmental, and Biological Science departments.

ART DISPLAY 2

Clay Portraiture

Presenter: Alexis Wells

Advisors: Sarah Gorham, Charles Thompson, Stephen Burt

Four life-sized/larger than life-sized clay head portraits.

ART DISPLAY 3

Landscape Photography and Nature Writing

Presenters: Sarah Kelting, Jennifer La Comfora

Advisors: Owen Grumbling, Mark Emerson

We will be presenting a compilation of landscape photography and nature writing for each of the photos. Photos and writings are based upon experiences from the courses Nature Writers and Landscape Photography and Nature Writing.

ART DISPLAY 4

Beauty or Destruction: An Artistic Photo Campaign for Fossil Fuel Divestment

Presenter: Kate Hruby

Advisor: Michael Daley

As part of the Fossil Fuel Divestment Campaign here at UNE, we asked people what they loved about the environment and what they would be most heartbroken to see disappear. To pull emotion into divestment, an issue that is quite often viewed rigidly, we conveyed these conversations through body art and photography.

ART DISPLAY 5

Drosophila Dendrite Morphology

Presenter: Aidan McParland

Advisor: Geoffrey Ganter

There are few things as beautiful as biological systems. Here we present nature's artistic ability by vibrantly expressing the fruit flies sensory neurons.

ART DISPLAY 6 – Classroom #238

UNE Olympics Video

Presenters: Jessica Deedon, Mathieu Provencher

Advisor: Bistra Nikiforova

This video touches on the Olympics and some of the issues that are within them. The video also shows UNE Athletics and correlates UNE to the Olympics.

ART DISPLAY 7 – Classroom #238

“Eat Up”

Presenter: Liam Granucci

Advisor: Bistra Nikiforova

This video is about the globalization of food. In the video, the main character will be completely Americanized by what he or she eats. The main character will have his or her mind opened when she/he tries different foods from around the world.

ART DISPLAY 8 – Classroom #238

“Becoming a Global Citizen at UNE”

Presenter: Caroline Saban

Advisor: Bistra Nikiforova

This video will focus on the fostering of global citizenship through global education and research opportunities. The Global Education Program does so by opening international doors for the UNE community.

ART DISPLAY 9 – Classroom #238

International Sports: A Look at Different Cultures and Rules within Different Sports

Presenter: Lauren Foti

Advisor: Bistra Nikiforova

This documentary will be based on interviews with young, as well as older, athletes who have played basketball, hockey and lacrosse in different countries. It will discuss the different cultures experienced, as well as the differences between the American game and the other country's style of playing.

ART DISPLAY 10 – Classroom #238

Baseball and Globalization

Presenters: Cody Chaloult, Ryan Curran

Advisor: Bistra Nikiforova

The video project is on baseball and globalization. The format will be a news piece and will include fictional interviews with players and discuss some globalization topics.

Poster Presentations

9:00am-11:00am

15th Annual Student Research Symposium

POSTER 1

Fossil Free UNE: How Divestment Fosters Sustainability

Presenters: Jesse Pirtel, Kelsey Ouellette

Advisor: Michael Daley

This work will discuss the story, progress and research of the student campaign and newly student-created internship, Fossil Free UNE.

POSTER 2

Do External Factors Impact Olympic Medal Success?

Presenters: Natalie Hardman, Renaldo Louw, Heather McIlroy, Zachary Swanson

Advisor: Timothy Robinson

Our research project determines if there is a correlation between a country's Olympic medal success and their Gross Domestic Product and population.

POSTER 3

The Effects of Attendance on Home Game Contest Outcomes

Presenters: Jessica Deedon, Shamus Higginbottom, Mathieu Provencher, Jessica Potter

Advisor: Timothy Robinson

Our research looks at Men's Ice Hockey (ECACE) and correlates each team's winning percentage at home game contests with the attendance at the games.

POSTER 4

A Comparison Study and Analysis of Hazing in College Athletics

Presenters: Matt Breton, Lauren Foti, Zach Lokey, Amanda Vaudreuil

Advisors: Richard LaRue, Timothy Robinson

This survey study examines hazing in athletics at UNE. Our data will be compared against a national study of hazing from the NCAA that was conducted by Alfred University.

POSTER 5

Environmental Factors for Recruiting Student Athletes to University of New England

Presenters: Jackson Burrell, Joshua Butler, Benjamin Johnson, Emily Pietrasik

Advisor: Timothy Robinson

This poster is based on research examining the different elements of the University of New England that draw student athletes to this campus. It highlights what factors influence a student's decision to attend the University of New England.

POSTER 6

Hospitality Sector Partnership

Presenters: Chris Healy, Nick Kolb, Ben Johnson

Advisor: Beth Richardson

We researched the Hospitality Sector Partnership and how it could help hotels in Portland. We conducted numerous interviews with well know industry experts on the subject.

POSTER 7

Cultivating Community Garden Classroom

Presenters: Edward Burke, Christopher Baker

Advisor: Beth Richardson

We researched other programs similar to Cultivating Community that we can show to other schools and districts in order to expand the program.

POSTER 8

Resilience Hub and an Edible East Bayside

Presenters: Katelyn Day, Alex Teague

Advisor: Beth Richardson

Study of the current food-based economic activity in the East Bayside neighborhood of Portland as well as the potential for growth in this sector.

POSTER 9

International Marketing Plan

Presenter: Erin Christman

Advisor: Thomas Leach

An international marketing plan that introduces a new product to the country of France.

POSTER 10

Global Marketing: Final Project

Presenter: Nick Kolb

Advisor: Thomas Leach

Introducing a product to a foreign market.

POSTER 11

Cell Phones in India

Presenter: Kelsey McGowan

Advisor: Thomas Leach

Marketing plan for introducing cell phones into India.

POSTER 12

Global Marketing Export Project-Bolivia

Presenter: Kristin Dechene

Advisor: Thomas Leach

A market entry plan to export single-serve coffee makers to Bolivia as a luxury product.

POSTER 13

Kegco's Kegerator's in Germany

Presenter: Kurt Steiner

Advisor: Thomas Leach

I am doing my global marketing project on the product Kegerator's from the company Kegco and show how it will be successful in the German beer market.

POSTER 14

The Rising Demand of Basketball in China

Presenter: Evan Rodrigue

Advisor: Thomas Leach

This project examines the increase of popularity in China regarding basketball. The purpose of this study is to discover viable ways to produce and distribute basketballs in the host nation of China.

POSTER 15

Importing Automobiles to Scotland

Presenter: Steven Bailey

Advisor: Thomas Leach

My project is to design and develop a marketing plan that would allow for the successful sales of foreign fuel efficient cars in Scotland.

POSTER 16

"Communico": Revolutionizing Communication in Companies

Presenters: Chandler Knowles, Britney Broderick, Jeani Reagan, Melisa Le, Giovanni Mazzone

Advisor: Bistra Nikiforova

"Communico" is a mobile application used by employees to effectively communicate with each other in order to optimize the quality of services provided. Features of the app include emailing, sending documents to the company's operating system to print, and contact information/mini bios about each person's role in the company.

POSTER 17

Business Card Reader

Presenters: Cody Chaloult, Liam Granucci, Erin Christman

Advisor: Bistra Nikiforova

A business mobile application that allows business men and women to share their business cards with each other by simply taking a picture of it with their phone. That person's information will be automatically entered into the person's contact list.

POSTER 18

“Player Tracker”

Presenters: Mathieu Provencher, Dustin Walsh, John Harty, Pat Borer, Sam Cloutier

Advisor: Bistra Nikiforova

The “Player Tracker” mobile application will be a revolutionary tool in sports and will be used by coaches, general managers, scouts and agents. The app will be built like a fantasy team of potential players (e.g. recruits) and give access to several kinds of information about the potential players.

POSTER 19

Instant Optical Scan

Presenters: Meghan Gribbin, Sean Farren, Joshua Lara, Clair Boyton

Advisor: Bistra Nikiforova

Our mobile app turns your phone or table into a portable scanner by allowing you to take pictures of papers and convert them to digital copies in the form of PDF files. You can scan documents for work, receipts of purchases, articles or pictures to share with friends, and even hand drawn sketches or models. Instant Optical Scan will have more features than other similar apps, and be available to consumers at a cheaper price.

POSTER 20

Stay Connected

Presenters: Nicholas Furcolo, James Beahm, Jackson Burrell, Mike Finnegan

Advisor: Bistra Nikiforova

The proposed model for a business application is designed to keep employees connected to what is going on in the workplace. The app would require a workplace/company login, and would sync items such as email, memos, announcements and notifications, company related data-bases. It also would include a section similar to texting where employees can direct message one another.

POSTER 21

Wilson Baseball Gloves in Ireland

Presenter: Brendin Miller

Advisor: Thomas Leach

Introducing a top-of-the-line brand of baseball gloves in Ireland. Organized baseball is relatively new in Ireland. This will cover the plan to launch Wilson gloves into the country.

POSTER 22

Sex Scandals in the Nineteenth Century

Presenter: Korin Nickerson

Advisor: Elizabeth DeWolfe

An examination of nineteenth century American scandals.

POSTER 23

Radium: The Wonder Drug

Presenters: Delaney Seavey, Kayla Woodward

Advisor: Elizabeth DeWolfe

Investigation of the early 1900's "wonder drug", Radium, which was used to treat a wide range of issues from acne to insanity. We explore more in depth the stories behind this phase where people happily accepted Radium, which they thought was an incredible discovery, but unfortunately were led to an intense tragedy involving health risks and death.

POSTER 24

Women During World War II: Affects to the Working Woman Pre and Post War

Presenter: Kristine McLaughlin

Advisor: Elizabeth DeWolfe

A look into how World War II affected women's experiences and opportunities within the workforce using primary sources, including campaign posters and women's diaries.

POSTER 25

The Beginning of Birth Control

Presenters: Chelsea Crane, Karin Klenk

Advisor: Elizabeth DeWolfe

Looking at the development of birth control over the years, focusing on the changes of Planned Parenthood and the founder Margaret Sanger and her story during the 1900's-1950's.

POSTER 26

Two Wheels Towards Equality: Women and Bikes Ride into a New Century

Presenter: Kathleen McGrath

Advisor: Elizabeth DeWolfe

Examining the role of bicycle technology in advancing physical as well as social mobility for women coming of age at the turn of the twentieth century and its consequences for suffragette politics.

POSTER 27

Radium in Dial Workers in the 20th Century

Presenter: Kiersten Atkins

Advisor: Elizabeth DeWolfe

This will look at how young girls in the Dial factories contracted radium poisoning. What were their symptoms? How did the Radium get into their bodies?

POSTER 28

Rosie's Riveters

Presenters: Samantha Patch, Kristen Lyle

Advisor: Elizabeth DeWolfe

Rosie the Riveter was a popular figure in World War II, but the story lies behind the real riveting women of that time. In our poster, we discover a day in the life of a riveter.

POSTER 29

History of Women in Journalism

Presenter: Kelsey Foley

Advisor: Elizabeth DeWolfe

A project on the path of female reporters through history, tracking their breakthrough from strictly fashion and society to reporting investigative journalism and war correspondence. Uses women such as Nellie Bly, Helen Thomas and Anna Politkovskaya to illustrate how the role of women in journalism has shifted.

POSTER 30

The Madness Through Institutional Confinement

Presenter: Toshi Shahbaghlian

Advisor: Jennifer Tuttle

I will demonstrate how madness is shown from different perspectives through American history as well as how madness is demonstrated through literature.

POSTER 31

A King and His Fool: An Analysis of Shakespeare's Use of Characters as Social Commentary

Presenter: Jessie Roh

Advisor: Jennifer Tuttle

Some of Shakespeare's characters serve a higher purpose than their lines and stage directions, and some may not even be real at all. Shakespeare used his characters and their interactions to make statements to English society of his time.

POSTER 32

"Federer as Political Experience"

Presenter: Jennifer Livingston

Advisors: Brian Duff, Linda Sartorelli

Examination of the influence that sports have on politics today.

POSTER 33

The Cumulative Influences of Socioeconomic Status on Health Outcomes of United States Citizens

Presenter: Abby Small

Advisor: Alex Campbell

This project highlights the most influential factors related to socioeconomic status that impact overall health and life expectancy of United States citizens.

POSTER 34

Missionary Style and Sex

Presenter: Kris Stanley

Advisor: Ayala Cnaan

An examination of the stylization of female Christian clergy in America.

POSTER 35

How Subtle Changes in Text Can Alleviate Deficits in Less-Skilled Readers

Presenters: Lauren Hayden, Emily Boulton

Advisor: Jennifer Stiegler-Balfour

This study assessed whether reading skill influences a reader's ability to monitor protagonists' goals. The goals of this study were to identify text characteristics that pose the most difficult to less-skilled readers and understand ways in which text can be altered to raise comprehension levels.

POSTER 36

"Huh? That makes no sense!" Investigating Factors That Influence Global Coherence Comprehension in Less-Skilled Readers

Presenter: Benjamin Katz

Advisor: Jennifer Stiegler-Balfour

Investigating factors that influence global coherence comprehension in less-skilled readers. Our study addresses deficits less-skilled readers face in reading comprehension. Specifically, we explored whether adding subtle changes in the text can alleviate comprehension inadequacies in less-skilled readers.

POSTER 37

Coherence Differences in Skilled and Less-Skilled Readers

Presenter: Jessica Hering

Advisor: Jennifer Stiegler-Balfour

The current study examined whether or not reading skill influences the monitoring of local and global coherence and the ability to recall various section of the text. Reading times indicated that less-skilled readers made no attempt to resolve inconsistencies at the global level and thus did not show improved recall of portions of the text that require such processing.

POSTER 38

Discriminating Parental Leave: A Look at Faculty's Parental and Medical Leave Benefits

Presenters: Jenni Poulin, Julian Kingsley, Alex Bellows, Matthew Devine

Advisor: Linda Morrison

Examining the faculty and staff parental leave policy.

POSTER 39

The Effect of Art on Stress Levels

Presenters: Sammy Stocks, Steffanie Bell, Emily Boulton, Jill Casazza, Bailey Axelsen

Advisor: Julie Peterson

This project explored the effect of an art therapy manipulation on heart-rates (i.e. pulse) and self-reported stress levels.

POSTER 40

The Effects of Choice Overload and Noise on Decision Satisfaction

Presenters: Brent Bond, Sarah Bedar, Stacey Miner, Emily Mitchell

Advisor: Julie Peterson

This project explored the effect of a choice overload manipulation on perceptions of decision satisfaction. We also explored whether noise moderated this effect.

POSTER 41

The Effect of Pro-Social Behavior on Life Satisfaction

Presenters: Emily Jackson, Erin Edwards, Kayla Hamel, Jaclyn Bria

Advisor: Julie Peterson

This project explored the effect of a pro-social manipulation (where participants recalled an instance where they exhibited pro-social behavior) on participants' perceptions of life satisfaction and self esteem. We also explored gender as a potential moderator of this effect.

POSTER 42

The Effect of Exercise on Self-Perception

Presenters: Jeremy Therrien, Rachael Romain, Liz Babbitt, Sara DeAngelo

Advisor: Julie Peterson

This project explored the effect of exercise manipulation on perceptions of the self. We also explored whether trait exercise moderated the effect.

POSTER 43

Effects of Environment on Emotional Well-Being, Diet, Stress and Exercise

Presenters: Emily Warner, Taylor Watts, Nicholas Laskowski, Crystina Mendolia

Advisor: Susan Jarmuz-Smith

Effects of two different environments, living at home for summer break and living on the University of New England Biddeford campus for a typical spring semester, on undergraduate students' emotional well-being, diet, stress and exercise, using a cognitive manipulation.

POSTER 44

A Study of Family: Effects on Self Esteem, Romantic Relationships and Social Pressures

Presenters: Sara Nelson, Nicole Keane, Matthew Susca

Advisor: Susan Jarmuz-Smith

A research study looking at how different family structures, sibling number, parental marital status, and parent-child relationships affect romantic relationships, self esteem and social pressures. Data was collected in a survey format using college age students at the University of New England.

POSTER 45

Differences in Social Interaction Skills, Stress and Exercise Based on Companion Animal Ownership

Presenters: Tori Doty, Leah Selig, Kyli LaBrecque

Advisor: Susan Jarmuz-Smith

This study looked at differences in social interaction skills, stress and exercise based on companion animal ownership.

POSTER 46

Differences in Stress, Self Esteem and Decision Making Based on Gender and Romantic Relationship Status

Presenters: Emily Cook, Jenna Foley, Krystal Mannion, Celia Litchfield

Advisor: Susan Jarmuz-Smith

This study measured the differences in levels of stress, self esteem and decision making based on participant's gender and romantic relationship status.

POSTER 47

Night Time Drinking and Conflict Predicts Next Day Explicit and Implicit Self Esteem

Presenter: Victoria Bryan

Advisor: Julie Peterson

Using a daily diary methodology, this project explored the effects of night time drinking and conflict on student's next day implicit and explicit self esteem.

POSTER 48

The Need to Belong Predicts Implicit Connection Motivations and Self Esteem Following Rejection

Presenters: Alex Bellows, Janelle Sherman, Kayla Britt

Advisor: Julie Peterson

The role that the need to belong plays in predicting implicit connection seeking motivations following either an individual threat, a group threat or a control condition.

POSTER 49

Perspective-Taking in Close Relationships: Promoting Connection and Closeness in Low Implicit Self Esteem Individuals

Presenters: Shelby Peterson, Alex Bellows

Advisor: Julie Peterson

This study explored the effect of a perspective taking manipulation on perceptions of relationship closeness and perceived partner regard in low implicit self esteem individuals.

POSTER 50

“Somebody’s Watching Me”: Female Siamese Fighting Fish Alter Their Interactions in Response to an Audience

Presenters: Krystal Mannion, Nicole Greaney

Advisor: Teresa Dziejewczynski

The effect of an audience (male, female, no) on the interactions between pairs of female Siamese fighting fish was examined in this novel study.

POSTER 51

Investigating Effects of Storage and Extraction Methods on Downstream PCR Performance with Low Quality DNA

Presenter: Erica Page

Advisor: Zachary Olson

We used several methods of extraction and preservation on deer mouse stool samples to determine which methods was most successful at producing amplified DNA after PCRs were conducted.

POSTER 52

The Use of Artificial Burrows by New England Cottontails

Presenter: Xiomarah Ramos

Advisor: Zachary Olson

We installed three burrows at Kettle Cove State Park in Cape Elizabeth, Maine, and monitored each burrow with a remote camera to measure New England Cottontail (NEC) and predator activity. Because past observations have identified burrow use as a predator escape strategy in NEC, we believe that contracted burrows will be relatively easy and inexpensive means of improving habitat for declining NEC populations.

POSTER 53

Steroid Signaling Modulates Nociception in *Drosophila Melanogaster*

Presenters: Aidan McParland, Mona Roesler

Advisor: Geoffrey Ganter

In the fruit fly, silencing of the steroid hormone ecdysone’s nuclear receptor (EcR) results in a reduction of avoidance response to noxious stimuli.

POSTER 54

The Effects of Tides and Atmospheric Fluctuations on the Temperature of an Estuary

Presenters: Chelsea Welch, Ethan Wester

Advisor: Charles Tilburg

Atmospheric Temperature determines the surface temperature of the water during a tidal cycle.

POSTER 55

Effects of Latitudinal Variations on Tidal change and Temperature on Benthic Organisms' Habitats and Migration

Presenter: Ethan Wester

Advisor: Charles Tilburg

Global climate change may result in thermal stress of benthic organisms who inhabit intertidal areas. This stress could potentially cause them to migrate to the North along the East and West coast of the U.S. to colder waters.

POSTER 56

Species Identification Through Landmark Analysis and 2-D Digitizing of Wing Venation of *Odonata Sympetrum*

Presenter: Jennie Warrell

Advisor: Joseph Kunkel

Identification, microscopic imaging of wings and hamules landmarking, and 2-D digitizing of dragonflies (*Odonata Sympetrum*).

POSTER 57

Sea Level Rise in the Saco River Estuary

Presenter: Sam Peterson

Advisors: Pam Morgan, Mark Adams, Michael Esty

This project models how sea level rise will affect marshes along the Saco River Estuary. Using ArcGIS, analysis was done with different scenarios of sea level rise. This data will be used to help communicate the local community the dangers of the rising sea level.

POSTER 58

The Effects of Stimulus Intensity on the Emergence of Classical Fear Conditioning in Infant and Adolescent Rats

Presenters: Kerri Szolusha, Ben Skillin

Advisor: Michael Burman

This study investigates the effect of altering stimulus intensity in an auditory fear conditioning paradigm in an attempt to discover the optimal conditions for the learning of fearful memories in infant and adolescent rats.

POSTER 59

The Role of the Perirhinal Cortex in the Formation of Fearful Memories in the Developing Rat

Presenters: Cassandra Simmons, Maria Kuehl, Emily Mitchell

Advisor: Michael Burman

This study investigates the neurological development responsible for anxiety disorders. In particular, this experiment examines the role of rhinal cortex in the emergence of contextual and auditory fear. Postnatal day (PD) 17 and PD 24 rats received electrolytic perirhinal cortex lesions and were trained using classical fear conditioning methods.

POSTER 60

Neural Circuitry Activated by Fear Conditioning and Fear Expression Shifts as a Function of Age in Periweanling Rats

Presenters: Crystal Nason, Sara Capobianco

Advisor: Michael Burman

Using real-time PCR, we have elucidated the regions in the rat brain that are being activated during contextual and auditory fear conditioning as part of our model of pediatric anxiety disorders. We find alterations in a number of limbic-system structures between infancy and adolescence.

POSTER 61

Investigating the Degradation Pathways of Decabrominated Diphenyl Ether (decaBDE) in Mice and Zebrafish

Presenter: Margaret Williams

Advisor: Deena Small

This study evaluated gene and enzyme expression suspected to be involved in the debromination and degradation of ingested decabrominated diphenyl ether, a common flame retardant.

POSTER 62

Cuttlefish Fin Motion Model

Presenters: Aaron Groetsema, John Groetsema, MaryAnn Latko

Advisors: James Vesenka, Bradley Moser

Cuttlefish are cephalopods (related to squid and octopi) that ambulate through undulating motion of a lateral fin around the circumference of their mantle. This type of motion has been modeled in engineering labs to explain how these creatures move, but the models are rigid, typically restricted by umbilical cords, and can only move in a linear fashion. In this poster we will describe attempts to make a more realistic model that has greater flexibility both in the form of the model and the observed motion.

POSTER 63

In Vivo assessment of a Novel Opioid Analgesic

Presenter: Brittany Reid

Advisors: Ed Bilsky, Denise Giuvelis

Acute and chronic pain are major problems for hundreds of millions of people worldwide, and while opioid analgesics are frequently used to treat pain, they are typically accompanied by negative side effects including respiratory depression, constipation, tolerance, abuse and addiction liability. We employed a series of preclinical rodent models to assess the efficacy and side effect profile of an opioid agonist, MPA-201, and compared it to the prototypic opioid agonist, morphine.

POSTER 64

Burrowing as a Non-Evoked Readout Assessment for Analgesic Efficacy in Rats

Presenter: Kayla Lindros

Advisor: Edward Bilsky, Denise Giuvelis

Exploration of the parameters involved in creating a successful burrowing model to test analgesic efficacy in a more clinically relevant assay that is comparable to human chronic pain.

POSTER 65

Proteomic Identification of the Activated Signaling Complex of the Kappa Opioid Receptor

Presenter: Nathan Mullen

Advisor: John Streicher, Justin LaVigne

Identifying the recruited proteins during kappa opioid receptor (KOR) activation could lead to the development of a drug that's able to activate a signaling pathway that treats chronic pain without creating dysphoria. We thus attempted to identify these proteins using co-immunoprecipitation/proteomics and pooled shRNA screen approaches.

POSTER 66

Investigation of the Role of Annexin A4 in Regulating MOR

Presenter: Kyle Hong

Advisors: John Streicher, Katie Edwards

The mu opioid receptor (MOR) is the main target for drugs to treat chronic pain, which often produce severe side effects. This project focuses on how the protein Annexin A4 (ANXA4), a phospholipid protein that causes a reduction in mobility of transmembrane proteins, regulates MOR signaling and opioid induced behavior in hopes to design functionally selective drugs to reduce the negative side effects of opioid drugs.

POSTER 67

The Role of Phosphatidylethanol Amine-Binding Protein in Regulating Mu Opioid Receptor Signaling

Presenter: Kathlene Pangilinan

Advisors: John Streicher, Katie Edwards

Phosphatidylethanol amine-binding protein (PEBP) is a potential regulator of mu-opioid receptor (MOR) signaling. Through identifying the mechanisms of PEBP regulation of the MOR in this study using PEBP knockdown by siRNA and measuring changes in MOR signaling, we can help find a new strategy to create novel analgesic drugs that will help alleviate pain without the side effects and drawbacks of typical opioids.

POSTER 68

Blood-Brain Barrier Integrity is Mediated Through Modulation of the 5-HT 1B/1D Receptor: An In-Vitro Study on Migraine Triptan Medication

Presenter: Annie McGregor

Advisor: Colin Willis

Migraine is a debilitating neurological problem whose mechanisms of pathophysiology are still unknown. We hypothesize that blood-brain barrier integrity is mediated through the modulation of the 5-HT_{1B/1D} receptor.

POSTER 69

Klf7 Conditional Knockout Mice Display Abnormal Morphologies in Three Brain Regions

Presenters: Kristina Michaud, Rebecca Green, Robert Belanger, Mike Anderson, Brittany Roy

Advisor: Lei Lei

Our lab generated Klf7 conditional knockout (CKO) mice that specifically lack Klf7 in the projection neurons of the forebrain. Analysis of Nissl stained brain sections showed structural differences in three major brain regions, but thus far we have observed no significant difference in the baseline responses of CKO mice compared to controls in behavioral tests.

WCHP Poster Presentations

9:00am-11:00am

15th Annual Student Research Symposium

POSTER 70

Comparing Quality of Life with Peritoneal Dialysis and Hemodialysis Treatment in Chronic Renal Failure

Presenters: Megan Berg and Sarah King

Advisor: Kelley Strout

The information on the poster will compare quality of life with peritoneal dialysis and hemodialysis treatment in chronic renal failure.

POSTER 71

Impact of Pitocin Use on Birthing Outcomes

Presenter: Charlotte Elkhatib

Advisor: Kelley Strout

The information presented on the poster will provide a starting point for bigger change towards more positive birthing outcomes. Positive birthing outcomes are indicative of patient-centered care. Part of providing patient-centered care requires nurses to fully educate their patients. In order for this to happen, nurses need to be fully educated.

POSTER 72

Effective Communication to Eliminate Elderspeak

Presenters: Hannah Tulkoff and Arianna Sanborn

Advisor: Kelley Strout

The poster project will present our research findings and a suggested implementation strategy.

POSTER 73

Characterization of the Reinforcing Effects and Respiratory Depressant Effects of the Mixed-Action delta/mu Opioid Receptor Agonist BBI-11008 in Rats

Presenters: Phillip Atherton, Katie Cone, Emily Warner, and Rebecca Krivitsky

Advisor: Glenn Stevenson

Our lab evaluated the analgesic efficacy of BBI-11008, a novel mixed-action delta/mu opioid agonist. This procedure was completed by following a self-administration protocol using Male Sprague Dawley rats.

POSTER 74

Too Much Time Spent in Front of the Screen Leads to Behaviors Similar to ADHD

Presenter: Vesna Kravljaca

Advisor: Karen Houseknecht

Children who engage in screen time activities late at night develop sleep deficiency due to the release of melatonin being suppressed. Sleep deficiency manifests symptoms similarly observed in children with Attention Deficit Hyperactivity Disorder.



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Oral Presentations

May 2nd, 2014 | 1:00-4:00pm

	Room 202	Room 203	Room 205	Room 206
1:00-:05	Ingram Honors Thesis	Casey	Brule	Putney
1:05-:10				
1:10-:15				
1:15-:20				
1:20-:25				
1:25-1:30	Carelton Honors Thesis	Rioux	Allen	Corbett
1:30-:35				
1:35-:40				
1:40-:45				
1:45-:50				
1:50-:55	Hunter Honors Thesis	Nadeau	Michaud	Pruitt
1:55-2:00				
2:00-:05				
2:05-:10				
2:10-:15				
2:15-:20	Wichram-anayake Honors Thesis	Labbe	Wood	Brown (Madness in Literature Panel)
2:20-:25				
2:25-:30				
2:30-:35				
2:35-:40				
2:40-:45	Hunter Honors Thesis	Kelly	Shanahan	
2:45-:50				
2:50-:55				
2:55-3:00				
3:00-:05				
3:05-:10	Boag Honors Thesis	Aktanova	Krigest	
3:10-:15				
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Oral Presentations

1:00pm-4:00pm

15th Annual Student Research Symposium

DECARY ROOM 202 *Listed in order of appearance*

HONORS THESIS

1:00 PM - 1:30 PM

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

Presenter: Natalie Ingram

Advisor: James Sulikowski

The sea surface of the Gulf of Maine has increased up to 5 degrees Celsius since 1970 and recent studies have indicated that the temperature will continue this trend within the foreseeable future. The little skate (*Leucoraja erinacea*) was used as a model organism to determine the effects of increased temperature on the gestation period and survivability of embryonic and juvenile oviparous (egg laying) elasmobranchs (sharks, skates and rays).

HONORS THESIS

1:35 PM -2:05 PM

Hormonal and Morphological Changes in the Shell Gland of an Oviparous Elasmobranch, *Leucoraja erinacea*

Presenter: Liese Carleton

Advisors: David Koester, James Sulikowski

The shell gland in female elasmobranchs plays a vital role in reproduction by creating the egg case that embryos develop in. Physical changes in the shell gland during maturation and egg case production were documented and connected with changes in plasma sex steroid hormones.

HONORS THESIS

2:10 PM - 2:40 PM

Involvement of Arachidonic Acid Signaling in the Synthesis of Inducible Compounds in Brown Macroalgae

Presenter: Janithri Wickramanayake

Advisor: Ursula Roese

This research investigates the inducibility of compounds in brown macroalgae *fucus vesiculosus* in response to herbivory, mechanical injury, arachidonic acid and a plant signaling compound, methyl jasmonate.

HONORS THESIS

2:45 PM - 3:15 PM

Harbor Seal (*Phoca vitulina*) Pup Behavioral Consistency

Presenter: Nicole Hunter

Advisor: Kathryn Ono

My research project is focused on the changes and differences in behaviors exhibited by harbor seal (*Phoca vitulina*) pups during their time in rehabilitation. The main goals of the project were to determine if individuals exhibit significantly different behaviors and if there is any consistency over time and across situations.

HONORS THESIS**3:20 PM - 3:50 PM****Age and Size at Sexual Maturity of the Black Dogfish (*Centroscyllium fabricii*)***Presenter: Tara Boag**Advisor: James Sulikowski*

Research carried out to determine the age at sexual maturity and growth rates of the black dogfish, a small deepwater shark. The goal is to provide information for a future management plan.

DECARY ROOM 203 *Listed in order of appearance***ORAL PRESENTATION****1:00 PM - 1:20 PM****The Hidden Transcripts of Food: The Dominant Corporation Monsanto Control Over Citizens Through Power and Language***Presenter: Samuel Casey**Advisors: Ali Ahmida, John Carney*

In the course of the development of the culture of capitalism, there has been a marked change in the organization of capital and how it is controlled. The result is that only a few corporations control vast wealth and are able to dictate the nature of social, political, economic, and cultural life. I will examine how powerful corporations influence our diet and health.

ORAL PRESENTATION**1:25 PM - 1:45 PM****Disciplining American Soldiers: The Vietnam, Iraq, and Afghanistan Wars & Operation PTSD Freedom***Presenter: Zachary Rioux**Advisors: Ali Ahmida, James Roche, Glenn Stevenson, Brian Duff*

This senior thesis oral presentation examines the prevalence of PTSD and discipline within the military, as well as the personal identities of soldiers. Using the critical method and analysis of distinguished theorist on power, Michel Foucault, this thesis argues that through extensive discipline, the U.S. military conditions their institution's identity into the personal identities of American soldiers, negatively influencing the prevalence of PTSD.

ORAL PRESENTATION**1:50 PM - 2:10 PM****Science, Medicine and Power***Presenter: Brittany Nadeau**Advisors: Ali Ahmida, James Roche, Jennifer Denbow*

Examining current racial disparities in health care by investigating the Tuskegee experiment (1932-1972).

ORAL PRESENTATION**2:15 PM - 2:35 PM****Hollywood's Invention of the Native American and the Myth of the Cowboy as History***Presenter: Katie Labbe**Advisors: Ali Ahmida, Jennifer Denbow*

An examination of the representation and portrayal of Native Americans in Hollywood films throughout the Twentieth Century.

ORAL PRESENTATION**2:40 PM - 3:00 PM****Blowing the Whistle: Daniel Ellsberg, Bradley Manning, and Eric Snowden and the Politics of Censorship and Free Speech***Presenter: Michael Kelly**Advisors: Ali Ahmida, John Carney*

My senior thesis investigates the role of the government and media in the free flow of information, specifically related to information released by whistleblowers.

ORAL PRESENTATION**3:05 PM - 3:25 PM****Manufacturing War: Military Industrial Complex***Presenter: Maria Aktanova**Advisors: Ali Ahmida, Brian Duff*

My thesis is investigates what influences American foreign policy using the example of Afghanistan war of 1979 and the military industrial complex approach. I will explain how and why decisions to go to war are made.

ORAL PRESENTATION**3:30 PM - 3:50 PM****Sex, Drugs, and Orientalism: Tangier Through Paul Bowles and Mohamed Choukri***Presenter: Bailey Booras**Advisors: Ali Ahmida, John Carney*

My senior thesis investigates whether Paul Bowles and Mohamed Choukri were influenced by Orientalist representations (negative stereotypes assumed of the East by the West).

DECARY ROOM 205 *Listed in order of appearance***ORAL PRESENTATION****1:00 PM - 1:20 PM****Migraine Triptan Medication Induced Modulation of Blood-Brain Barrier Integrity Through the PI3K/Akt Pathway: An In-Vitro Study***Presenter: Stephanie Brule**Advisor: Colin Willis*

Chronic migraine sufferers often are prescribed triptan medications. Reports have shown that triptan medications have been associated with medication overused headaches (MOH).

ORAL PRESENTATION**1:25 PM - 1:45 PM****The Effects of Exercise on NSAID Resistant Osteoarthritis Pain in Rats***Presenter: Joshua Allen**Advisor: Tamara King*

Osteoarthritis of the knee joint, the most common form of disability in the aging population, can produce NSAID resistant ongoing pain that can significantly reduce quality of life. Forced exercise alleviated NSAID resistant knee joint pain in a rat model of osteoarthritis and increased endogenous opioid signaling.

ORAL PRESENTATION**1:50 PM - 2:10 PM****The Role of Leptin in Females' Reproductive Abilities***Presenters: Kristina Michaud, Sara Capobianco, Andrew Emery, Anthony Preissler**Advisor: David Sandmire*

Leptin is an adipocyte-derived hormone that acts on the hypothalamus to suppress food intake and increase energy consumption. Current research shows that adiposity levels have an influence on fertility. Our presentation aims to elucidate the effects of both high and low leptin levels on reproductive function in women.

ORAL PRESENTATION**2:15 PM - 2:35 PM****Modified Firefighter Problem for Simplified Metastatic Model***Presenter: Spenser Wood**Advisor: Craig Tennenhouse*

An analysis of an original modification to the firefighter problem influenced by the process of metastasis.

ORAL PRESENTATION**2:40 PM - 3:00 PM****Prenatal Origins of Placenta Previa***Presenters: Mary Kate Shanahan, Eric Senneville, Korin Nickerson**Advisor: David Sandmire*

This presentation will focus on the causes of placenta previa, a condition where the placenta blocks the neck of the uterus either partially or completely, interfering with the delivery of a baby. The three main causes that will be examined include whether the child being born is not the first child (second child), surgical procedures on the uterus, and teratogens including alcohol and tobacco.

ORAL PRESENTATION**3:05 PM - 3:25 PM****The Embryological Development and Prenatal Diagnosis of Conjoined Twins***Presenters: Kaylee Krigest, Natasha Boda**Advisor: David Sandmire*

The purpose of this presentation is to examine the biological mechanisms that contribute to the development of conjoined twins. We will focus on the genetic and environmental factors that influence the incomplete separation of monozygotic embryos. The methods for diagnosing this birth defect will be compared. The different types of conjoined twins and the effect of this condition on the health of the twins will also be examined.

DECARY ROOM 206 *Listed in order of appearance***ORAL PRESENTATION****1:00 PM - 1:20 PM****Philosophical Puzzles About Love***Presenter: Alison Putney**Advisor: Andrew Rotondo*

This presentation will examine the philosophical ideas about the nature of love and what defines love.

ORAL PRESENTATION**1:25 PM - 1:45 PM****Industrialized Child Labor in the United States in the Nineteenth and Early Twentieth Centuries***Presenter: Ian Corbett**Advisor: Susan McHugh*

I will be presenting on race, ethnicity, nationalism, and classism and their effects on the initial propagation and later abolition of child labor in the United States.

ORAL PRESENTATION**1:50 PM - 2:10 PM****Lost in Translation: A Study of Classical Japanese Death Poetry***Presenter: Halie Pruitt**Advisor: Matthew Anderson*

Jisei is the form of farewell. A Japanese poet who is aware of their approaching end will create this poetry on their deathbed. This presentation will provide an in-depth analysis of several Jisei translations, while expressing the difficulties of translation from classical fifteenth century Japanese language to modern English.

LITERATURE PANEL**2:15 PM - 2:55 PM****Madness in Literature Panel***Presenters: Erica Brown, Stephanie Brule, Janelle Sherman**Advisor: Jennifer Tuttle*

This panel will include three presentations on madness as a textual construct that authors deploy to address the social, political, and cultural issues of their time. These authors will include Charlotte Perkins Gilman, Rebecca West, and other women authors who deployed this construct in their writing.

DECARY ROOM 208 *Listed in order of appearance***ORAL PRESENTATION****1:00 PM - 1:20 PM****A Look at Personality Traits in Juvenile Dogs***Presenter: Kaylee Dubois**Advisor: Teresa Dzieweczynski*

The aim of this study is to create a new way to assess personality or temperament in juvenile dogs. The hypothesis tested is that juvenile dogs have personality traits that can be determined at a young age.

ORAL PRESENTATION**1:25 PM - 1:45 PM****The Effects of Visual Cues on Memory and Learning in Goldfish (*Carassius auratus auratus*) and Guppies (*Poecilia reticulata*)***Presenters: Monique Guimond, Erica Page**Advisor: Teresa Dzieweczynski*

This experiment examines whether guppies and goldfish will learn faster and show more improvement when visual cues are presented in a maze test.

ORAL PRESENTATION**1:50 PM - 2:10 PM****Do I Know You? Familiarization and Self-Recognition in Female Siamese Fighting Fish (*Betta splendens*)***Presenter: Jane Parker, Nicole Bertone**Advisor: Teresa Dzieweczynski*

Female Betta Fish were tested in three conditions: familiar, unfamiliar, or mirror. Their behaviors were observed to determine if the fish performed particular behaviors when exposed to a familiar or unfamiliar individual or when exposed to a mirror image of themselves.

ORAL PRESENTATION**2:15 PM - 2:35 PM****An Exploration of Preference for Shoaling in the Presence of an Orange Stimulus in Trinidadian Guppies (*Poecilia reticulata*)***Presenter: Lindsey Lavin**Advisor: Teresa Dzieweczynski*

Guppies have a well documented sensory bias for the color orange. Additionally, guppies are a highly social species that have a preference for shoaling with members of the same species. This study investigates the preference for spending time near an orange stimulus versus a shoal of conspecifics to determine which preference is stronger.

ORAL PRESENTATION**2:40 PM - 3:00 PM****Colored Water: How Varying Light Regimes Affect Guppy Behavior***Presenters: Elizabeth Graham, Leah Selig**Advisor: Teresa Dzieweczynski*

Common Guppy behaviors were studied to see how they are affected by varying light regimes.

ORAL PRESENTATION**3:05 PM - 3:25 PM****Social Behavior and Anchor Preference in Tiger Tail Seahorses (*Hippocampus comes*)***Presenters: Marissa Collard-Doney, Jessica Poti**Advisor: Teresa Dzieweczynski*

This research examines anchor preference and social behaviors observed in captive Tiger Tail seahorses (*Hippocampus comes*).

DECARY ROOM 210 *Listed in order of appearance*

ORAL PRESENTATION**1:00 PM - 1:20 PM****Big Data and Human Resources***Presenters: Kossoma Meach, Kristin Dechene**Advisor: Beth Richardson*

What is big data and how can it be used for HR decision making?

ORAL PRESENTATION**1:25 PM - 1:45 PM****Synernet Expansion in Social Media Practices***Presenters: Craig Ryan, Geoff Bruno**Advisor: Beth Richardson*

Help Synernet, a local Portland health services provider, develop and maintain their social media resources to build brand recognition and awareness.

ORAL PRESENTATION**1:50 PM - 2:10 PM****Psychological and Autonomic Effects of Art Making in College-Aged Students***Presenters: Daniel Eggleston, Cecelia French, Stephanie Beeckel**Advisors: David Grimm, David Sandmire, Nancy Rankin, Sarah Gorham*

Our research team examined the psychological and autonomic effects of art making on college-aged students one week before final exams. Heart rate variability and the STAI- State Inventory were used to quantify sympathovagal tone, which was related to the participants' levels of anxiety.

ORAL PRESENTATION**2:15 PM - 2:35 PM****Social Connections and Social Networking: Attachment Style as a Predictor of Connection-Seeking Behavior on Facebook***Presenter: Beth Giguere**Advisor: Julie Peterson*

I examined whether attachment style predicted if participants would use Facebook as a way to seek interpersonal connections following daily conflict. Results revealed that individuals high in attachment avoidance were most likely to use Facebook after conflict as a way to indirectly fulfill connectedness goals. However, increased Facebook use at night for individuals high in attachment avoidance predicted decreases in feelings of self-worth on the following day.

ORAL PRESENTATION**2:40 PM - 3:00 PM****Lyrics and Loot***Presenters: Erika Sawicki, Samantha Hardy**Advisors: Owen Grumbling, Michael Daley*

This presentation focuses on the songs, "Can't Buy Me Love" by the Beatles and "Money" by Pink Floyd. These songs were chosen for the underlying economic issues present in their lyrics. We will analyze popular songs using economic theory and literary criticism.

DECARY ROOM 212 *Listed in order of appearance*

ORAL PRESENTATION

1:00 PM - 1:20 PM

Harbor Seal (*Phoca vitulina*) Pup Vocalizations: Are There Differences in Individuals, Gender, or Age?

Presenter: Allison Hardman

Advisor: Kathryn Ono

My research examines the vocalizations of harbor seal pups to determine how unique individual pups' vocalizations are, what aspects of the calls are similar across the pups, and which are unique. I also studied whether there are any consistent differences between male and female pup vocalizations and if the pups' vocalizations change as they mature.

ORAL PRESENTATION

1:25 PM - 1:45 PM

Regulatory Capabilities in Two Color Morphs of the Green Crab, *Carcinus maenas*, Exposed to Oscillating Salinity: An Organismal and Molecular Approach

Presenter: Anthony Himes

Advisor: Markus Frederich

A study of stress physiology of the invasive European green crab through both whole animal and molecular methods to better understand these organisms that have severe ecological impacts.

ORAL PRESENTATION

1:50 PM - 2:10 PM

The Effects of Wind-Driven Transport on Pathways of Simulated Larvae in the Delaware Bay

Presenter: Kiera O'Donnell

Advisor: Charles Tilburg

Determining the fate of larvae is important for an understanding of populations of crabs. In this study, the trajectories of larvae originating in four different locations in the Delaware Bay are simulated in the ecom3d hydrodynamic model program in different selected locations. The effects of winds from four different directions are examined. Results from this study will tell us possibilities of settlement positions of adult crabs.

ORAL PRESENTATION

2:15 PM - 2:35 PM

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

Presenter: Joseph Langan

Advisors: James Quinlan, Michael Arciero, James Sulikowski

Despite repeated decreases in commercial harvest, Atlantic Cod populations in the Gulf of Maine remain severely depressed. This study will investigate the potential impact of recreational fishing on cod stocks and evaluate its implications for fisheries management.

WCHP Oral Presentations

1:00pm-2:00pm

15th Annual Student Research Symposium

ALFOND FORUM MEETING ROOMS 230 & 231 *Listed in order of appearance*

ORAL PRESENTATION

1:00 PM – 1:20 PM

Photovoice: A Visual Narrative into the Perceived Health of Maine Refugee Women

Presenters: Lilia Bottino and Collyn Baeder

Advisors: Cathy Plourde and Denise Bisailon

The presentation will discuss art as a modality for assessing barriers to health as well as empowering community members to create collective strategies for change. Displayed pictures will reflect the development of cultural competency, recognizing community members as experts of their environment, and exploring alternative means to health literacy.

ORAL PRESENTATION

1:20 PM – 1:40 PM

Self-Study in Patient Safety and Quality Improvement to Enhance Student Experience in Interprofessional Case Competition

Presenters: E. Maggie Jones and Lindsay Robusto

Advisor: Lisa Pagnucco

The Interprofessional Student Advisory Team is utilizing longitudinal survey-based research to assess the perceived student value of the 2014 IPSAT Case Competition and the Institute for Healthcare Improvement Open School Basic Certificate prerequisite for competition participation.

ORAL PRESENTATION

1:40 PM – 2:00 PM

Inmates' Experiences in the Paws in Stripes Program at Maine Correctional Center

Presenters: Julie Weiss and Jennifer Perelstein

Advisor: Thomas McLaughlin

Social work researchers interviewed five inmates at Maine Correctional Center for a qualitative study. They present findings about how the inmates understand their experience and discuss implications of the findings.