

Tenth annual



# UNDERGRADUATE RESEARCH CONFERENCE

March 24+25, 2017 | Nipissing University, North Bay

Conference Program

Celebrating our tenth anniversary!



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## **Nipissing University's 10th Annual Undergraduate Research Conference**

**March 24<sup>th</sup> & 25<sup>th</sup>, 2017**

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### **Letter from the Provost and Vice-President, Academic and Research**

Hello Students, Visitors and Colleagues:

Welcome to our 10<sup>th</sup> annual Undergraduate Research Conference. We are glad you have come to participate in a unique event.

This conference is important evidence that teaching and research are inter-related and that they can and do occur at different levels. While some people associate research with graduate level education, Nipissing is rich with opportunities for students to be scholars as they move through their baccalaureate degrees. This is an important part of their undergraduate experience.

Our conference is also a vehicle for students from other universities to visit us and share their scholarship. To those who have traveled to participate in the conference as well as family members and parents who are here to support our student-presenters, thank you for joining us.

To our keynote presenter, Dr. Gwynne Dyer, many thanks for taking that time from your busy life to share your expertise. I am certain that each of us will gain new insights that will have meaning and application in our own pursuits.

Finally, I would like to express appreciation to those who have made the conference possible: the faculty and students who worked to put the conference together, those faculty who volunteered to facilitate the panel presentations, as well as other faculty members who have mentored student-presenters from Nipissing and other universities.

We hope you enjoy the conference.

A handwritten signature in black ink, appearing to read "Harley d'Entremont". The signature is fluid and cursive, with a long, sweeping underline.

Harley, d'Entremont, Ph.D.,  
Provost and Vice-President,  
Academic and Research

tenth annual



# UNDERGRADUATE RESEARCH CONFERENCE

## KEYNOTE ADDRESS



**GWYNNE DYER**



### THE TRUMP ERA: BARKING UP THE WRONG TREE

First Brexit, now Trump. Two of the world's oldest democracies have made bizarre, self-harming political choices that astounded and dismayed the rest of the world (as well as half of their own voters). Once could be a fluke, but twice in five months looks like a trend. Author Gwynne Dyer will answer that question in this keynote address.

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UNDERGRADUATE RESEARCH CONFERENCE

Celebrating our tenth anniversary!



UGRC TEAM from left to right: April James, Justin Carré, Hilary Earl, Triana Ortiz, Nathan Kozuskanich, Laurel Ann Muldoon, Stephen Connor, Stephen Kemp, and Devyn Richards.

Over the last twenty-five years Nipissing University has consistently produced remarkable graduates and distinguished research. There is no greater symbol of our commitment to academic excellence than our annual Undergraduate Research Conference. This year marks two important milestones – Nipissing’s Twenty-Fifth Anniversary and the tenth annual UGRC. Both of these accomplishments are made possible by the dedication, hard work, and shared vision of our University community. There is no finer example of the Nipissing community than the UGRC Planning Committee that brings together faculty, graduate and undergraduate students. This year’s committee extends its sincerest gratitude to Dr. Harley d’Entremont and the Office of the Vice President Research and Provost, for his continued support of the UGRC. The conference would not have been possible without the encouragement and involvement of staff and faculty. Finally, we sincerely thank all the UGRC participants for their willingness to share their research and their ideas with us. Congratulations to you all!

## ACKNOWLEDGMENTS

The UGRC Committee would like to thank the following people and organizations for their support:

Sean Bester	Pavlina Radia
Laurel Bissonnette	Paul Ritter
Kelly Brown	Donna Robinson
Patricia Czaikowski	Dan St. Georges
Mike DeGagné	Martee Storms
Harley d'Entremont	Cheryl Sutton
Marg Foisy Iwanchun	Carol Szabicit
Greg Foster	Pauline Teal
Len Gemache	Murat Tuncali
Ryan Hehn	Rick Vanderlee
Heather Hersemeyer	Kevin Vibe
Tracey Hone	Gemma Victor
Terry Kirkby	Good Life Fitness
Jim McAuliffe	Grounded Studios
Fran O'Donnell	Office of Aboriginal Initiatives
Andrea Perolin	

### Faculty Judges, Moderators, Panel Organizers, and Audience Members (and Inspirers of Students ☺)

Andrew Ackerman (Fine Arts)	Kristin Lucas (English Studies)
Adam Adler (Education)	Tanya Lukin-Linklater (Office of Aboriginal Initiatives – OAI)
John Allison (Education)	Gillian McCann (Religions and Cultures)
Anahit Armenakyan (Business)	Karey McCullough (Nursing)
Steve Arnocky (Psychology)	Lindsey McMaster (Academic Writing)
David Borman (Philosophy)	Tammie McParland (Nursing)
Rob Breton (English Studies)	Reehan Mirza (Biology)
Natalya Brown (Economics)	Kelly Morris (History)
Amanda Burk (Fine Arts)	Dana Murphy (Psychology)
Darren Campbell (Psychology)	Jamie Murton (History)
Justin Carré (Psychology)	Larry Patriquin (Social Welfare and Social Development)
Lanyan Chen (Social Welfare and Social Development)	Cindy Peltier (Native Studies)
Stephen Connor (History)	Wendy Peters (Gender Equality and Social Justice)
Jeff Dech (Biology)	Gyllie Phillips (English Studies)
Carly Dokis (Anthropology)	Linda Piper (Business)
Hilary Earl (History)	Graydon Raymer (Physical and Health Education)
Robin Gendron (History)	Sal Renshaw (GESJ)
Kirsten Greer (History and Geography)	Trevor Smith (Sociology)
Dave Hackett (Biology)	Katrina Srigley (History)
Dean Hay (BPHE)	Susan Srigley (Religions and Cultures)
Logan Hoehn (Mathematics)	Leslie Thielen-Wilson (Gender Equality and Social Justice)
April James (Geography)	Tzvetalin Vassilev (Computer Science)
Tina Karvinen (BPHE)	Eric Weichel (Fine Arts)
Serena Kataoka (Social Welfare and Social Development)	Sarah Winters (English Studies)
Nathan Kozuskanich (History)	
Laurie Kruk (English Studies)	
Manuel Litalien (Social Welfare and Social Development)	

# 10th Annual Nipissing University Undergraduate Research Conference

## Program at a Glance

### Friday March 24, 2017

Time	Program	Location
15:00-18:00	<b>Registration</b>	Nipissing Foyer
18:00-18:30	<b>Opening Remarks</b> Mike DeGagné, President and Vice Chancellor Nipissing University	Nipissing Theatre F213
	<b>Introduction of Keynote Speaker</b> Nathan Kozuskanich, Associate Professor, Department of History	
18:30-19:30	<b>Keynote Address</b> – Gwynne Dyer	Nipissing Theatre F213
19:30-20:00	<b>Question Period</b> Moderator – Nathan Kozuskanich, Associate Professor, Department of History	Nipissing Theatre F213
20:00-22:00	<b>Poster Presentations</b> <b>Art Installations</b> (both rooms across the hall from the NU Cafeteria)	A250 A252
20:00-22:30	<b>Reception</b>	NU Cafeteria A246

### Saturday March 25, 2017

Time	Program	Location
7:30-12:00	<b>Open Registration</b>	NU Cafeteria A246 Hallway
8:45-9:00	<b>Opening Remarks</b> Stephen Connor, Assistant Professor, Department of History	NU Cafeteria A246
9:00-10:30	<b>Concurrent Sessions</b> #1 <b>A DAY IN THE LIFE: Belonging, Engagement, and Community</b> #2 <b>CONTEMPLATING THE FANTASTICAL: Choices and Consequences in Modern Literature</b> #3 <b>42: Numbers and their Meaning</b> #4 <b>FIGHT THE POWER: Why Resistance Matters</b>	A224 A226 A122 A257
10:30-10:45	<b>BREAK</b>	NU Cafeteria A246
10:45-12:15	<b>Concurrent Panels</b> #5 <b>'THE TIMES THEY ARE A CHANGIN': Music, Meaning, and America</b> #6 <b>Pehtahbun – Biidaaban (Dawn of a New Day)</b> #7 <b>CONSTRUCTING A BETTER TOMORROW: State, Security, and the New World Order</b> #8 <b>SYSTEMS, STRATEGIES, AND SECRETS</b>	A257 A226 A122 A224
12:15-13:15	<b>LUNCH</b>	NU Cafeteria A246

## Program at a Glance (continued)

13:15-14:45	<b>Concurrent Panels</b> <b>#9 ANYTHING BUT THIS: Envisioning the Future</b> A224 <b>#10 INDIGENOUS RESURGENCE:</b> A226 <b>Representation and Voice through Visual Art, Story, and Song</b> <b>#11 BRAINS, BOTANY, AND BODIES</b> A122 <b>#12 Liberal Arts, Critical Citizenship, &amp; Social Justice:</b> A257 <b>A Roundtable Conversation</b>	
14:45-15:00	<b>BREAK</b>	NU Cafeteria A246
15:00-16:30	<b>Concurrent Panels</b> <b>#13 NEO-VICTORIANISM: Jane Eyre and its (De)Construction</b> A224 <b>#14 DUDE, WHERE'S MY FEMINISM?</b> A226 <b>Gender, Community, and Social Justice in Canada</b> <b>#15 ALTERED STATES:</b> A257 <b>Marijuana use, Consciousness, and the Dream State</b> <b>#16 'ALL MEN ARE CREATED EQUAL?':</b> A122 <b>Slavery in the Atlantic World</b>	
16:30-17:30	<b>Closing Ceremony</b> <b>Closing Talk</b> Rick Vanderlee, Dean, Professional Schools <b>Closing Remarks</b> Jim McAuliffe, Dean, School of Graduate Studies and Research <b>Awards for Posters, Art, and Papers</b> Mike DeGagné, President and Vice Chancellor Nipissing University	NU Cafeteria A246

Friday March 24, 2017

15:00-18:00                      **Registration**    **Nipissing Foyer**

18:00-18:30                      **Opening Remarks**    **Nipissing Theatre F213**

Mike DeGagné, President and  
Vice Chancellor Nipissing University

**Introduction of Keynote Speaker**

Nathan Kozuskanich Associate Professor,  
Department of History

18:30-19:30                      **Keynote Address - Gwynne Dyer**    **Nipissing Theatre F213**



***The Trump Era: Barking up the Wrong Tree***

First Brexit, now Trump. Two of the world's oldest democracies have made bizarre, self-harming political choices that astounded and dismayed the rest of the world (as well as half of their own voters). Once could be a fluke, but twice in five months looks like a trend. Author Gwynne Dyer will answer that question in this keynote address.

19:30-20:00                      **Question Period**    **Nipissing Theatre F213**

Moderator – Nathan Kozuskanich, Associate Professor,  
Department of History

20:00-22:00                      **Poster Presentations**    **A250 (across the hall from the NU Cafeteria)**

**Presenters:**

- Calvin Bailey**                      “Optical Absorption Calculation of Gold Nanoshell with Vanadium Dioxide Core for Photothermal Sensing of Nanoscale Targets”
- Zhongjie Bao & Darren Campbell**                      “A Meta-analytic functional brain imaging review of Self- and Other-focused processing among people with Social Phobia”
- Amelia Black**                      “Anesthesia Awareness and Nursing Ethics”
- Nicole Billington**                      “Trauma symptoms and concerning sexual behavior in sexually abused children”
- Tealia Carriere**                      “Evaluation of Coffee Shop Culture”
- Max Clayson**                      “Naked mole-rats are extremely tolerant of environmental hypercapnia”
- Caitlyn Daley**                      “Metformin Fails to Rescue Sodi-Null Phenotypes but Reduces Adult Body Weight In *Drosophila melanogaster*”
- Jessica Desrochers**                      “Entitlement Predicts Reduced Environmental Concern and Behavior”
- James Donovan**                      “Tell them about yourself or agree with me to avoid conversational 404 errors”
- Kristin Loates**
- Adam McLandress & Darren Campbell**
- Caroline Dufort**                      “Gossip as a Form of Intra-Sexual Competition”
- Megan Gauthier**                      “Is It Really Okay? Investigating the Subtypes of Parental Reassurance, and Manifestation of Parent Anxiety in the Context of Acute Child Pain”
- Kimberly Gilbert**                      “Testosterone on Aggression and Signature Size”
- Lauren Goodridge**                      “Examination of Behavioural Recovery of Regenerating Planaria”
- Kailee Hopkins**                      “The morphological effects of 2,4-Dichlorophenoxyacetic acid, and Glyphosate on *Coturnix japonica* embryos when applied singly and in combination”

<b>Emily Horn &amp; Daniel Goldsmith</b>	“Investigating Heritage and Community-based Tourism in Rural Jamaica”
<b>Jessica Ibey</b>	<i>“Distractibility”</i>
<b>Emily Jeanneault</b>	“Does conformity change you? The power of group influence on private attitudes”
<b>Charlotte Jones</b>	“Working for the Mouse When the Cat is Out of the Bag”
<b>Daniel Kostyniuk</b>	<i>“The effect of social hierarchies on lipid metabolism in rainbow trout”</i>
<b>Benjamin Kozlowski</b>	<i>“Development of a tissue specific knock-out of MARRS in mammary epithelial cells to determine potential Vitamin D diet induced cell growth changes”</i> <i>“Spinal and supraspinal modulation of force following active muscle lengthening: A history-dependence study”</i>
<b>David Kropfel</b>	<i>“Art Movement- Cubism in Marketing”</i>
<b>Kirstin Loates Darren Campbell</b>	<i>“Getting Acquainted Online: Should I add an emoji to that?”</i>
<b>Kirsten Loates Kaycee Strotmann James Donovan &amp; Darren Campbell</b>	<i>“Getting Acquainted Online: It’s not what you said; it’s how you said it”</i>
<b>Caleb Mady</b>	<i>“Post-activation potentiation during acute hypoxia”</i>
<b>Laura McKenzie</b>	<i>“The Innuendo Effect: Athletes’ Perception of Prospective Coaches”</i>
<b>Quinlan McParland</b>	<i>“Computational Study of Photonic-Plasmonic Response of Two Dimensional Nanorod Arrays for Ultra High Sensitive Nanosensor Application”</i>
<b>Jahnavi Mundluru</b>	“Impact of the Enhanced Patient Education System and Follow-Up Plan for Metastatic Melanoma Patients Treated with Ipilimumab” “Development and Assessment of an Intervention Program for Unmet Supportive Care Needs of Canadian Melanoma Patients and Survivors Attending an Outpatient Clinic”
<b>Chau Vu Nguyen</b>	<i>“Exploring the variability of Heat Shock Protein (HSP) response to acute hypoxia between common laboratory mouse strains”</i>
<b>Laura Palmer</b>	<i>“Attitudes Toward Older Adults, and Associated Personality Correlates, of Undergraduate Health and Social Work Students”</i>
<b>Gabrielle Racine</b>	<i>“Defining Normative Metrics for Functional Abilities Evaluation of the Wrist and Hand”</i>
<b>Emily Ruttle</b>	<i>“Nipissing University Nursing Games 2017”</i>
<b>Kirk Schumacher</b>	<i>“Ground Impact and Recovery Forces Acting on Youth Ice Hockey Goaltenders Through the Butterfly Goaltending Style”</i>
<b>Jordon Staroba Dakota O’Hara Steve Mason Clare Johnston &amp; Olivia Hall</b>	“Generating Consulting Recommendations from Field-based Study of Rural Tourism Options in Jamaica”
<b>Daryl Tjin</b>	<i>“Effects of deception on exercise performance in humans exercising in a hot environment”</i>
<b>Cory Tremblay</b>	<i>“Effects of Butterfly Goaltending Style in Youth Ice Hockey Goaltenders”</i>
<b>Kyle Vincent</b>	<i>“Influence of Forest Composition and Structure on Snowshoe Hare Winter Habitat Selection in Central Ontario”</i>

**20:00-22:00                      Art Installations                      A252 (across the hall from the NU Cafeteria)**

**Presenters:**

**Amber Claassen**                      *"Lets Play"*  
**Tina Couchie**                      *"Frustrated"*  
**Diane Davies**                      *"The Ultrasound"*  
**Brianna Hachez Lagacé** *"The Beauty Within"*  
**Courtney MacDonald** *"Story-time"*  
**Gerald McComb**                      *"The Civilized"*  
**Joelle Myre**                      *"Memories Created Through the 5 Senses"*  
*"The Feeling Behind a Good Cup of Tea"*  
*"Walk in the Past"*  
**Morgan Ranney**                      *"Meteor"*  
**Thomas Sandziuk**                      *"Woman as Egg"*  
*"Embedded and Applied"*  
*"The Spirit Sings: Misrepresentation and Exploitation"*  
**Thaila Sarazin**                      *"Untitled (Self Portrait)"*  
*"Disappearing Moose"*  
**Janica Vossos**                      *"The Locket"*

**20:00-22:30                      Reception                      NU Cafeteria A246**

Saturday March 25, 2017

7:30-12:00	Open Registration	NU Cafeteria A246 Hallway
8:45-9:00	Opening Remarks	NU Cafeteria A246
	Stephen Connor, Assistant Professor, Department of History	
9:00-10:30	Concurrent Panels	
	<b>#1 A DAY IN THE LIFE: Belonging, Engagement, and Community</b>	<b>A224</b>
<b>Moderator:</b>	Carly Dokis (Anthropology)	
<b>Judge:</b>	Trevor Smith (Sociology)	
<b>Panellists:</b>		
<b>Analucia Vucic</b>	<i>"Lived Experiences of Military Spouses Finding Work in North Bay, Ontario"</i>	
<b>Gabriel Lavoie</b>	<i>Live Music in North Bay: A Discourse of Power"</i>	
<b>Kyla Cangiano</b>	<i>"Living with dogs: a study on the social dynamics of a dog park"</i>	
<b>Mary Kate Brown</b>	<i>"An Ethnographical Study of Social Organization and Social Cohesion Amongst Library Users"</i>	
<b>Isaac Bender</b>	<i>"What it means to be an Avocational Archaeologist"</i>	
	<b>#2 CONTEMPLATING THE FANTASTICAL: Choices and Consequences in Modern Literature</b>	<b>A226</b>
<b>Moderator:</b>	Sarah Winters (English Studies)	
<b>Judge:</b>	Kirsten Greer (Geography and History)	
<b>Panellists:</b>		
<b>Natasha Petroff</b>	<i>"The Gates of Purgatory: An Analysis of Portal-Quest Fantasy in One Last Death and Dante's Purgatorio"</i>	
<b>Jessica Carter</b>	<i>"Children in the Court: Fantasy Novels and the Ethics of Institutional Law"</i>	
<b>Lorraine Lok Ting Lau</b>	<i>"Transcending Desire: Sexual and Commercial Freedom in The Roaring Girl"</i>	
	<b>#3 42: Numbers and their Meaning</b>	<b>A122</b>
<b>Moderator:</b>	Tzvetalin Vassilev (Computer Science and Mathematics)	
<b>Judge:</b>	Natalya Brown (Economics)	
<b>Panellists:</b>		
<b>Dexter Fichuk</b>	<i>"Our Greatest Weapon against ISIS: Deep Learning"</i>	
<b>Benjamin Cook</b>	<i>"Simple Zeroes of Parametric Legendre Sums"</i>	
<b>Reginald McLean</b>	<i>"Predicting Major League Baseball Pitch Types with Machine Learning"</i>	
	<b>#4 FIGHT THE POWER: Why Resistance Matters</b>	<b>A257</b>
<b>Moderator:</b>	Lindsey McMaster (Academic Writing/English Studies)	
<b>Judge:</b>	Eric Weichel (Fine Arts)	
<b>Panellists:</b>		
<b>Rebekah Ederer</b>	<i>"Peaceful Resistance: A How to Guide"</i>	
<b>Tomasina Cuthbert</b>	<i>"Music in the Revolutionary's Tool Belt"</i>	
<b>Katherine Rees</b>	<i>"Black Lives Matter, but Do They Really? An Examination of Racism in Protest Policing"</i>	
10:30-10:45	BREAK	NU Cafeteria A246

<b>10:45-12:15</b>	<b>Concurrent Panels</b>	
	<b>#5 'THE TIMES THEY ARE A CHANGIN': Music, Meaning, and America</b>	<b>A257</b>
<b>Moderator:</b>	James Murton (History)	
<b>Judge:</b>	Adam Adler (Education)	
<b>Panellists:</b>		
<b>Rebecca Dubeau</b>	<i>"The Historical Importance of Bob Dylan in the Mid-20th Century"</i>	
<b>Morgan Lightle</b>	<i>"Oh well, whatever, never mind:" Grunge, the Plight of Gen X, and Rock's Final Breath"</i>	
<b>Julia Miller</b>	<i>"Understanding the Hearts of Civil War Soldiers through Music"</i>	
<b>Chris Crozier</b>	<i>"Damaged Goods: Punk Rock and the Negotiation of Social Meaning"</i>	
	<b>#6 Pehtahbun – Biidaaban (Dawn of a New Day)</b>	<b>A226</b>
<b>Moderator:</b>	Cindy Peltier (Native Studies)	
<b>Judge:</b>	Serena Kataoka (Social Welfare and Social Development)	
<b>Panellists:</b>		
<b>Samantha Brand</b>		
<b>Delphanie Colyer</b>		
<b>Jessica Hulmes</b>		
<b>Paige Liklater-Wong</b>		
	<b>#7 CONSTRUCTING A BETTER TOMORROW: State, Security, and the New World Order</b>	<b>A122</b>
<b>Moderator:</b>	Stephen Connor (History)	
<b>Judge:</b>	John Allison (Education)	
<b>Panellists:</b>		
<b>Brittany Funston</b>	<i>"Guatemalan Death Squad Victims"</i>	
<b>Jonathan Plaunt</b>	<i>"Canadian Military Renders Itself Unfit for Peacekeeping Duty: The Somalia Affair"</i>	
<b>Tajeep Brar</b>	<i>"Lead and the Fall of Rome: A Theory Revisited"</i>	
<b>An Nguyen</b>	<i>"Challenging Vietnam Syndrome: "The 'Nam" and Changing Perceptions of the Vietnam War in the 1980s"</i>	
	<b>#8 SYSTEMS, STRATEGIES, AND SECRETS</b>	<b>A224</b>
<b>Moderator:</b>	Linda Piper (Business)	
<b>Judge:</b>	Robin Gendron (History)	
<b>Panellists:</b>		
<b>Christopher Draenos</b>	<i>"Concept Analysis of New Graduate Nurse Practice Readiness using Rogerian Framework"</i>	
<b>Dana Marlatt</b>	<i>"Institutional Pop Up Shop Project Case Study"</i>	
<b>Patrick Socha</b>	<i>"Creating Young Entrepreneurs: – An Assessment of the Ontario Summer Company Program"</i>	
<b>Hachez Lagacé, Brianna</b>	<i>"Languages, Secrets, and Thoughts about Art"</i>	
<b>12:15-13:15</b>	<b>LUNCH</b>	<b>NU Cafeteria A246</b>

<b>13:15-14:45</b>	<b>Concurrent Panels</b>	
	<b>#9 ANYTHING BUT THIS: Envisioning the Future</b>	<b>A224</b>
<b>Moderator:</b>	Susan Srigley (Religions and Culture)	
<b>Judge:</b>	David Borman (Philosophy)	
<b>Panellists:</b>		
<b>Ryrie Dirksen</b>	<i>"Jack Miner's Influence on Canadian Conservation"</i>	
<b>Artimisia Robins</b>	<i>"Planetary Urbanization and the Settler Colony: Comparing bullshit now to bullshit a hundred years ago"</i>	
<b>Cole Miller</b>	<i>"Dietrich Bonhoeffer: Theology at Work"</i>	
	<b>#10 INDIGENOUS RESURGENCE: Representation and Voice through Visual Art, Story, and Song</b>	<b>A226</b>
<b>Moderator:</b>	Katrina Srigley (History)	
<b>Judge:</b>	Tanya Lukin-Linklater (Office of Aboriginal Initiatives)	
<b>Panellists:</b>		
<b>Tyler Hopkins</b>	<i>"The Canadian Arctic Saga: A Visualization of Canadian Arctic Sovereignty"</i>	
<b>Kiethen Sutherland</b>	<i>"Weskatch Opimatisowen: The Old Way of Life of the Cree's of James Bay"</i>	
<b>Thomas Sandziuk</b>	<i>"The Spirit Sings: Misrepresentation and Exploitation (about the misrepresentation and exploitation of Indigenous culture)"</i>	
	<b>#11 BRAINS, BOTANY, AND BODIES</b>	<b>A122</b>
<b>Moderator:</b>	Laurie Kruk (English Studies)	
<b>Judge:</b>	Steven Arnocky (Psychology)	
<b>Panellists:</b>		
<b>Katie Perry</b>	<i>"Metformin and French Lilac (Galega officinalis) ameliorates neuromuscular dysfunction in glutathione-impaired Drosophila"</i>	
<b>Anirudh Kumar</b>	<i>"Studying the Effect of Heartfulness meditation on Brain activity"</i>	
<b>Spencer Short</b>	<i>"Composition and Medicinal Properties of Thuja occidentalis"</i>	
<b>Kyle Wittmaier</b>	<i>"Seeking Evidence of Internal Phosphorus Loading in Callander Bay and Wasi Lake Using Temperature and Dissolved Oxygen Data Paired with Water Chemistry and Phytoplankton Sampling"</i>	
<b>Steven Rhodes</b>	<i>"Cu-Catalyzed synthesis of <math>\gamma</math>-carbolines using 2-bromo-3-formylindoles and phenylacetylenes"</i>	

<b>#12 Liberal Arts, Critical Citizenship, &amp; Social Justice: A Roundtable Conversation</b>	<b>A257</b>
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**Moderators:** Leslie Thielen-Wilson & Gillian McCann (GESJ and Religions and Culture)

**Faculty Audience:** Natalie Brown (Economics) & Kelly Morris (History)

**Panellists:**

**Carol Anglehart**

**Tori Bessette**

**Aaron Brown**

**Lea Call**

**Jylle Carpenter-Boesch**

**Erin Creed**

**Calvin Green**

**Brianna Hachez-Lagacé**

**Valene Hookimaw**

**Brittany James**

**Sara Johnston**

**Kirstin Loates**

**Paula Peter**

**Thaila Sarazin**

**Kaitlyn Walker**

<b>14:45-15:00</b>	<b>BREAK</b>	<b>NU Cafeteria A246</b>
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<b>15:00-16:30</b>	<b>Concurrent Panels</b>
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<b>#13 NEO-VICTORIANISM: Jane Eyre and its (De)Construction</b>	<b>A224</b>
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**Moderator:** Gyllie Phillips (English Studies)

**Judge:** April James (Geography)

**Panellists:**

**Janna Garrett** *“Glass Houses: The Domestic Ideal in Victorian Literature and Neo-Victorian Intertexts”*

**Jessica Carter** *“Designating the Child: A Neo-Victorian Exploration of the ‘Child’ as a Class Identity in Florence & Giles Through the Lens of Jane Eyre”*

**Sydney Hodson** *“Black Rooks and White Snow: Victorian and Neo-Victorian Childhood and the Need for Adult Guidance in Brontë, Harding, and James”*

**Natalie Keith** *“The Neo-Fairy Tale: Redefining the Role of Fairy Tales in Jane Eyre”*

**#14 DUDE, WHERE'S MY FEMINISM?** **A226**  
**Gender, Community, and Social Justice in Canada**

- Moderator:** April James (Geography)  
**Judge:** Linda Piper (Business)  
**Panellists:**  
**Hanping Xie** *"Second Stage of Feminist Equality: the Introduce and Impacts of the "Equal Pay Acts" in Canada"*  
**Rosyln Deisinger** *"An intersectional analysis of the effects of sexual assault on women's mental health and the development of a feminist consciousness as resistance"*  
**Justin Berezcki** *"Strategies for more effective and socially just AIDS prevention in North Bay, Ontario: A Gendered and Indigenized Perspective"*  
**Kelly Gillard** *"Social impacts of media industries on youth in Ontario and potential feminist social welfare interventions"*

**#15 ALTERED STATES:** **A257**  
**Marijuana use, Consciousness, and the Dream State**

- Moderator:** Darren Campbell (Psychology)  
**Judge:** Logan Hoehn (Mathematics)  
**Panellists:**  
**Camille Gray** *"Long-term marijuana use and emotional reactivity: That's something to blink about"*  
**Victoria Steadman (1<sup>st</sup> author)** *"Chronic marijuana use and emotional processing in the brain: The joint between THC and negative affect,"*  
**Camille Gray (2<sup>nd</sup> author)**  
**Adam McLandress** *"Neurological implications of marijuana use & spatial memory performance: PFC & hippocampal volume take a hit"*  
**Hailey Quigley** *"The Effects of THC on Adolescents Experiencing Chronic Stress Induced Anxiety"*  
**Mackenzie Klauck** *"Investigation Into the 5-7-day Dream-Lag Effect Using Emotionally Salient Waking Events"*

**#16 'ALL MEN ARE CREATED EQUAL?':** **A122**  
**Slavery in the Atlantic World"**

- Moderator:** Nathan Kozuskanich (History)  
**Judge:** Manuel Litalien (Social Welfare Social Development)  
**Panellists:**  
**Josh Loeffler** *"American Slavery and the Collapse of the Second Party System"*  
**Deagan Steele** *"Thomas Jefferson and slavery"*  
**An Nguyen** *"Constructing Race and Gender: The Sexual Exploitation of Enslaved Black Women in the Early American South"*

**16:30-17:30** **Closing Ceremony** **NU Cafeteria A246**

**Closing Talk**

Rick Vanderlee, Dean, Professional Schools, "What Happened 10 years Ago?"

**Closing Remarks**

Jim McAuliffe, Dean, School of Graduate Studies and Research

**Awards for Posters, Art, and Papers**

Mike DeGagné, President and Vice Chancellor Nipissing University

## ABSTRACTS

### POSTER PRESENTATIONS

#### **Bailey, Calvin**

“Optical Absorption Calculation of Gold Nanoshell with Vanadium Dioxide Core for Photothermal Sensing of Nanoscale Targets”

In this project, we investigate the absorption profile of a single gold nanoshell (AuNS) with vanadium dioxide core (VO<sub>2</sub>) versus incident light wavelength in red and infrared region numerically. When an AuNS is irradiated with light, the electrons absorb the light energy, get excited and rapidly accumulate on the AuNS surface, which is known as localized surface plasmon resonance (LSPR). This resonance can be tuned to different regions of electromagnetic light spectrum by changing diameter, shell thickness, and core material. VO<sub>2</sub> has semiconductor and metallic phases where the transition between the two phases occurs around a critical temperature. We show how the VO<sub>2</sub> phase transition in the core of the AuNS significantly causes a shift in the absorption peak. These results are computed using a numerical framework based on the finite element method (FEM). The aim of this study is to provide useful insights for the development of these particles to design thermal sensors at the nanoscale.

#### **Bao, Zhongjie & Darren Campbell**

“A Meta-analytic functional brain imaging review of Self- and Other-focused processing among people with Social Phobia”.

Introduction. Social Phobia (SP) is a relatively common yet extremely detrimental disorder. People with SP often demonstrate over-generalized fear and avoidant behaviour towards social activities. In recent years, there have been four separate quantitative meta-analyses of the brain imaging studies examining SP neural responses. These reviews have focused on altered SP neural responses in emotion and emotion-regulation, emotional and face-processing systems, and the convergence between task-specific responses, large-scale neural connections, structural differences and treatment-related effects on neural systems. However, no previous studies have tested for the neural associations underlying self- and other-related processing. In this study, we conducted such a meta-analysis given that distortions in self- versus other-processing is a fundamental characteristic of SP. Method. Initially, we identified relevant studies using the search terms: brain imaging or functional MRI, and social phobia or social anxiety disorders, and perspective taking, theory of mind, or mentalizing from the following databases: PsycINFO, Academic Search Premier, and Scholars Portal Journals. We identified 8 relevant studies, entered the identified brain regions associated with self- and other-processing based on SP and healthy comparison group contrasts in the meta-analytic software program GingerALE. Results: Preliminary evidence suggests that the medial prefrontal cortex, amygdala, and temporoparietal junction area altered during self-versus-other processing in people with SP. More specific results will be available during the poster presentation. Discussion. This meta-analytic fMRI review will determine if individuals with SP showing exaggerated neural activation in self-focused brain regions and reduced neural activation in self-focused brain regions consistent with SP-related symptomatology.

#### **Black, Amelia**

“Anesthesia Awareness and Nursing Ethics”

Ethical principles are difficult to navigate through when little is known about the topic. Anesthesia awareness occurs when anesthesia fails to suppress a patient’s full sensory capabilities. A range of awareness can be experienced during surgery that can profoundly impact the patient’s quality of life afterward. Patient stories and minimal case law studies are the extent of current evidence based background information for this dilemma. The Nurses role in detecting a patient’s level of consciousness and successfully preventing mental trauma if it is experienced, is an ethical consideration explored in this presentation. Through a literature review, the ethical principles, values, and issues are explored along with evidence based prevention and support of those who experience anesthesia awareness. The laws involved are also discussed which are outlined by the College of Nurses of Ontario and the Canadian Nurses Association. The nurse’s role is

analyzed in being an educator and patient advocate. Ethical principles help the nurse develop a course of action that has the best patient outcomes and reflecting on patient experiences and allows for the best nursing practice to be developed. Anesthesia awareness is an occurrence that requires a nurse to utilize ethical guidelines, and as such is an important area of study.

### **Billington, Nicole**

“Trauma symptoms and concerning sexual behavior in sexually abused children”

Negative outcomes reported for abused children include trauma symptoms and concerning sexual behavior (CSB). Although these two negative impacts have been studied separately, few researchers have investigated their co-existence in young abuse victims. The purpose of this study was to determine whether specific abuse characteristics are related to experiencing trauma and/or engaging in CSBs. Data was collected from clinical files of children with an abuse history; the sample was divided into four groups: trauma only, CSB only, both trauma and CSB, and neither trauma nor CSB. Groups were statistically compared to determine whether rate (frequency and duration), severity, (perpetrator, and first age of abuse are related to group membership. The results will be discussed with reference to personal and interpersonal functioning as well as clinical implications.

### **Carriere, Tealia**

“Evaluation of Coffee Shop Culture”

This research study surrounded around the idea that coffee shops create an environment for those who go. The research was undertaken by an observational method. Our theory was enclosed by the fact that, Tim Horton's we would observe an older generation who is prone to go just to sit and chat. This is because as Tim Horton's grew the generation that started with it, it grew as well. On the other hand, Twigg's is a franchise that has been established within a younger generation, therefore it is considered more of a hangout and a place to do school work. We believe that the age groups that attend different coffee shops essentially create its own culture and environment; therefore, we tested this by attending the two coffee shops that have gained the most popularity in North Bay. Within our literature review we discussed a variety of articles that support our arguments. Each one elaborates on the fact that the type of people that go to coffee shops, and the behaviors they display individually is essentially what creates a trend for the business and develops a certain target market on its own. To go off our theory, each location either creates an environment of learning/working or an environment of socialization. Overall, the factors that influence a coffee shop's culture vary from place to place as proven within our research study, therefore those variables previously discussed in our proposal were accurate.

### **Clayson, Max**

“Naked mole-rats are extremely tolerant of environmental hypercapnia”

Naked mole-rats (NMRs; *Heterocephalus glaber*) live in densely-populated underground burrows. Colony respiration generates significant CO<sub>2</sub> and this creates a challenging and inescapable hypercapnic environment. However, little is known regarding the magnitude and physiological mechanism(s) of the NMRs' putative hypercapnia tolerance. To address this gap, we used whole-body plethysmography and respirometry to characterize the hypercapnic ventilatory response (HCVR) and hypercapnic metabolic response (HCMR) in awake, freely behaving NMRs exposed to 0-10% CO<sub>2</sub>. We found that NMRs have a blunted HCVR: their ventilation increased only in 10% CO<sub>2</sub> (from 1239.9 ± 49.6 to 1569.7 ± 113.9 mL min<sup>-1</sup>kg<sup>-1</sup>). Conversely, NMRs do not exhibit an HCMR: metabolism was unaffected by hypercapnia. Since carbonic anhydrase is central to cellular pH regulation, we investigated its relation to hypercapnia tolerance. Intraperitoneal injection of the carbonic anhydrase inhibitor, acetazolamide (40 mgkg<sup>-1</sup>), reduced ventilation in normocapnia (from 1552.8 ± 149.1 to 1099.5 ± 96.7 mL min<sup>-1</sup>kg<sup>-1</sup>) and at 2% CO<sub>2</sub> (from 1293.6 ± 127.5 to 842.4 ± 84.3 mL min<sup>-1</sup>kg<sup>-1</sup>) but did not significantly affect metabolism in normocapnic or hypercapnic conditions. Taken together, our findings indicate that NMRs are remarkably tolerant of hypercapnic environments. Furthermore, carbonic anhydrase appears to have a role in regulating breathing during normocapnic conditions but does not impact the HCVR. Thus, this study supports the use of NMR as a model for medical conditions associated with hypercapnia such as chronic obstructive pulmonary disorder.

### **Daley, Caitlyn**

“Metformin Fails to Rescue Sodi-Null Phenotypes but Reduces Adult Body Weight In *Drosophila melanogaster*”

Due to their inability to metabolize superoxide released from the mitochondrial electron transport chain during respiration, SOD1-null mutants in *Drosophila* represent an ideal model of chronic endogenous oxidative stress. As such, they display a complex phenotypic syndrome involving reduced viability and longevity, impaired loco motor function, immune dysfunction, male infertility, and perturbed carbohydrate metabolism, all of which are hallmarks of specific oxidative-stress related disorders in humans. As part of an ongoing effort to identify pharmaceutical compounds with therapeutic efficacy in ameliorating these phenotypes, we are investigating the effect of natural and synthetic biguanide compounds on SOD1-null flies. Extract of *Galega officinalis* has been used for centuries as an anti-diabetic and anti-diuretic agent in traditional medicine, and synthetic derivatives of the active compound galegine are now widely utilized for the treatment of type II diabetes. The most commonly prescribed synthetic biguanide, metformin, has also been implicated in longevity extension, and is suspected to function via inhibition of superoxide release from mitochondria. Given the chronic oxidative stress, reduced longevity, and altered carbohydrate usage in SOD1-null *Drosophila*, we anticipated that metformin might significantly rescue a variety of SOD1 mutant phenotypes. Contrary to our expectation, 5mM and 10mM metformin significantly reduces developmental viability of SOD1-null flies. Intriguingly, however, metformin treatment significantly reduces adult body weight in a dose-dependent and sex-specific manner. These results have implications toward our understanding of metformin pharmacology, and provide evidence in favor of the hypothesis that metformin may have utility as an effective weight loss therapy.

### **Desrochers, Jessica**

“Entitlement Predicts Reduced Environmental Concern and Behavior”

Entitlement is defined as a continuous and consistent sense of deserving more than others (Campbell et al., 2004). Campbell and coauthors (2004) found that those with higher levels of entitlement were greedier when harvesting trees in online commons dilemma simulation, suggesting lower levels of cooperation in the face of resource acquisition among those high in entitlement. However, to date, entitlement has not been examined within the context of individuals' environmental concern or behavior directly. Given that consumption is often viewed as an antithesis of environmental preservation and protection, we explored whether trait entitlement correlated with self-reports of environmental concern and behavior. Among 356 university and college students (Mean age = 20.60 SD = 4.78), entitlement was found to be negatively correlated with self-reported environmental concern ( $r = -.105$ ,  $p = .049$ ), self-reported attitude in favor of environmental defense ( $r = -.085$ ,  $p < .056$ ), and willingness to donate to environmental cause (donating \$5 earned in the study to the World Wildlife Foundation) ( $r = -.318$ ,  $p < .001$ ). Entitlement was also positively correlated with a utilization subscale on a measure of environmental attitudes ( $r = .240$ ,  $p < .001$ ). Together, these findings suggest that entitlement is an important personality marker in predicting individual differences in environmental concern and behavior.

### **Donovan, James, Kristin Loates, Adam McLandress, & Darren Campbell**

“Tell them about yourself or agree with me to avoid conversational 404 errors”

Introduction: Connecting online is not a simple matter. Previous research points to responsiveness, self-disclosure, and similarity as crucial for forming online connections. More detailed exchange-by-exchange level assessments are lacking in current literature. Our research sought to address this issue. Methods: Thirty-Seven Undergraduates evaluated four online conversations and the partner's interest on an exchange-by-exchange level. We used multilevel regression analysis to test the relationship among responsiveness, self disclosure and similarity as predictors of partner interest levels. Results: Across the four conversations, two reflected positive online connections, and two negative ones. Among the positive conversations, responsiveness and self-disclosure predicted partner interest. Among the negative conversations, similarity predicted partner interest Discussion: Our results show responsiveness, self-disclosure, and similarity are not simple additive predictors of conversational outcomes. Our findings show existing models of the acquaintanceship process do not capture the complexity of online relationship formation.

**Dufort, Caroline****“Gossip as a Form of Intra-Sexual Competition”**

Two thirds of all human conversation is devoted to social topics; much of which can be considered under the label ‘gossip’ (Dunbar, 2004). Individuals differ in the extent to which they engage in gossip. Some researchers have proposed that gossip may have evolved, in part, because of its utility as a mechanism for succeeding intra-sexual competition (same-sex competitiveness surrounding mating and reproductively-relevant resources). Nevertheless, to date, no research has directly examined potential links between gossip and intra-sexual competition. The present study tested the hypothesis that individual differences in gossip can be reliably predicted by intra-sexual competitiveness. 139 men and 175 women completed well-validated self-report measures of intra-sexual competitiveness, attitudes toward gossip, and tendency to gossip. Independent-samples t-tests showed that men were more likely to gossip about achievement and women were more likely to gossip about physical appearance and social relationships. Bivariate correlation analyses showed that both men and women who were higher in intra-sexual competitiveness held more positive attitudes toward gossip, and reported gossiping more about others’ physical appearances, achievements, and social functioning. Together, these findings suggest that gossip may play an important role in intra-sexual competition

**Gauthier, Megan****“Is It Really Okay? Investigating the Subtypes of Parental Reassurance, and Manifestation of Parent Anxiety in the Context of Acute Child Pain”**

Pain management research suggests parents affect the level of pain and distress their child experiences during needle pokes. Reassurance is one of the most common parental vocalizations during painful procedures, composed of two known subtypes: emotional and procedural. Emotional reassurance is associated with increased child pain, distress, and fear, while procedural reassurance is associated with lower fear and increased coping. The present work aims to clarify the relations between parental reassurance and child pain outcomes by examining parent behaviors and emotions associated with each subtype. The associations between parent anxiety and parent behaviors will also be explored. Children between the ages of 7 and 12 years, along with a primary caregiver, will be recruited to complete the cold pressor task, in which children submerge their hand in 10° Celsius water for as long as they can. Parent anxiety will be self-reported before the pain task. Parent-child interactions will be video recorded, and coded to determine instances of emotional and procedural reassurance. The behaviors and expressed emotions exhibited during each subtype of reassurance will then be analyzed. It is hypothesized that parents reporting high levels of anticipatory anxiety will display higher overall fear ratings during their child’s engagement in the pain task. It is also hypothesized that emotional reassurance will be accompanied by high levels of fear and warmth, whereas procedural reassurance will be accompanied by high levels of disengagement. The ultimate goal of this line of research is to enable more effective pain management interventions to be developed and implemented.

**Gilbert, Kimberly****“Testosterone on Aggression and Signature Size”**

Recent evidence indicates that men who are socially aggressive sign their names larger. Therefore, signature size may represent an implicit measure of an individual’s propensity for aggression. We predicted that administering testosterone to healthy young men would increase the size with which they sign their name. We anticipate this effect would be strongest among socially aggressive men who also score high in trait dominance. In a double blind, placebo controlled, between subject’s experiment, participants (n=121) received testosterone (150 mg of AndroGel) or placebo, and at the end of the experiment, each participant provided their signature for proof of payment. Two research assistants measured the area covered by the signatures using Adobe Acrobat Pro, a software that is freely available. Results indicated that testosterone had no effect on signature size, and did not interact with trait dominance to predict signature size. Exploratory post-hoc analyses indicated that signature size was positively correlated with psychopathic traits, self-construal, and trait aggression. In summary, our experiment found no support for the idea that testosterone influences the relationship between aggression and signature size.

### **Goodridge, Lauren**

#### **“Examination of Behavioural Recovery of Regenerating Planaria”**

Many flatworms, such as the Planaria, *Dugesia doroccephala*, have the remarkable ability to grow a completely new body from even a small fraction of body tissue. This ability is based on the presence of totipotent somatic stem cells known as neoblasts. This is of particular interest for neuroscientists who are interested in the development of the nervous system and neural plasticity in general. The course of behavioural recovery, however, has not been widely studied. In this experiment, the planarian tail region was severed from the body below the auricles and regeneration of this region was observed in order to correlate the recovery to behaviour. WormLab (MBF Bioscience) is a software package that allows the localization of the flatworm approximately 24 times a second from video. Behavioral indices such as distance travelled and swimming speed, as well as other measures can be produced by the software. Videos and still images of the worms were taken before dissection and every day thereafter until they were fully regenerated. The results reveal that after initial depression of activity, following dissection, within a few days, the worms initiate swimming once again.

### **Hopkins, Kailee**

#### **“The morphological effects of 2,4-Dichlorophenoxyacetic acid, and Glyphosate on Coturnix japonica embryos when applied singly and in combination”**

Herbicides have been widely used in North America since the late 1940's. The use of synthetic pesticides has increased as a result of the development of new weed control products. 2,4-Dichlorophenoxyacetic acid and Glyphosate are two commonly used herbicides in agriculture. DowAgro Sciences has recently synthesized a compound named 'Enlist Duo', a 50:50 combinations of 2,4-D and Glyphosate. The toxicological effects of Enlist Duo are currently unknown, and the synergism between herbicide combinations is not well documented. To examine the possible effects of herbicide combinations, *Coturnix japonica* embryos were injected in ovo with low, or high concentrations of 2,4-D, Glyphosate, or a combination of 2,4-D and Glyphosate. After 15 days of incubation quail were examined externally and internally for any morphological defects or changes in gender. Methods and preliminary results will be discussed at the poster session.

### **Horn, Emily & Daniel Goldsmith**

#### **“Investigating Heritage and Community-based Tourism in Rural Jamaica”**

The purpose of our research was to explore ways to showcase the local history and heritage of the Maroons who escaped from British slavery in the hills above Montego Bay, Jamaica. We began our background research prior to our visit by reading about Jamaican history and culture and reviewing the proposal created by the client at Camp Millbrooks. The proposal includes plans for historical reenactments of Maroon and British battles that occurred in the late 18th Century. We conducted two on-site visits and interviewed the owner of the camp, and had the opportunity to discuss the ideas in the proposal with other experts, including an event planner and a community-tourism professional. We saw the church founded by Sam Sharpe, one of the first rebels to challenge the institution of slavery in Jamaica in the early 1800's. After visiting the site and conducting our interviews, we developed recommendations for the client on ways to attract tourists interested in cultural and historical activities and education.

### **Ibey, Jessica**

#### **“Distractibility”**

Distractions are inevitable when you live in a culture where they are literally at the ends of your fingertips. No matter how focused someone can be, getting distracted at some point or another is bound to happen and completely normal, especially in response to an emotional expression. Whether it be a survival skill passed down through evolution, or a way to gain insight into the mental states and likely future behavior of others, an emotional expression has the ability to influence the extent to which one gets distracted. Twenty men and twenty women (n = 40) were recruited from Nipissing University to partake in a version of the run-way task. Participants were asked to move their finger from a trigger to the middle of a blue square

that moved randomly. Their goal was to reach the blue square as fast as possible while trying not to get distracted by neutral, happy, and angry faces that served as social “flankers” and appeared in different spots throughout the trials. Saliva samples were collected before and after the task to measure individual differences in testosterone concentrations. In line with research in animal models, I predict that men will perform better compared to women on this targeting task in the presence of neutral distractors. In contrast, women will outperform men on this task in the presence of an angry face distractor. Data collection is still ongoing and preliminary results will be further discussed at the poster presentation.

### **Jeanneault, Emily**

“Does conformity change you? The power of group influence on private attitudes”

In life, we interact with people daily and in turn they consciously and/or unconsciously influence the way we think, feel, and make decisions. We all have the desire to belong and fit in and because of this we feel discomfort when our opinions don't match those of the people around us. This discomfort can drive us to change our opinions to fit those of the ones around us; a process known as conformity. In the current study, female participants (n = 100) were randomly assigned to interact with either neutral peers or negative peers. First, participants privately watched a video of a female being interviewed and were then asked to complete questionnaires assessing the personality traits and emotions experienced by the girl in the video. Next, they were placed in a social setting with two confederates who posed as neutral or negative peers. The researcher gave them a list of questions to discuss as a group (e.g., Do you think the girl in the video has a boyfriend? How many sexual partners do you think she has?). After the group discussion, participants returned to their private rooms to answer the same previously administered questions regarding the girl in the video. We predict that interacting with negative peers will cause participants to have a more negative perception of the girl in the video, whereas interacting with neutral peers will have no effect on participants' perceptions. Data collection is ongoing and preliminary results will be discussed at the poster presentation.

### **Jones, Charlotte**

“Working for the Mouse When the Cat is Out of the Bag”

After spending the summer of 2016 working at Walt Disney World Inc. in Florida, there was an obvious transition of security and relations after the tragedy of The Orlando Shooting at Pulse Nightclub. As someone who had quite literally lived in the magic, this presentation follows the changes of one of the most well-known companies in the world as terrorism hits close to home. Many disasters never hit close to home, many disasters are what is seen on the news and felt in our hearts only momentarily. Things changed that summer - both for the park and the people.

### **Kostyniuk, Daniel**

“The effect of social hierarchies on lipid metabolism in rainbow trout”

Rainbow trout (*Oncorhynchus mykiss*) form social hierarchies as a result of competition for limited resources. In pairs of trout, aggressive interactions allow one fish to establish dominance over the other, subordinate fish. Social subordination appears to be a chronic stressor because subordinate trout exhibit chronic elevation of plasma cortisol levels. Subordinate fish also experience low food intake, which in conjunction with high cortisol levels, impacts hepatic glucose metabolism. Rainbow trout energy requirements are largely dependent on lipid metabolism, as evidenced by a high resting triglyceride turnover rate. The present study hypothesized that social status would impact lipid metabolism. To address this hypothesis, juvenile rainbow trout were held in pairs for 96 h while sham-treated fish were housed singly but otherwise handled identically. We used metabolic assays to directly assess circulating metabolite concentrations. Additionally, since the liver is a well-known mediator of lipid metabolism and to gain insight into underlying molecular mechanisms of the hepatic contribution to lipid metabolism in subordinate and dominant trout; we used real-time RT-PCR to quantify mRNA abundance of key transcription factors and rate-limiting enzymes. In subordinate fish, we measured a significant decrease in circulating triglycerides and a significant increase in free fatty acids (FFA) compared to dominant fish. Concurrently, decreased hepatic expression of lipogenic genes (*srebp1c*, *fas*) pointing to a role for reduced hepatic de novo lipogenesis to this phenotype. Conversely, increased *cpt1a* expression suggests higher reliance on FFA towards mitochondrial beta-oxidation in the liver. To dissociate fasting from potential cortisol effects, additional experiments are ongoing.

### **Kozlowski, Benjamin**

“Development of a tissue specific knock-out of MARRS in mammary epithelial cells to determine potential Vitamin D diet induced cell growth changes”

Along with maintaining adequate serum calcium and phosphate levels, there is growing evidence that Vitamin D is important in displaying anti-cancer properties. Active in all these processes is a Vitamin D metabolite, 1,25 dihydroxyvitamin D<sub>3</sub> (1,25D<sub>3</sub>), which was previously thought to only act through the classical Nuclear Vitamin D receptor (VDR), facilitating the suppression of cell growth. However, recent studies have coined the intracellular Vitamin D receptor MARRS to have an opposite effect to VDR in that it promotes mammary epithelial cell (MEC) hyperplasia. Since Vitamin D has been shown to play a role in mammary gland development and breast cancer inhibition, and MARRS has been shown to have important roles in the same tissues as Vitamin D, it is therefore possible that MARRS also plays a part in mammary gland development. It is hypothesized that knock-down or knock-out of MARRS in MECs in mice will exhibit decreased mammary tissue hyperplasia within in vivo Vitamin D (10,000 IU/kg and 1,000 IU/kg) intervention mouse strains, compared to controls (no Vitamin D). Growth will be measured by examining MEC duct branching, gland branching area, ductal extension, and terminal end buds. It is also hypothesized that MECs of knockout and knockdown mice will require a higher concentration of 1,25(OH)<sub>2</sub>D<sub>3</sub> to cause greater ductal hyperplasia, due to decreased MARRS expression. Whole-mounts of MECs will be isolated from female mice at 6 weeks of age and prepared for staining using various ethanol concentrations, using Carmine Aluminum to visualize gross ductal branching. Any changes in VDR or MARRS complex components in MECs will be analyzed using Western blotting.

“Spinal and supraspinal modulation of force following active muscle lengthening: A history-dependence study”

Following active lengthening of skeletal muscle, there is an increase in the steady-state isometric force as compared with a purely isometric contraction at the same muscle length and level of activation. This fundamental property of skeletal muscle is known as Residual Force Enhancement (RFE). The basic mechanisms contributing to this increase in steady-state isometric force following lengthening have been well documented, however, neural alterations at the central nervous system level during RFE are unclear. The purpose of this study was to investigate spinal and supraspinal neural alterations to RFE following submaximal lengthening dorsiflexion at constant level of muscle activity. 13 male subjects (age 18-26) were instructed to submaximally dorsiflex at their 40% integrated electromyography (iEMG) during isometric and lengthening muscle contraction protocols. We used stimulation of the motor cortex and corticospinal tract to observe changes at the spinal and cortical levels by evoking Motor-Evoked Potentials (MEPs) and Cervicomedullary Evoked Potentials (CMEPs), respectively in the right tibialis anterior muscle. Following lengthening there was a  $10 \pm 3\%$  increase ( $P < 0.0001$ ) in the isometric steady-state torque as compared with the purely isometric contraction. In the force enhanced state, CMEPs were  $\sim 16\%$  lower ( $P < 0.01$ ) and MEPs were not significantly different ( $P > 0.05$ ) as compared with the purely isometric condition. These results indicate reduced excitability at the spinal level but unchanged motor cortex excitability following lengthening contractions. While RFE is an intrinsic property of skeletal muscle, this history-dependent property alters spinal excitability and may have larger implications on motor control yet to be elucidated.

### **Kropfel, David**

“Art Movement- Cubism in Marketing”

In my research, I examined the connection between the art style of cubism and its impact on marketing. I explored what is cubism is its major artists and famous works. I studied Pablo Picasso and George Braque in depth together with famous works like “bizarre cubiques” and “Guernica.”. Cubism was revolutionary, new, inspiring and represented a whole new way of looking at the world. It broke with tradition and the old ways of thinking. As such it is often used in advertising and marketing promotion to emphasize a new revolutionary product, to attract attention and urge a new way of thinking, looking at a product. Since Picasso is the most well-known face of the Cubism movement, he and his works are used most often. Art is almost a form of communication; it allows people with different languages, backgrounds and cultures to understand and communicate through paintings music, film etc. Art is so popular because it makes us feel

a certain way, the way the artists portrays the character, the color that is used, and their creative design. It can grab our attention with our senses and keeps our awareness with the way we feel. This coincides with marketing because in advertising you want to reach the most amount of your target audience. In my research, I found several examples that exhibited these qualities like the Mazda car, Sony TV or the Renault to name a few. Using the spirit of cubism in marketing focuses us to look at advertising in a whole new different way.

### **Loates, Kirstin & Darren Campbell**

“Getting Acquainted Online: Should I add an emoji to that?”

Online conversations are becoming more frequent for developing new relationships. Computer mediated communication (CMC) lacks the non-verbal cues that face-to-face interactions provide. Emojis compensate for some of the missing emotionality in CMC that are contained in non-verbal cues. However, emojis do not provide immediate and instinctive emotional responses that face-to-face signals do (Derks et al., 2007). Emojis are voluntary forms of communication, while non-verbal are frequently unintentional. We review and summarize the literature on the motivations for emoji use, preliminary findings from our own research, and future directions. Kaye et al. (2016) coded emoji use as: aiding personal expression and reducing the ambiguity of discourse. In this study, participants expressed that they used emojis to reduce the formality of conversation, to be friendly, and to prevent portraying rudeness (Kaye et al., 2016). Derks et al. (2007) suggest that a lack of social cues in CMC contributes to feelings of psychological distance between partners. They propose that people use an equivalent proportion of emojis in positive and negative contexts (Derks et al. 2007). In our online studies, emoji use appeared directed at buffering (reducing) the negative impact of expressed disagreements during get-to-know-you conversations. The communicator (sender) assumes that the emoji buffer effect will reduce the perception of negativity. Empirical evaluations are needed to test the different proposals about the emoji communication functions. We articulate how future investigations can manipulate conversational valence and conversational motivations to generate a deeper understanding of why people use emojis in negative and positive conversational contexts.

### **Loates, Kirsten, Kaycee Strotmann, James Donovan, & Darren Campbell**

“Getting Acquainted Online: It’s not what you said; it’s how you said it”

Online conversations are becoming more frequent for developing new relationships. Existing research suggests that responsiveness, self-disclosure, and attitudinal similarities underlie positive relationship formation. This investigation provides a novel evaluation of the qualitative content in online-mediated communication. We evaluated the qualitative content of 8 online conversations in conjunction with exchange-by-exchange ratings of interest or disinterest to identify communicative techniques over 37 exchanges. Four themes were identified across all conversations: trial and error to find commonality, number of words, word/grammar choices, and significant closing remarks. All conversations followed a question/answer pattern, however; positive conversations focused on finding a positive commonality while negative conversations focused on a negative commonality between partners. Number of words did not effect conversational outcome valence. Significant closing remarks were present in positive conversations but not negative conversations. In negative conversations, sudden changes in punctuation indicated a negative interaction, and ‘lol’ abbreviations as well as emoji’s were used to buffer the impact of negative interactions. Our results suggest that there are qualitative factors which influence online relationship formation. Specifically, high-levels of self-disclosure and responsiveness do not always predict a positive relationship formation, therefore it is necessary to evaluate other factors that influence online communication. In future studies we will manipulate the valence of conversations in order to evaluate the presence of the factors identified in this study.

### **Mady, Caleb**

“Post-activation potentiation during acute hypoxia”

Research has shown augmented muscle twitch recovery in hypoxia; however, it remains unknown whether the augmented twitch force is due to improved contractile property recovery or increased post activation potentiation (PAP) resulting from enhanced calcium sensitivity. The purpose of this study was to

examine the influence of acute hypoxic exposure on PAP of the tibialis anterior muscle following fatiguing contractions. Five healthy individuals underwent a series of electrical stimuli before (non-potentiated) and after (potentiated) a fatiguing contraction while exposed to normoxia ( $20.75 \pm 0.07\%$  O<sub>2</sub>; control) and hypoxia ( $14.76 \pm 0.17\%$  O<sub>2</sub>; experimental) conditions. Blood oxygen saturation was measured using a pulse oximeter. Using electrical stimulating pads affecting the deep peroneal nerve, the tibialis anterior was consequently stimulated. Neuromuscular stimulations were given in the form of constant frequency trains, a series of 12 equally spaced electrical pulses were delivered in the span of 0.9s. Twitch potentiation was calculated as the percent change in twitch force, relative to the non-potentiated twitch. Hypoxia exposure resulted in a significant ( $p < 0.01$ ) reduction in oxygen saturation ( $91 \pm 3\%$ ) compared to normoxia conditions ( $97 \pm 1\%$ ). There was significant twitch potentiation in both normoxia ( $134.2 \pm 34.3\%$ ) and hypoxia ( $141.5 \pm 44.6\%$ ) although no significant differences between the conditions ( $p = 0.76$ ). The hypoxia condition did not have a significant effect on twitch potentiation, therefore these findings suggest that enhanced twitch recovery in hypoxia is not the result of the PAP mechanism.

### **McKenzie, Laura**

#### **“The Innuendo Effect: Athletes’ Perception of Prospective Coaches”**

Competence and warmth are recognized as two key dimensions in helping individuals evaluate others. Recent research has shown that if only one of these dimensions is emphasized, the other may be perceived as lacking (i.e., the innuendo effect). Do athletes make the same social judgments in relation to prospective coaches, and do such perceptions influence perceived suitability? Male and female competitive youth ice hockey players ( $N = 93$ ) were randomly assigned to a condition that either described the coach as portraying: (a) warmth characteristics only, (b) competent characteristics only, or (c) generally positive characteristics (control). ANOVA results indicated evidence of the innuendo effect in relation to perceived competence,  $F(2, 90) = 5.296$ ,  $p = .007$ ,  $\eta^2 = 0.105$ , and perceived warmth,  $F(2, 90) = 8.652$ ,  $p < .001$ ,  $\eta^2 = 0.161$ . When coaches were described with only warmth characteristics, participants rated the coach as being less competent than the control condition ( $p = 0.030$ ). When coaches were described with only competence characteristics, participants rated the coach as being less warm than the control condition ( $p = 0.003$ ). In accordance with the innuendo effect, the omission of either warmth or competence information when describing a prospective coach could be detrimental to how youth athletes perceive a coach.

### **McParland, Quinlan**

#### **“Computational Study of Photonic-Plasmonic Response of Two Dimensional Nanorod Arrays for Ultra High Sensitive Nanosensor Application”**

It is well known that gold nanorods (AuNRs) can support the localized surface plasmon resonances (LSPRs) that are a collective oscillation of the conduction electrons by incident electromagnetic field. LSPRs can be controlled easily by changing their sizes and aspect ratios. When the AuNRs are placed in arrays, forming two dimensional lattices, the LSPR of the individual AuNR can be coupled together to offer a collective resonance or plasmonics lattice modes (PLM). In this project we numerically study the collective resonances of two dimensional arrays of large AuNRs in homogeneous environments. Structural speculation of different AuNR array are length = 1300 nm and width = 200 nm for the AuNRs and the centre length and centre width (distance from the centre of one AuNR to the next along the length and width direction) are 1400 nm and 500 nm, respectively. We consider the heights of AuNRs to be 40 nm and they are placed on a glass substrate with a refractive index of 1.5. The refractive index of the environment on top of the array (superstrate) is considered to be 1 (air), 1.1, and 1.2. We used Finite Element Method (FEM) to numerically calculate the extinction cross sections of this structure. Our results show that the studied AuNR array shows support of PLM that appears in the form of three sharp peaks in the extinction spectrum ranging from visible to infrared wavelength. By adding some chemicals with slightly different refractive index the first of the extinction spectrum peak undergoes a drastic red shift. In conclusion, numerically the optical responses of arrays of long AuNRs could support three PLM, one with a high refractive index sensitivity and two with very small sensitivity. This feature makes this structure capable of detection of minuscule changes in refractive index of the environment. This project is in collaboration with the Nanophotonics and Quantum Devices Group in the Department of Physics at University of Alabama in Huntsville to experimentally support our result.

## **Mundluru, Jahnavi**

“Impact of the Enhanced Patient Education System and Follow-Up Plan for Metastatic Melanoma Patients Treated with Ipilimumab”

Immunotherapy while effective in treating melanoma, also causes immune related adverse events (irAEs). The Durham Region Cancer Centre created a program to reduce the irAE incidence: information session with a nurse prior to treatment, notifying circle of care about possible complications, and weekly phone call by nurses to patients. Objective To determine the impact of the education and follow-up program on the incidence and severity of immune related adverse events (irAEs) of metastatic melanoma patients treated with Ipilimumab. Methods A retrospective chart review was performed for patients treated with Ipilimumab between October 1st, 2013 and October 31st, 2015. The incidence and severity of irAEs was statistically analyzed. Results 14 of 18 identified patients received all doses. Four of these 14 patients had no treatment related side effects while 10 displayed irAEs ranging from grade 1-4. Specifically, five patients had grade 1-2 toxicities, and five had grade 3-4 toxicities. There were two toxicity related ER visits and three hospitalizations, but zero dosage delays. Conclusion The education and follow-up program showed a correlation with improved patient outcomes for irAEs. With immunotherapy rising in other cancers and fields, the time spent implementing this program is important to patient success in their treatment.

“Development and Assessment of an Intervention Program for Unmet Supportive Care Needs of Canadian Melanoma Patients and Survivors Attending an Outpatient Clinic”

The rapid development of melanoma treatment options has significantly improved overall survival, but complementary patient education is not available. An environmental scan confirmed a lack of formal educational programs and support groups in the Durham region. Objectives 1) Identify the supportive care needs of melanoma patients and survivors. 2) Develop an intervention program to address these needs. 3) Seek feedback on the program prior to implementation. Methods Utilizing a cross-sectional mixed method design, patients were recruited both prospectively and retrospectively. Participants completed a socio-demographic questionnaire and Supportive Care Needs Survey; those who consented attended a focus group. Statistical tests identified the highest reported needs and investigated any relationships with socio-demographic information. Focus group data was thematically analyzed. Results 75 patients and survivors completed the questionnaires; 46 males and 29 females. Most acknowledged their needs were satisfied, however significant unmet needs were identified in three constructs: psychological, health system and information, and melanoma specific. Conclusion Based on these identified high needs, a multifaceted program was developed to address the three constructs. Focus group feedback further reinforced the benefits of the intervention program. Currently the program is being reviewed for implementation and the intent is to complete a one-year post evaluation.

## **Nguyen, Chau Vu**

“Exploring the variability of Heat Shock Protein (HSP) response to acute hypoxia between common laboratory mouse strains”

Hypoxia, a deficiency in the level of oxygen reaching the body's tissue is a key component of numerous pathologies, including heart attack, stroke, and pulmonary disorders. Acute hypoxia can result in cellular damage; while long-term hypoxia can lead to lethal organ failure and, eventually, death. Heat shock proteins (HSPs) are hypothesized to be involved in cytoprotective mechanisms against hypoxia: HSPs are unregulated following acute hypoxia in hypoxia-intolerant rats and following chronic anoxia in anoxia-tolerant western painted turtles. Common strains of laboratory mice may exhibit very different responses to acute hypoxia and we asked whether two strains of mice would respond similarly to a low oxygen challenge. Using PCR and Western blot approaches, we examined changes in the expression of HSP genes and proteins (HSP27, HSP40, HSP70, and HSP90) in brain, heart, muscle, and liver of BALB/cJ (white) and C57BL/6J (black) mouse strains following exposure to acute hypoxia (7% O<sub>2</sub> for 4 hours). We found that hypoxia-mediated changes in HSP expression varied between mouse strains. The global hypoxia-induced gene expressions of HSP40 and HSP90 were similar across strains. HSP40 was up-regulated in the brain, while HSP90 was down-regulated in the liver of both mouse strains. However, there were also differences in the HSP response between strains. The expressions of HSP27 and HSP70 were up-regulated in the brain of black mice only; whereas they were down-regulated in the liver of white mice

only. These results contribute to our understanding of the variability of the HSP response to acute hypoxia between mouse strains.

### **Palmer, Laura**

“Attitudes Toward Older Adults, and Associated Personality Correlates, of Undergraduate Health and Social Work Students”

Research has shown that the treatment of older adults as a factor of attitudes toward older adults are likely to influence quality of life, access to services, and standards of care later in life. It has been demonstrated that when negative attitudes exist in healthcare settings, there is a corresponding decrease in level of care provided to older adults. As such, this research project aimed to better understand the attitudes toward older adults of future health and allied health professionals. This current project also examined the relationship between personality factors and attitudes as personality factors have been shown to impact attitudes and behaviors. This project examined the attitudes of future healthcare professionals and social workers by studying female undergraduate students in psychology, nursing, social work, and human kinetics programs. All participants in the study completed three self-report questionnaires; a demographics form, Kogan's Attitudes Toward Older People Scale, and Cattell's 16 Personality Factor Questionnaire. The data gained from the three questionnaires allowed the researcher to examine the relationships between program of study, year in program, and personality correlates as they impact attitudes toward older adults.

### **Racine, Gabrielle**

“Defining Normative Metrics for Functional Abilities Evaluation of the Wrist and Hand”

Introduction: Work-related musculoskeletal disorders and associated disability are an enormous economic burden on employers and workplace insurers. While most injured workers return to work with or without modification, many experience recurring symptoms and chronic disability. A clinician typically conducts functional abilities evaluation (FAE) to develop a rehabilitation plan and provide recommendations on safe return to work. FAE is integral to inform clinical decisions; however, there is a need for normative data to ensure evidence-based practice. Aim: The goal of this study is to establish normative strength and kinematic data for wrist and hand FAE. Methods: Twelve healthy right-handed participants performed standard tests including wrist and finger joint range of motion, grip strength, and the Purdue Pegboard Test as well as five activities of daily living including eating with a spoon, fastening shirt buttons, texting on a smart phone, drinking a glass of water, and putting on a wrist watch. Grip strength was measured with an isometric dynamometer (ADInstruments, Colorado Springs, CO) at 100 Hz while wrist and finger joint kinematics were collected with the 18-sensor CyberGlove III (CyberGlove Systems, San Jose, CA) at 50 Hz. The data is currently being used to define normative metrics for each task. Preliminary Results: While data analysis is ongoing, participants are demonstrating stereotyped movements for the standard tests, leading to the development of normative profiles. Clinical Significance: We expect that normative kinematics from functional tests in our study will provide clinicians with a baseline for comparison and improve functional outcomes for injured workers.

### **Ruttle, Emily**

“Nipissing University Nursing Games 2017”

Nursing Games 2017 at Nipissing University hosted roughly 250 nursing students from universities all over Ontario to be tested on their academic nursing skills, sportsmanship, spirit and charity. Research was conducted to gain student perspective on their experiences in the simulation labs through the use of surveys. The survey was sent to the Research Board of Ethics at Nipissing University.

### **Schumacher, Kirk**

“Ground Impact and Recovery Forces Acting on Youth Ice Hockey Goaltenders Through the Butterfly Goaltending Style”

“Butterfly” style goaltending has become the standard technique among ice hockey goaltenders. Studies have shown that while executing the butterfly technique, the hip joint is stressed in flexion and internal rotation [1], and the ground impact forces are applied to the knee directly through the pads, causing the

majority of the force to be directly transferred to the hip [2]. These studies however mostly deal with mature populations, and don't look at the recovery forces put on the knee and hip as well. Understanding how ground reaction forces (GRF) during impact and recovery affect younger goaltenders could help prevent injuries at this age and prolong their ice hockey careers. Aim: The purpose of this study is to understand GRF during impact and recovery forces acting on the knee and hip joint from the butterfly goaltending style within a population of youth goaltenders. Methods: Five youth ice hockey goaltenders (aged 10-12) were recruited to participate in this study. Each participant completed 24 butterfly recoveries in total: 12 with no upper body equipment, 12 with full equipment. Ground reaction forces were collected using two force plates positioned under the sheet of synthetic ice. Three trials of 4 recording conditions were performed (based on recovery leg and force plate position). Expected Results: We expect to find that with full equipment, the mean peak impact force will be greater throughout the trials, and that the mean peak recovery force will be greater in the trials where the landing leg on the force plate recovers last.

**Staroba, Jordon, Dakota O'Hara, Steve Mason, Clare Johnston, & Olivia Hall**

“Generating Consulting Recommendations from Field-based Study of Rural Tourism Options in Jamaica”

The purpose of our research was to investigate potential market segments for a comprehensive community-based educational tourism site in the hills above Montego Bay, Jamaica. We began by researching and reading about Jamaican culture, Jamaican tourism trends, and reviewing the long-term proposal prepared by the client at Camp Millbrooks. We conducted on-site observations by visiting the site and following the trails, speaking with local farmers and the staff of the site. We also interviewed the owner and his partners whose goals include developing the location for showcasing the local agricultural community and the heritage and history of the site. A special emphasis on health and wellness tourism has been identified by the client along with local job creation and thus we interviewed a wellness expert, an event coordinator, and a representative of the Rural Agricultural Development Authority (RADA) over several days. Finally, we compared our observational and interview notes with all members of our team and with the instructor and prepared our final strategic recommendations for the client.

**Tjin, Daryl**

“Effects of deception on exercise performance in humans exercising in a hot environment”

To study the effects of real-time accurate versus deceptive feedback in conjunction with normal (21°C) and hot (30°C) ambient temperatures during a simulated 4000 m cycling time trial. Methods: Five male participants (age = 21.6 ± 0.8) were recruited to attend six research sessions which employed the use of a Velotron cycle ergometer. A preliminary VO<sub>2</sub>max test was conducted in the first visit, followed by a 4000 m familiarization time-trial and four subsequent randomized 4000 m time-trials, challenging the participant against their previous baseline performance in a virtual, onscreen race with a pacer avatar. Each randomized trial incorporating either hot (30°C) or room temperature (21°C) conditions paired with accurate (ACC; pacer set at speed of baseline performance) or deceptive (DEC; pacer sets at 2% faster speed than baseline) feedback of the participant's familiarization/baseline trial. Measurements: Total power output (PO), ventilation (VE), oxygen uptake (VO<sub>2</sub>), carbon dioxide production (VCO<sub>2</sub>), heart rate (HR), skin and core body temperature were measured continuously, while rate of perceived exertion (RPE) and thermal sensation (TS) were collected at each 1000m interval. Results: There was a significant difference (P < 0.05) of mean VCO<sub>2</sub>, mean skin and core body temperature and peak skin and core body temperature between normal (21°C) and hot (30°C) ambient temperatures. On the other hand, there were no significant differences (P > 0.05) in any of the variables between ACC or DEC feedback in the heat. Conclusion: Despite changes to peripheral and central body temperatures in the heat, augmented performance feedback in a 4000m time-trial task does not alter performance or physiological responses in a hot environment compared to normal ambient temperatures.

**Tremblay, Cory**

“Effects of Butterfly Goaltending Style in Youth Ice Hockey Goaltenders”

Introduction: The butterfly technique has been adopted by a multitude of ice hockey goaltenders to effectively defend the net. Although it is effective and popular among goaltenders, the butterfly style can

leave the goaltenders vulnerable to various knee and hip injuries due to this style's aggressive nature. While most investigations were done focusing primarily on the effects of the hip joint kinematics in relation to FAI, few investigations have analyzed the effects of the forces acting on the knees in youth ice hockey goaltenders. Aim: The purpose of this study is to understand the effects of the forces acting on the knees during repetitious butterfly technique recoveries in youth ice hockey goaltenders. Methods: Five youth hockey goaltenders (aged 11-12 years old) were recruited to participate in this study. Each participant completed 24 trials of butterfly recoveries: half of the trials were completed with no upper body equipment and the other half were completed wearing full equipment. Volt impulse (Vs) measurements were taken with a Delsys Trigno™ Wireless pressure sensor system (Delsys Inc., MA, USA). These sensors were placed on the distal medial epicondyle of the femur, medial condyle of the tibia, superior portion of the patella, and tibial tuberosity.

### **Vincent, Kyle**

“Influence of Forest Composition and Structure on Snowshoe Hare Winter Habitat Selection in Central Ontario”

Snowshoe hares occupy a wide range across much of Canada and the northern United States. When populations are at their highest, the biomass of snowshoe hares has been found to be nearly twice as high as that of other small mammals living in the same areas. The combination of their wide habitat range and high biomass result in snowshoe hares being an extremely important food resource for a wide variety of predators including Canada lynx, coyotes, foxes, hawks, and owls. It is therefore important to understand what environmental factors influence snowshoe hare habitat selection in order to make effective conservation and management decisions. For this study we compared snowshoe hare winter habitat use by counting tracks in snow along triangular transects in three different forest types in the North Bay area. These forest types consisted of sugar maple dominated, white spruce dominated, and balsam fir dominated forests. At each sampling site we also measured a variety of environmental characteristics such as vegetation composition, vegetation density, horizontal and vertical cover, snow depth, and the presence or absence of browsed vegetation in order to better understand which characteristics have the greatest influence on habitat selection. Results will be discussed at the poster presentation.

## ART INSTALLATIONS

### **Claassen, Amber**

#### **“Lets Play”**

A series of 10 paintings 11 inches by 11 inches Sex sells, this is a phrase that has been used time and time again. Advertisements use sex to sell their products or services and in turn have idealized a sexy figure. This is the world our youth is growing up. A world where you have to be sexy and attractive in order to be “happy”. You have to have had sex or be willing to have sex to be “love”. You have to know where you stand in your gender and orientation. Children are more exposed to sex and being sexual now then they ever have been before. Our education has had to change and adapt do to this shift. Children need to be taught and learn about sex and gender at an earlier and earlier age so that they have a better understand of it as they are being exposed to it. My work speaks to this, speaks to the sexualizing of our youth. I have mixed the world of the youth with that of sex. I have created a hybrid between kids toys and sex toys to create an invoking image. I want my viewer to look at my artwork with nostalgia then be sparked with disgust when they realize the blend. Some of my works are subtle in the blend between sex and youth and others are very obvious and in your face. That’s to represent how society is effecting our youth, some reflections are subtle and other are not. Children are being dressed in shorted and more mature clothing, 12 year olds are having sex, to me those are really shocking things to have happen and some of my art was meant to be shocking and gross and make the viewer feel uncomfortable. My intention is to have the viewer look at these images, be afraid that this are items of the future, that they could one day be real. I wanted to use kid toys more of the 90’s generation because for me that was a time when youth were still innocent and non sexualized. I also wanted them to spark memories in my viewer, memories of their childhood, then have it tainted by sex.

### **Couchie, Tina**

#### **“Frustrated”**

In my third year of painting, I wanted to create an abstract image to disclose my frustration regarding Nipissing University’s faculty strike in 2015. The painterly quality and vivid colours enhances the mood and an intertwining piece of robe represents that my hands were tied. The idea of the knotted robe through the image was encouraged by a former graduate of Fine Arts, Emily Dalmer with her piece called “Tug of War”. The triptych reductive drawing was completed on Stonehenge paper covered in Gesso and India Ink 22”x30” (2015). This painting assignment was an open concept to explore a wide range of styles and techniques with a historical and a contemporary artist reference. I was inspired by Jackson Pollock abstract painting, “One: Number 31” (1950) to bring forth chaos into beauty, similar to his ‘drip’ painting series. A performance piece by a current BFA student at the time, Marcus Fessler titled, “Fences” inspired my actions with his entertaining video clip, axing a plank of wood in a state of rage. I titled this piece, “Frustrated”, an oil painting on a 30”x36” canvas to document an event that I experienced at Nipissing University.

### **Davies, Diane**

#### **“The Ultrasound”**

This piece is about pregnancy, fertility, infertility, bareness, and societal expectations. Women throughout the ages, centuries, as far back as the first people: women were expected to have several or more children within their lifetime, this was their female and maternal duty. Now, this still remains. Women, such as men are equally necessary in the procreation of our human existence; however, women are the carriers of the babies. This piece touches on the ideas that if a woman does not want children, it should not be seen as selfish. If a woman decides to abort a pregnancy, it should not affect how others views her. This piece is conceptually driven, and touches on mine, and many other women’s fear/reality of being/becoming infertile.

### **Hachez Lagacé, Brianna**

#### **“The Beauty Within”**

This painting is a narrative that reflects the monstrosity behind some of our most beloved fairy tale creatures. It is often overlooked that the beautiful siren is actually represented quite dangerously in folktales.

## **MacDonald, Courtney**

### **“Story-time”**

This art installation features three main components that work together to create a space and feeling of comfort. The cotton floor piece works as a marker of the 80”x94” installation space. I chose to screen-print the covers of books I read as a child as they bring me personal comfort. The silhouettes are meant to emulate a reading circle and invite the viewer to join the space. The second component to this piece is the red chair, which is the most physical invitation for viewers to interact with the installation. The chair is an opportunity for viewer reflection on their own story times and fondness for literature. The third component is the books themselves. Within each book is my personal hand with varying degrees of mediation between the viewer and the text. This was an exploratory process for me as it was my first time working with books as a medium. Literature has a way of evoking mental imagery and I thought it would be interesting to alter that experience for the reader. Each element of this work allows for viewers to reflect or take comfort in the familiarity of their surroundings and the literature before them. Viewers are encouraged to interact with this piece as it relates to their personal feelings of nostalgia for literature. The alterations to the books within the piece are meant to be discovered at leisure, some containing only subtle hints to my own personal hand.

## **McComb, Gerald**

### **“The Civilized”**

The Sculpture, “The Civilized” (2016) deals with the Indian Residential School system and the assimilation of the children by means of tearing them from their family and their cultural influences. The piece employs the gruesome act of scalping hair (a symbol of culture) behind a portrait of a former student dressed in colonial clothing. Pulling the hair is a crank of which the axle is a crucifix. The piece sits on and behind a small school desk. The portrait acts as a wall that symbolizes the perspective of mainstream society on the schools as well as the ignorance to the horrors that took place and the effects they have on the present situations faced by Indigenous peoples.

## **Myre, Joelle**

### **“Memories Created Through the 5 Senses”**

This sculpture explores the idea that our memories are created with our 5 senses: sight, touch, taste, hear and smell. Without those senses we would not be able to house our experiences and recall them when we come into contact with such substances. We rely very heavily on our sensory motor abilities, and this work demonstrates and questions that. A life casting on my face starts on the far left with wires connecting to the inside that lead to an abstracted brain like representation. The wires coming from the face lead through the brain and to 5 jars that all house different items that call to a different sensory function. Within the work the sensory words protrude that really ground the work and bring the audience into the work as the work itself is three-dimensional.

### **“The Feeling Behind a Good Cup of Tea”**

The idea behind this painting originated from the feeling I got from a good cup of tea, hence the title. I was studying the steam that was dancing from the hot water sitting in my cup. It gave me an idea to abstract the shapes and make two figures seem as though they are dancing around each other. The entire painting seems as though it is fragmented, demonstrating the celebration of life with vibrant colors.

### **“Walk in the Past”**

This 5’ by 3’ painting explores the combination of silhouettes originating from three centuries. The figures are from 1810’s, 1910’s and 2010’s. They are meant to signify the passage of time and the imprint we leave. The silhouettes also mingle and overlap one another, suggesting that people from different times often walk in the same spot, even though we do not think of such things.

## **Ranney, Morgan**

### **“Meteor”**

The piece I am submitting is an abstract sculpture created out of plaster. The sculpture consists of a plaster sphere containing drilled holes to reveal another small sphere within. The work is in response to the theme of space. With the textured shell of the large sphere and the bronze paint, I resembled the abstract figure to a meteor. The piece stands upon a stark white base to balance the sphere and to view the piece in the round.

## **Sandziuk, Thomas**

### **“Woman as Egg”**

Woman as Egg is a singular piece that explores cultural and traditional practices in contemporary art. Building off of the practices passed on through generations, I examine the relevance of older practices in contemporary art. I explore Identity as something beneath our exterior selves, as being something deeply embedded within us. It evades our character or personality, existing on a deeper level of being. This deeper level of identity becomes expressed in a physical configuration. In my work the human body becomes a catalyst to express personal purpose and meaning. The body isn't the focus in the piece but rather an extension of the canvas that is reflective of the host's own identity. In Woman as Egg I explore my Canadian-Ukrainian heritage. Replicating the practice of pysanka, where you use wax and die on an egg to leave intricate designs and patterns, I replicate this form of art using the human form. The woman in Woman as Egg takes the shape suggested by the title, and is decorated in a traditional pysanka motif. The figure herself is shown with a traditional Ukrainian braid in her hair, acknowledging the traditions of Ukrainian culture. Pysanka means “to write,” and each motif and color has meaning. The use of Red and Black represent the passion and eternal life of the practice, while the orange and yellow signify joy and vigor. I made Woman as Egg to pay homage to my cultural backgrounds while revitalizing it as something new through different form.

### **“Embedded and Applied”**

Embedded and Applied is a three-piece work exploring the cultural roots that are inherited and the ones that are adopted. I explore Identity as something beneath our exterior selves, as being something deeply embedded within us. It evades our character or personality, existing on a deeper level of being. This deeper level of identity becomes expressed in a physical configuration. In my work the human body becomes a catalyst to express personal purpose and meaning. The body isn't the focus in the piece but rather an extension of the canvas that is reflective of the host's own identity. In Embedded and Applied I address my Canadian-Ukrainian heritage along with my influence of Aboriginal identity in my early upbringings on an Albertan Reserve. The black and white tattoo-like designs on the body are of Ukrainian design, based off of the practice of pysanka. The applied red face paint refers to a work produced by George Catlin in 1832, entitled Buffalo Bull's Back Fat, a Blackfoot chief who's face paint I use to signify my connection to the tribe. I identify as Canadian-Ukrainian, but not as First Nations. That is why I signify the Blackfoot face paint as applied, and the Ukrainian decorative patterns as embedded. The separation of what is connected to you in birth and what is adopted is why the piece is entitled Embedded and Applied.

### **“The Spirit Sings: Misrepresentation and Exploitation”**

Using the Glenbow's exhibition of “The Spirit Sings: Artistic Traditions of Canada's First Peoples” as the source focus, the Canadian government has spent years reconciling with and acknowledging the First Nations people's presence in Canada. Canada as a nation, however, has spent years misrepresenting this community through, generalization, racial stereotypes and exploitation. The Glenbow's exhibition of The Spirit Sings acts as a recent example of the history of imperial modernity over primitivism. The outburst from the Indigenous community act as a reminder of the negative impacts the exhibition had on the community it sought to praise. Historic examples are drawn upon, referring to 1889 Exposition Universelle in Paris, a display of technological modernity over cultural primitivism, and the 1845 exhibition of the Travelling Indian Gallery. The Exposition Universelle signaled colonial control and possession by placing individuals who were clearly being marked off under political authority on display. Creating “types,” this led to a trend in expositions to come. The Travelling Indian Gallery, which predates the Exposition Universelle but relates

best to the events seen at The Spirit Sings, signifies one of the earliest expositions of Indigenous work. American painter George Catlin, who ran the Travelling Indian Gallery, took it upon himself to display the American Indigenous community. His portrayal led to typecasting and inaccuracies that would continue into modern context. The effects of these shows and galleries from the 19th century all the way up to the late 20th century have had a negative impact on the First Nations people of Canada.

### **Sarazin, Thaila**

“Untitled (Self Portrait)”

The work is a short, wide oil painting that was created as a self portrait and illustrates my connection with the land and how moving to the city made me feel sick. The work features a figure laying down, merging with the landscape. The piece has many elements, including caves, flowers, rivers fields, etc., each representing a different part of myself as well as the intricateness of the human body.

“Disappearing Moose”

The project is a Paper Maché Moose addressing the disappearance of the species over time in Ontario and the natural ecosystem, and how humans have influenced their disappearance both directly and indirectly. It stands 56” tall, 17” wide, and 84” long.

### **Vossos, Janica**

“The Locket”

A locket is a pendant that is used to hold objects of sentimental value, to its owner. Its contents are a piece of a memory, or a piece of jewelry that has emotional and personal value. They are used for the safekeeping of not only photographs but of very small possessions you wish to always keep close. Locketts are symbols of antique jewelry which came from the Victorian era, in which I am contrasting with this very modern style of digital painting. This digital painting, consists of an abstract background of a locket, that I have hand drawn and scanned to be digital. I have incorporated hands holding a locket on top of the abstract background, where I have changed the image qualities of opacity, colours, and forms using Photoshop editing. I want my piece to not only create memories for the viewer, but also get them wondering and questioning, what is in this locket? Finally creating a sense of reliability to the viewer is important because I am hoping it will evoke nostalgia, about the people or things in their own personal lockets.

## PAPERS & ROUND TABLES

**Anglehart, Carol, Tori Bessette, Aaron Brown, Lea Call, Jylle Carpenter-Boesch, Erin Creed, Calvin Green, Brianna Hachez-Lagace, Valene Hookimaw, Brittany James, Sara Johnston, Kristin Loates, Paula Peter, Thaila Sarazin, Kaitlyn Walker**

“Liberal Arts, Critical Citizenship, & Social Justice: A Roundtable Conversation”

How do we make sense of our world in an era of “alternative facts” and myriad forms of social injustice? Students from various disciplines reflect on how their studies have enabled them to “critically read the world” and imagine social change. At its best the humanities and liberal arts can be spaces where faculty and students generate new visions of a better society. Audience members are invited to participate in this conversation about the usefulness of a liberal arts education for both understanding and intervening in an unjust world.

**Bender, Isaac**

“What it Means to be an Avocational Archaeologist.”

Canada is a pretty big country, eh? As a result of this in conjunction with its vast indigenous and colonial history, a crucial function of the conservation and understanding of Canadian history is the involvement of avocational, or individual, interest-driven, research archaeologists. Despite the limitations, avocational archaeology is important in not only the development of new sites due to their ability to survey prospective sites, but also to bring awareness to the profession at a local level and what it means to study the material culture from the perception of, typically speaking, a long-time resident of the area. This not only allows the pursuit of academia to happen on a much wider spectrum than just the post-secondary level, but it also allows for the discovery of more potentially valuable sites resulting from a lack of availability by professional archaeologists. I had the privilege to do my first project at a site on the Sturgeon River in West Nipissing, organizing a small crew to do a test pit survey. We found a variety of worked material and a small-amount of pottery. From an archaeological perspective it is amazing because not only is that an indication of activity at this site, but now an excavation must be done should developers want to build there. As a guy doing his undergrad with a student-centric crew, it is an amazing feeling to be able to contribute to the local history, and the preservation of that history for generations to come.

**Bereczki, Justin**

“Strategies for more effective and socially just AIDS prevention in North Bay, Ontario: A Gendered and Indigenized Perspective.”

This paper will analyze the effectiveness of HIV/AIDS prevention strategies in North Bay, Ontario in hopes of discovering key components that are missing from current policies. To begin, predominant conceptual frameworks surrounding HIV/AIDS will be discussed in order to explain how current HIV/AIDS issues are being analyzed and/or ignored. While HIV/AIDS is typically thought to be an issue for fields that surround health care, the virus has dire social impacts that need to be considered by conceptual frameworks. Next, a historical and social context will be provided in order to highlight important background information that has helped lead to large gaps in current policy. This will include information about the spread of HIV/AIDS in Ontario, and how the government has begun to address it. Finally, information gathered from interviews with members of the AIDS Committee of North Bay and Area will be used to demonstrate the impacts of the gaps in these policies, and highlight what needs to be done in order to better address HIV/AIDS in the community of North Bay. This research will be useful in order to further understandings about how HIV/AIDS is being addressed in North Bay and help create steps forward for policy makers in Ontario.

**Brand, Samantha, Delphanie Colyer, Jessic Hulmes, & Paige Linklater-Wong**

“Pehtahbun - Biidaaban [Dawn of a New Day]”

This paper explores the connections between self-identity and wellness for Indigenous students at Nipissing University. King et al. (2009) state identity and culture not fixed but can be interpreted through other’s values or agendas. Our elder-in-residence shared that identity can impact self-esteem but what matters most is how we see ourselves. What it means to be Indigenous, whether defined by categories

imposed by a colonial government or not, will also be explored. This research is informed by these research questions: What does being Indigenous mean to students at Nipissing University? How does Indigenous identity impact the wellness of students at Nipissing University? These questions are examined through Photovoice and Indigenous artistry. Castleden et al. (2008) describe Photovoice as “participant-employed photography and dialogue to create social change.” This methodological approach will promote narratives of identity and wellness by privileging Indigenous voices. Students who self-identify as Indigenous will be recruited then trained to ethically take digital photographs of places and activities representing identity and wellness. Semi-structured interviews will be conducted using the photographs as a guide. Participants will select one photo which best represents identity and another representing wellness. A focus group and drum-making workshop will be conducted to share the preliminary analysis of the resulting narratives and selected photos with Indigenous students, Elders and key informants at Nipissing University. This research will have implications for the wellness of current and future students but also for the Dibaadan, Office of Aboriginal Initiatives and other Nipissing University programs.

### **Brar, Tajdeep**

#### **Lead and the Fall of Rome: A Theory Revisited**

This essay explores the theory that the fall of the Roman Empire was perpetuated by endemic lead poisoning within the Roman population, causing widespread madness and a decrease in health. Though this claim has been thoroughly debunked as the level of lead exposure that the average Roman likely experienced would not cause significant harm, this essay explores this theory and the veracity of this claim. This essay also explores the effects of lead exposure on the children of Rome, specifically the children of the Roman aristocrats, which have not previously been accounted for. Modern scientific research has shown that children are especially vulnerable to even minuscule amounts of lead, and, as members of the aristocracy these children would grow to become the leaders of Rome, any infirmity in them could have had negative effects on the Empire. Using recent scientific work on the effects of lead exposure on children, the amount of lead required to have a significant effect on children was determined. Next, research already done on the sources and amounts of lead contamination in Rome, including the water systems, food, utensils, beverages and other routes of contamination, was examined in order to determine if Roman children would have been exposed to significant amounts of lead. The results showed that the children of Roman Aristocrats were unlikely to have been exposed to sufficient lead to have affected their health or mental faculties. However, the topic merits further research as this aspect of the theory has not yet been explored.

### **Brown, Mary-Kate**

#### **“An Ethnographical Study of Social Organization and Social Cohesion Amongst Library Users”**

This paper is submitted as a part of the panel “Ethnographic Renderings of Space and Place in North Bay, Ontario”, joined by the group Ana, Gab and Kyla. This paper describes and interprets findings from an ethnographic study of social organization and social cohesion among library users in North Bay. Through examining the social interactions between library users both at the North Bay Public Library and the Harris Learning Library, I was able to observe the importance of social norms in very public settings like a library. While most people think of a library as a place that holds books, it is also a very open setting that encourages a diversity of people to enter and engage in a wide variety of different social interactions that may, or may not, have something to do with the purpose of the library. At the same time, different types of libraries, for example the North Bay Public Library and the Harris Learning Library, draw different groups of people and so demonstrate different types of social interactions. Therefore, results in evidence of an array of very different social norms. The types of social interactions observed, and the different social norms evident in the two library settings are discussed as good examples of the emergence and constraint of social norms in public places. A library is place of social interaction and a stable part of the community; one of the main questions I will propose is, what would happen if there were no libraries? Would this place of social cohesion and community turn into something else? By observing individuals around me, I gained an important insight into the importance of the library, both downtown North Bay and at the University/College. As our society develops, the library still remains an important place for each person and this ethnographic study analyzes in further detail the importance of the library and what it means to every individual.

**Cangiano, Kyla**

“Living with dogs: a study on the social dynamics of a dog park”

Through examination of animal-human relationships in a space created to encourage inter-species interaction, I have considered the question of the changing perceptions of a dog’s “personhood”. As pets continue to possess increasing importance within the family dynamic, I consider how they are viewed as next to kin, and treated more like a dependent child than an animal. The anthropomorphizing of canine companions continues to increase, begging the question of their position within dynamics of family and community life. The question of position is complicated as I illuminate arising tensions in the ambiguity of just how much human status a dog can hold. Spaces such as the one I examine here call us to consider how animals and humans move together in the formation of a complex communicative nexus, allowing for a space of redefining the animal-human dichotomy. We learn through observations of such places the important positions animals hold in human life, and how a space in which allows for inter-species communication becomes crucial to the well-being of both pet and owner. This examination of shared space and shifting perceptions of dogs, has allowed for insight on how, as two species move together, the boundaries of the animal-human dichotomy are blurred.

**Carter, Jessica**

“Children in the Court: Fantasy Novels and the Ethics of Institutional Law”

This presentation discusses the process of the Creative and Critical Project, then features a reading of a select scene from the creative piece and a discussion of the ways in which that scene links to a larger literary tradition. My project focuses on the ethical groundwork of children’s fantasy novels forged through the interaction of government or law enforcement officers and the child protagonist(s), looking at magic as a metaphor for power or force, particularly for enforcement and/or resistance. Through the methodology of close reading and an analysis of courtroom and/or imprisonment scenes in my creative piece, *Unwritten*, in comparison to J.K. Rowling’s *Harry Potter and the Order of the Phoenix* (2003), Sarah Prineas’ *The Magic Thief* (2008), and James Patterson’s *Witch & Wizard* (2011), I argue that these scenes emphasize the rigidity of institutional law and how this rigidity supports an unethical disregard for the individual. Through the construction of the child as the ethical center of the novel, the intended child reader is positioned to become aware of the flaws of unilateral and prejudiced thinking compounded by adult institutions such as the judicial system.

“Designating the Child: A Neo-Victorian Exploration of the ‘Child’ as a Class Identity in *Florence & Giles* Through the Lens of *Jane Eyre*”

Through a close-reading analysis of the primary Victorian text, Charlotte Brontë’s *Jane Eyre*, and its neo-Victorian intertext, John Harding’s *Florence & Giles*, I argue that these novels reveal childhood to be a form of class identity constructed to limit the agency of the child and/or the infantilized woman by revealing the construction of attitudes towards children. This paper argues that *Jane Eyre*’s Rochester uses infantilizing language to place Jane in an inferior position to himself. This language use reveals that the label of ‘child’ can work in a quasi-classist manner. Young Jane’s defense of herself to Mrs. Reed further reveals the classist designation of ‘child,’ but Brontë ultimately re-naturalizes the child/adult classist binary through her novel’s older narrative voice. John Harding’s neo-Victorian novel picks up and expands upon Brontë’s critical groundwork through his twelve-year-old protagonist, Florence, who manipulates the stereotypical expectations of the ‘child’ to maintain control over her life at Blithe House, eventually murdering three people to keep control. By performing childhood and taking traditionally adult action to rid herself of adult authority, Florence reveals the identity of ‘child’ to be an adult construction meant to limit the child’s agency in a way which mimics the limitations of class boundaries.

**Clark, Andrew**

“Historical Perspectives: Populist Radical Right Parties in Europe”

The rise of Populist Radical Right Parties, also known as PRRPs, in Europe has been cause for concern in Europe since the 2007 economic crash. While PRRPs are not universally problematic in nature common rhetoric of hatred, racism, nationalism and anti-immigration is counterproductive to cross national European

issues that are common today. In many ways the current rise of these PRRPs in Germany, Denmark, and Greece mirror past nationalistic tendencies on the continent. Most worrying is that current party design in these countries resembles the National Socialist party of Germany, also known as the Nazi party. Because of the similarities between these current PRRPs and past ones there is reason to study their rise to popularity. This paper will seek to understand why certain European nations citizen's facing economic hardship have turned to support PRRPs while others have not. Historical perspectives on past nationalistic tendencies in Europe will be used to better gain an understanding of why the radical right is currently seeing a resurgence in Europe. This Research will focus on how the four nations under study vary in economic environment and PRRP support. The objective of this relationship is to understand if there is any substantial evidence that supports the claim that PRRP support is likely to follow economic hardships or not. We will be using a most similar systems design as the four nations chosen are similar enough to allow for meaningful comparison. While there are some cultural differences between Spain, Greece, Germany and Denmark, all four are geographically close, and have a history of nationalism in the form of either far left or far right parties or leaders. The analysis of these nations will be two-fold. First, we will attempt to understand the historical tendencies of all four nations in relation to nationalism. It is possible that nations that have experienced racist and nationalist parties in the past century are more likely to return to that political rhetoric in times of hardship. By understanding the historical support for PRRPs, we can understand the likelihood of current PRRPs persisting long term or gaining more significant power. Second, we will attempt to understand the relationship between current economic downturns in these four nations and its relationship between support for PRRP's. We will look to see how much of a relationship our explanatory variable (unemployment) shares with are dependent variable (PRRP support since 2007). This research will attempt to understand if there is any meaningful relationship between these two variables. The hypothesis is that nations that have a historical tendency of supporting Radical Right Populist Parties will do so in modern times during periods of economic decline, regardless of past PRRP failures.

### **Cook, Benjamin**

“Simple Zeroes of Parametric Legendre Sums”

We study computationally sums of Legendre symbols. Legendre symbols are notion from number theory, indicating if certain number is a quadratic residue or non-residue modulo given integer. In particular, we are interested in the sum  $S_p(a,b)$  where  $p$  is a prime number and  $(a,b)$  is a pair of relatively prime integers. We will present computational results for the case when  $p=8n+3$ . In this case, the behavior of the sum exhibits remarkable lack of patterns, compared to the same sums for other types of primes modulo 8.

### **Crozier, Christopher**

“Damaged Goods: Punk Rock and the Negotiation of Social Meaning”

This paper examines the origins, rise and evolution of the sub-genre of American rock music known as “hardcore punk” in the early 1980s, primarily through the prism of the southern California band “Black Flag”. The shape this essay uses for its analysis is from taking exemplars from some ten songs that defined this sub-genre. I first analyze the form's progenitors, so called “proto-punk or garage music” as presented by the Detroit band “The Stooges”, then look at the arrival of what is widely considered to be the first true punk band, the London-based “Sex Pistols”. The emphasis then shifts to main focus of the paper: the emergence of the hard-core movement and an analysis of the socio-historical and demographic factors that were instrumental in the rise of this American musical form. The paper examines this white, male and largely working class musical movement not only through a close reading of Black Flag songs from three of their albums from 1981-1984, but careful study of the hard-core movement and Black Flag itself through exploration of eleven scholarly journal articles and books, as well as some primary sources such as reviews from contemporaries. The ultimate purpose of the paper is not just to document the socio-historical and demographic factors that led to the emergence of Southern California's hard-core movement as exemplified through Black Flag, but ultimately to look at how this band, and by extension the musical form itself evolved and negotiated social meaning for its time, place and demographic.

### **Cuthbert, Thomasina**

“Music in the Revolutionary’s Tool-belt”

My paper focuses on the role of music in non-violent resistance. Protest rock, or more broadly, political music, has impacted political dialogue and revolutions for many decades: from antiwar movements of the 1960s, to feminist and environmentalist music and anti-establishment punk to modern political songs. Music is an ideal form of protest as it has the ability to send a message with its lyrics and sound. I draw on ideas from Srdja Popovic’s book, *Blueprint for Revolution*, and his advice on how to use peaceful protest to achieve political goals. It can get people excited, bring them together, and increase the “cool” factor of a movement. Specific examples of songs and musical artists since the 1960s are studied with how they apply to Popovic’s ideas.

### **Deisinger, Roslyn**

“An intersectional analysis of the effects of sexual assault on women’s mental health and the development of a feminist consciousness as resistance”

As one of the most severe forms of trauma, the experience of sexual assault has been seen to contribute to multiple long-lasting physical and emotional consequences across the life span. One of these effects is the development of poor mental health, such as anxiety, depression, and posttraumatic stress disorder (PTSD). According to Statistics Canada (n.d.), 1 in 4 women will be sexually assaulted in her lifetime, with 80% of sexual assaults directed towards women (p. 1), displaying the highly gendered nature of this societal issue. There are various factors which contribute to the development of mental health adversities postassault, which are discussed further in this paper, as well as ways of predicting who is most at risk for such disparities. The paper goes on to suggest that through the development of a feminist consciousness, survivors of rape may see the patriarchal realities of society and the political aspects of their assaults, promoting healing and mental health. Women may struggle to effectively convey experiences of assault, either from lack of appropriate language available or as a result of culturally fashioned tales which do not adequately capture women’s lived experiences of rape or its sequelae. Through the development of a feminist consciousness, women are able to better understand their experiences of prejudice and discrimination, providing them with tools to frame these experiences as unjust and based on their woman status. While the collective identity of woman may share commonalities, individuals within the category experience different understandings of their social worlds. The paper addresses the importance of an intersectional analysis to postassault recovery to allow for a theoretical framework which analyses the ways in which intersecting oppressions of gender, race, and sexuality alter individual women’s postassault sequelae.

### **Dirksen, Ryrrie**

“Jack Miner’s Influence on Canadian Conservation”

Jack Miner was an early Canadian conservationist who created a sanctuary in Kingsville, Ontario for geese to safely inhabit during migration season. His conservation efforts became recognized internationally. My research question is: Why was Jack Miner influential in an era when the government was taking over conservation? Miner’s beliefs and experiences such as his Christian faith, his attributing anthropomorphic qualities to geese, his work that was originally in opposition to the government, and his dedication to protect future birds are what made him one of the most effective figures in early Canadian wildlife conservation. Historians in the twenty-first century such as Janet Foster and Tina Loo have examined wildlife conservation and Miner’s work alongside the work of civil servants. This paper references Foster, Loo, and secondary sources, which study the progression and history of conservation. In addition to secondary sources, primary sources such as migratory data and Jack Miner’s autobiographies are used. This paper answers questions regarding Miner’s interest in conservation, his faith’s influence on conservation and its conflict with science, and his relationship with the government and ornithologists. This research is an expansion on a research paper written for a history course on ‘Bodies and Nature in the Environmental Era’. It also expands on Tina Loo’s exploration of how private individuals work with and against the federal government and the role of faith in Miner’s conservation efforts. Jack Miner’s spiritual and individualistic concerns represent a form of conservation motivated by opposition to governmental and scientific conservation.

## **Draenos, Christopher**

### **“Concept Analysis of New Graduate Nurse Practice Readiness using Rogerian Framework”**

Registered Nurse (RN) practice readiness is a desired outcome for graduation from baccalaureate nursing programs in Ontario. Yet there exists a lack of conceptual clarity on the subject with varying conceptualization for practice (Casey et al., 2011; Wolff, Regan, Pesut & Black, 2010; Wolsky, 2014). Anecdotal data from stakeholders such as new graduates; preceptors; practice and academic nurse educators; and nurse leaders illuminate the lack of mutual understanding of the concept. Nurses in different practice sectors (e.g. acute, long-term care, and community) pose differing opinions on clinical skills and theoretical knowledge required for practice readiness due to the on-the-ground realities of the differing settings (Wolff et al., 2010). In an effort to understand the concept of practice readiness in more depth, a conceptual analysis is currently being conducted to add to conceptual clarity. As part of a Practice Readiness Study from the School of Nursing, I conducted a comprehensive literature review of journal articles using CINAHL, ProQuest Dissertations & Theses Global, PubMed, and EBM Systematic Review with no language or year limit (ProQuest only available from 2005 to 2016) using the terms practice readiness and new nurse. This generated 314 records that were manually scanned for inclusion. A discussion of conceptual differentiation between practice readiness and transition-to-practice became the process for initial inclusion and exclusion. A total of 30 articles were selected for a more comprehensive assessment of eligibility. A Rogerian Evolutionary Concept Analysis (Toftthagen & Fagerstrøm, 2010) will be used as methodology for analysis. This involves three phases: 1) initial phase, 2) core analysis phase, and 3) further analysis phase. The initial phase includes choosing the concept, selecting the context, collection of materials and texts. It is the intent of the researchers to understand more clearly the concept of practice readiness. Wolff et al. (2010) pose the question about practice readiness as being “ready for what?” They suggest that in researchers’ attempt to define practice readiness, that the right question may be implicit. Understanding the conceptual clarity of practice readiness will have implications for education, practice, research, and policy.

## **Dubeau, Rebecca**

### **“The Historical Importance of Bob Dylan in the Mid-20th Century”**

While Dylan is often praised as being a revolutionary for his social and political commentary, there is much evidence to support that he, in fact, was influenced by economic factors, people, and places to create his unique sound. Although usually overlooked, it is crucial to realize that Dylan used his music to market himself to anti-capitalists who did not believe that they could be targeted by any market. In short, perhaps while also being considered a revolutionary, Bob Dylan and his music should also be historically recognized a nationalistic capitalistic product in disguise. With the help of manager Albert Grossman, Dylan became a sell-out. With all this being said, it would be ignorant to dismiss the fact that Dylan and his music did positively influence the liberalist views of the mid-1900s, from the Civil Rights Movement to the antiwar movements. Liberalistic lyrics may have been the way by which Dylan and Grossman planned to earn their money but it did, without question, help the New Left attain some of their goals.

## **Ederer, Rebekah**

### **“Peaceful Resistance: A How to Guide”**

In my paper, I argue that nonviolent resistance can be used to create new and better societies. Individuals coming together to stand up for a belief is not a new concept, but there has always been some debate about whether or not violence has a place in this process. I draw upon Srdja Popovic’s book, *Blueprint for Revolution*, along with three other scholarly journals, to demonstrate how change can be achieved on a societal level without resorting to violence. The subject of peaceful revolution can seem un-relatable to someone living in a privileged nation. However, Popovic’s concepts have real life applications even here. After the recent announcement of Donald Trump’s presidency, resistance has been a hot topic in the media. In the midst of all of the frustration, unsurprisingly, protests have broken out all over America. However, there is some disagreement surrounding whether or not violence will help to create the change protesters seek. Some of the specific aspects to a successful non violent movement that I cover in my paper include understanding the importance of starting small, having a number of people fighting with you, and using humor to accelerate change. All of these concepts come from Popovic, while the additional three journals are used to support his claims.

**Fichuk, Dexter****“Our Greatest Weapon Against ISIS: Deep Learning”**

The terrorist organization the Islamic State of Iraq and the Levant (ISIS), can accredit a great deal of its success to the utilization of social media. By having a new medium for propaganda and recruitment, they have successfully recruited new jihadists from across the world. However, many ISIS supporters use similar dialogue when sharing propaganda via Twitter. These similar language characteristics make it possible to train an Artificial Neural Network (ANN) to understand and classify these tweets. In the past, sentiment classification has been performed successfully using Machine Learning techniques on a range of data from movie reviews to Facebook statuses. Using TensorFlow, Google’s open source framework for Deep Learning, allows computers to learn by using ANNs, a technique modeled around the human brain. By harnessing the power of Deep Learning, it is possible to develop a model that can evaluate whether a tweet is positive or negative towards ISIS with some accuracy. Such a model could have great potential, as it could possibly find new ISIS accounts, help monitor the locations and actions of jihadists, and could be used to detect when a civilian is becoming more sympathetic to ISIS. My results thus far have proven there are similar characteristics of pro-ISIS tweets, and that training it with 10 fold cross-validation has proven successful in identifying a portion of pro-ISIS tweets. In a data driven era, harnessing the social media activity of extremist groups is perhaps one of the most effective ways we can study and learn about extremism.

**Funston, Brittany****“Guatemalan Death Squad Victims”**

The research presentation will be answering the question in what ways did the Guatemalan death squads in the 1980s target their victims based on their societal and political affiliation? The Guatemalan insurgency was fought over three decades and the death squads had two waves of activity. The death squads in the 1980s were active through the government influence and were committing atrocities towards the Guatemalan public. The Guatemalan government used death squads as a method to counter the insurgency in which the members would select their target and then violently terrorize them. The death squads often selected those who had affiliation with the insurgency and or supported the communist ideals including those who had any relation to the San Carlos University in Guatemala City. The death squads published a death squad dossier that listed their political targets which detailed who the targets were with picture reference and then all known activity of the target and finally the execution date through coded language. The United States were heavily involved in the Guatemalan insurgency and have many declassified documents that report on the incidents and events of the death squad activity during the 1980s. The methodology used will be reading secondary sources by other scholars combined with the primary evidence. These sources together will be read and interpreted and then analyzed to conclude on the major research question.

**Garrett, Janna****“Glass Houses: The Domestic Ideal in Victorian Literature and Neo-Victorian Intertexts”**

One of the foremost anxieties of the Victorian era was the attainment and preservation of the domestic ideal, but has this concern been resolved in our present day? Drawing on Coventry Patmore’s *The Angel in the House*, I describe the vision of a blissful Victorian household conforming to gendered frameworks. MY analysis of Charlotte Brontë’s *Jane Eyre* proposes that the domestic ideal is an unattainable construct. Neo-Victorian reinterpretations and intertexts perpetuate this idea, still trying to resolve the gap between the ideal and the real. How successful have these efforts been? Although much scholarship has been devoted to women and the domestic ideal, it is not a wholly female anxiety. Rather, *Jane Eyre* and its intertexts also discuss the relationship between the domestic ideal and conceptions of masculinity. In addition to Brontë’s source text, the domestic ideal is addressed in Jean Rhys’s *Wide Sargasso Sea* and Salley Vickers’s “Reader, She Married Me.” What does this consistent return to the domestic ideal signify? This paper will track the literary use of the domestic ideal and the way it impacts both female and male characters, both in past and present societies.

### **Gillard, Kelly**

“Social impacts of media industries on youth in Ontario and potential feminist social welfare interventions”

This paper develops an analysis of how the production and distribution of social media are influenced by a small privileged group, which has the potential to lead to an unbalanced experience for the users. The consumption of social media is often forced upon society through marketing on social media platforms. This is especially concerning for youth as it can lead to a commodification of the self. The owners of social media platforms, such as Facebook and Instagram, create the trends they want society to follow. These trends are often based on the construction of hyper-masculine (HM), and hyper-feminine (HF) gender roles, which contribute to high prevalence rates of gender-based violence. I will examine student's views on how social media enforces HM and HF ideals, and how this affects them personally by doing a general survey of thirty, first and second-year university students. I will possibly do two or three follow-ups, in-depth interviews, if previously agreed upon by the student. The results of the survey will be consolidated, analyzed, and summarized, leading to a proposal of feminist social welfare interventions that could be potentially adopted by the community, the university or referenced in future research.

### **Hachez Lagacé, Brianna**

“Languages, Secrets, and Thoughts about Art”

Scholars have approached the complex study of language from several different perspectives with the objective of explaining sociocultural differences that result from different languages while possibly demarking one language as superior to the others. An extension of the study of language led to a study of secrets such as work done by contemporary philosopher James Mahon who maintains arguments made by Kant while redefining Sissela Bok's interpretation of secrets. Mahon's work clarifies the fundamental fascination with secrets: both in mental and verbalized form. Artists and writers alike use secrets as a tool of language to increase certain reactions from their audience. This paper aims to discuss the study of language and how it affects our cultural relationship within spoken word and written works. This will be proved used writers such as Derrida, Saussure, Kant, and Foucault. I will parallel these examples with Stephen Pinker's analysis of language. Pinker, an experimental psychologist and linguistics scholar, presents language as a fundamental instinct rather than a learned skill. I will then approach the fascination of secrets and the theory behind them while introducing artists Such as Elliot Hundley and Camilla Singh who deal with secrets in their work. I argue that there is direct correlation between the study and approach of language within our culture and our fascination with secrets.

### **Gray, Camille**

“Long-term marijuana use and emotional reactivity: That's something to blink about”

Emotion helps regulate information gathering such that relevant stimuli receive more attention than irrelevant. There is evidence that substance users exhibit an exaggerated attentional bias to drug-related stimuli. The Emotional Attentional Blink (EAB) task is a sensitive measure of cue-related attentional bias. This study specifically examined marijuana-related attentional capture relative to neutral and positive images in a sample of long-term marijuana users and non-users. Method: Fifty cannabis users and fifty-five non-users partook in this study. Participants identified whether an image (embedded in a rapid visual stream of 17 images) was rotated right or left. The rotated image followed by 200, 500, or 800 milliseconds one of four types of distractor images: THC-specific (joints), general positive (cute animal), emotionally neutral (building), or scrambled (pixelated). Our outcome measure was mean number of correct responses for each Distractor Type by Time Lag. We conducted a Repeated Measures ANOVA with Distractor Type and Lag as the repeated factors and Group as the between factor. Results: We found a significant Group by Distractor Type by Lag interaction supporting our hypothesis. Chronic users showed significantly more errors to THC-related images relative to scrambled or neutral images during the 200 ms lag, while non-users did not show this difference. Both groups showed a significant and comparable distraction by generally positive images during the 200 ms lag. Discussion: Marijuana-related cues capture the attention of chronic users in a relatively automatic fashion. Long-term users showed no reduced capture to positive images indicating a heightened emotional response.

### **Hodson, Sydney**

“Black Rooks and White Snow: Victorian and Neo-Victorian Childhood and the Need for Adult Guidance in Brontë, Harding, and James”

In *Jane Eyre*, Charlotte Brontë uses children and the adults who influence their childhood to show the struggle of identifying the child as independent from but still dependent upon the adult during the Victorian era. Contrastingly, Henry James creates a representation of children in *The Turn of the Screw* that begins to delve into their capacity for good and for evil as opposed to the typical acceptance of children as innocent in all respects. John Harding, in his decidedly neo-Victorian novel *Florence and Giles*, presents the image of a child who seems caught between childhood and adulthood, and proceeds to destroy all possibility of the mass-designation of children as innocent. This paper will explore the ways in which Brontë, James, and Harding approach childhood and the child differently, while arguing that the three texts share the belief that children are equally impressionable and capable of developing a unique personality and autonomy. As such, this paper will also argue that children require not subjugation by, but the guidance of a well-adjusted adult or adults in order to experience childhood in a way that will allow them to one day take the place of those well-adjusted adults in society. The paper will conclude with a discussion of how neo-Victorianism contributes to the discussion of childhood in our own society.

### **Hopkins, Tyler**

“The Canadian Arctic Saga: A Visualization of Canadian Arctic Sovereignty”

This research paper proposes to outline the manifestation of Canadian sovereignty throughout the Arctic Archipelago. Drawing on sources from Max Weber, Keohane and Nye and George Grant, among others, the theoretical components of sovereignty are outlined. Canadian Arctic sovereignty involves aspects of indigenous human rights, military and constabulary capabilities, as well as international law. The manifestation of Canadian sovereignty throughout the Arctic takes the form of effective occupation of the land by Canadian citizens. Inuit communities effectively occupy the vast regions of the Arctic and their treatment at the hands of the Canadian government may implicate Canada's sovereign authority and claim in this northern region. Canadian authorities must possess the capabilities and skills to physically police and perform search and rescue operations in the Arctic. The ability to exercise Canadian domestic laws in the Arctic relies on the capacity of Canadian ice breaking vessels to safely and effectively do their job. The possession of Canadian sovereignty in the Arctic depends not only on historical land claims but on effective occupation throughout the Arctic as well as international law and the impact of whether or not neighboring states recognize Canada's Arctic claims. In sum, the expression of Canadian sovereignty throughout the Arctic takes the form of responsible stewardship, security, and investment in naval ice-breaking technology.

### **Hulme, Jessica**

“Pehtahbun - Biidaaban [Dawn of a New Day]”

This paper explores the connections between self-identity and wellness for Indigenous students at Nipissing University. King et al. (2009) state identity and culture not fixed but can be interpreted through other's values or agendas. Our elder-in-residence shared that identity can impact self-esteem but what matters most is how we see ourselves. What it means to be Indigenous, whether defined by categories imposed by a colonial government or not, will also be explored. This research is informed by these research questions: What does being Indigenous mean to students at Nipissing University? How does Indigenous identity impact the wellness of students at Nipissing University? These questions are examined through Photovoice and Indigenous artistry. Castleden et al. (2008) describe Photovoice as “participant-employed photography and dialogue to create social change.” This methodological approach will promote narratives of identity and wellness by privileging Indigenous voices. Students who self-identify as Indigenous will be recruited then trained to ethically take digital photographs of places and activities representing identity and wellness. Semi-structured interviews will be conducted using the photographs as a guide. Participants will select one photo which best represents identity and another representing wellness. A focus group and drum-making workshop will be conducted to share the preliminary analysis of the resulting narratives and selected photos with Indigenous students, Elders and key informants at Nipissing University. This research will have implications for the wellness of current and future students but also for the Dibaadan, Office of Aboriginal Initiatives and other Nipissing University programs.

**Jibran, Gina**

“Living in Exile: The Refugee Crisis From a Child's Perspective”

I examine perceptions of Syrian, Afghan, and Iraqi child refugees living in Greece through ethnographic research. I explore children's agency, play, identity, and resistance to authority. Qualitative methods include: interviews, participant observation, analysis of material culture, photo-elicitation, spatial analysis, and reflexivity.

**Keith, Natalie**

“The Neo-Fairy Tale: Redefining the Role of Fairy Tales in Jane Eyre”

Jane Eyre is incredibly difficult to classify generically. One genre that has a clear and significant influence on Jane Eyre is the fairy tale. However, fairy tales are not a strong lens through which readers can understand Jane Eyre. This paper addresses the question of genre by offering a new genre and a new area of criticism – the neo-fairy tale. The neo-fairy tale applies neo-Victorian conventions, as outlined by Marie-Louise Kohlke and Christian Gutleben, onto a Victorian text. The reason the form of the neo-fairy tale has not been identified before is that the overall fascination that people have with fairy tales is not often academic. This paper seeks to change the place of fairy tales in literary criticism, using Charles Perrault's “Bluebeard” as an example to analyze how Jane Eyre has been read traditionally, which is through allusion and adaptation, and then examines how Jane Eyre should be read. The concepts addressed in Brontë's critique of “Bluebeard” include the transgressing boundary between good and evil, the limited role of women in the fairy tale and Victorian literature, and the inconsistency of Perrault's morals. Specifically, Brontë doubles Mr. Rochester with Bluebeard, the villain, but departs from the fairy tale in a number of ways such as her characterization of Jane and Bertha, and her novel's happily ever after. Therefore, instead of using fairy tales to evaluate Jane Eyre, readers should consider how Brontë uses Jane Eyre to re-evaluate fairy tales.

**Klauck, Mackenzie**

“Investigation into the 5-7-day Dream-Lag Effect Using Emotionally Salient Waking Events”

As per previous research, there is a pattern in the incorporation of waking day events into dreams. Day residue, first proposed by Freud (1900), is the incorporation of a waking day event into the immediate night's dream. The dream-lag hypothesis, proposed by Nielson and Powell (1989), is the temporal delay of incorporation of a waking day event by 5 to 7 nights. The primary hypothesis extends current research into day residues and the dream-lag hypothesis by examining emotionally salient waking day events only. It is hypothesized that emotionally salient events will be expressed in dream images twice; at 1-2 nights and again at 5-7 nights after the initial event. 37 participants completed a day and dream journal over 8 nights. Participants recorded emotionally salient waking day events and dreams. Two independent judges analyzed and coded the waking day events and dreams for content and overall emotion. Percentage calculations will be used to determine the significance of the waking day events for day 1 and the dream content for night 1-2, and 5-7. T-tests will be conducted to determine if the number of incorporations are significant. Secondary hypotheses will test the overall percentage of incorporation of waking day events into dreams and the percentage of negative events portrayed in dreams compared to positive events.

**Kumar, Anirudh**

“Studying the Effect of Heartfulness meditation on Brain activity”

Long term meditation practice is increasingly recognized for its health benefits. Among a diversity of contemplative traditions, Heartfulness meditation represents a quickly growing set of practices that is largely unstudied. Heartfulness is unique in that it is a meditation practice that focuses on the Heart. It helps individuals to connect to themselves and find inner peace while meditating. In order to deepen ones' meditation on the heart, the element of Yogic Energy (“pranahuti”) is used as an aid during meditation. The purpose of this study was to determine whether consistent EEG effects of Heartfulness meditation be observed in sixty experienced Heartfulness meditators, each of whom attended 6 testing sessions. In each session, participants performed three conditions: a set of cognitive tasks, Heartfulness guided relaxation, and Heartfulness Meditation. To measure EEG, the MUSE EEG head band (product of Interaxon Inc.) was used. Participants during the cognitive portion were required to answer questions that tested their

logical thinking (Cognitive Reflective Test) and creative thinking skills. (Random Associative Test) The order of condition was randomly counter balanced across six sessions. It was hypothesized that Heartfulness meditation would bring increased alpha (8-12Hz) brain activity during meditation and better cognitive task scores in sessions where the tasks followed meditation. Results show that cognitive task scores were higher after meditation in both CRT and RAT, suggesting stronger right brain and left brain activation. Heartfulness meditation produces a significant decrease in brain activity (as indexed by higher levels of alpha) during the early stages of meditation. As the meditation progressed deep meditative state (as indexed by higher levels of delta) were observed until the end of the condition. This led to the conclusion that Heartfulness Meditation produces a state that is clearly distinguishable from effortful problem solving.

### **Lau, Lorraine Lok Ting**

“Transcending Desire: Sexual and Commercial Freedom in The Roaring Girl”

The role of the Moll Cutpurse in The Roaring Girl, Thomas Middleton and Thomas Dekker’s 1611 city comedy, has long been a field of debate among critics and academics. As a female character who defies categorization as maiden, wife, or prostitute, Moll’s presence problematizes the social order of the 17th-century London in which the play is set. Despite participating freely and independently in London’s consumer market, she distances herself from the sexual promiscuity or criminal behavior associated with transgressive femininity. Taking into account recent scholarship by Patrick Cheney, Jo E. Miller, and Valerie Forman, this paper will examine Moll’s sexual ambiguity in relation to her fluid social identity and commercial freedom. Liberated from the conditions of material need that govern social relations in London’s mercantile world, Moll represents a fantasy of absolute autonomy that transcends everyday constraints of patriarchal authority, class hierarchy, and sexual desire in which other characters are grounded. Since other characters cannot attain Moll’s unrealistic transcendence, they are compelled to negotiate their actions according to their genders and social positions, often compromising their desires to uphold a cohesive social harmony. As a response to London’s expansion as a financial district in the early 17th century, the play acknowledges that commercialism does not provide absolute freedom for any social group: nobles, merchants, and merchants’ wives must each play their parts to maintain a network of relationships built on financial exchange and material need.

### **Lavoie, Gabriel**

“Live Music in North Bay: A Discourse of Power”

I chose to observe the social dynamics of live music in North Bay. I conducted my research using qualitative methods, and more specifically, those of participant observation, interview, and unobtrusive research. During the course of my work, I observed how on the small, local scale, the interactions between performers and the audience set the stage for a discourse of power, and how musicians fought back against the control of their artistry. Although there are positives to it, a large part of small scale performance in North Bay involves an attempt at the domination of musicians and a theft of the visible authority they have while performing. My research explores how the audience and the employers try to control the performers through heckling, the restriction of artistic freedom, and the restriction of financial reward. I also examine how performers, through their onstage actions and song choices, can construct hidden transcripts (to borrow James C. Scott’s terminology) that ultimately allow them to resist this power. Finally, I show how this setting represents a constant flux and movement of power that is never completely settled.

### **Lightle, Morgan**

“‘Oh well, whatever, never mind.’ Grunge, the Plight of Gen X, and Rock’s Final Breath”

“‘Oh well, whatever, never mind.’ Grunge, the Plight of Gen X, and Rock’s Final Breath” is a paper spurred on by the question of what happened to end rock music’s popular relevance in the present day? The last great rock revolution was the early 1990s explosion in grunge music, a generational expression of rebellion obsessed with contradictory notions of authenticity and its own pointlessness. In grunge’s anger, alienation, and apathy there is an interconnection between society, history, and culture that has determined rock’s popular decline. A result of Gen X having so thoroughly deconstructed rock music through grunge that progression in rock has all but died; its current state reliant on exploring past influences that remain

irrelevant to the vast majority of the next generation. This paper explores lyrical content and musical form, placing it in context with secondary sources on late twentieth-century society, culture, and generational conflict. It seeks to make a larger point on how mutual influences between society and culture have affected ensuing generations, created new culture, and built contemporary understandings of recent history.

### **Loeffler, Josh**

#### **“American Slavery and the Collapse of the Second Party System”**

The United States of America faced many challenges during the nineteenth century on the domestic front because of massive shifts in political thinking and the development of an increasingly organized abolition movement. The focus of research on this topic has mainly been on how the lack of slavery and general abolitionist sentiment in the North led to the South seceding from the Union in order to protect its slave based economy. There is however a smaller segment of historians who focus on how slavery affected a troubled political system which had difficulties managing many of the sectional issues facing the nation which was hardly eighty years old. Even fewer historians focus on the importance of the Free Labor movement and its significance to the end of the Second Party System and the rise of the Republican Party. Free labor was a movement which focused on fighting for new territories to be accepted into the Union as free states rather than as slave states. Although part of this was an attempt to reduce the so-called “slave power” of southern states and politicians, many also wanted the new states to be areas where white laborers could work without having to worry about competition from slave labour. Hence why, when many of these politicians supporting free labour came together to form the Republican party, the initial idea was to run on a platform which again only provided a compromise for the issue of slavery by stopping the extension of slavery to new territories in the west. However, the actions taken by Lincoln’s government when he became president in 1860 were much more radical than this. Therefore, there are a few questions that must be addressed. Why did the Republicans eventually decide to include the abolition of slavery in their platform? Why did free labour ideology focus so much on the race of the laborers? How did slavery affect the political system? Where does slavery go if it cannot be spread to new territories according to Free Laborers? The answers to these questions will undoubtedly prove that the Free Labor ideology which emerged during the mid-nineteenth century provided an alternative, permanent solution to slavery as a political issue within the United States through the birth of the Republican party and destruction of the Second Party System.

### **Marlatt, Dana**

#### **“Institutional Pop Up Shop Project Case Study”**

Pop-Up Shops are short term retail operations that may come in different formats such as a kiosk, nomad, brick and mortar store, or a virtual wall. Each pop-up retail operation usually has a primary objective or goal for its duration. These objectives are institutional, communicational, transactional, experiential, and testing (Warnaby, Kharakhorkina, Shi, & Corniani, 2015). Dana Marlatt is an undergraduate research assistant on a funded project entitled “Customer Experience Management Strategies in the Context of Pop-up Retailing: A Multiple Case Study Approach” which aims to conduct case studies on pop-up operations with each of the five objectives. As an extension to this role, she has taken on the institutional pop-up retail operation objective as an independent study project to contribute to the case study series. An institutional Pop-Up retail operation has the purpose to revitalize communities or encourage economic redevelopment for the goodness of a community in addition to benefitting the brand or retailer. This type of Pop-Up has been demonstrated in several community projects to help reduce vacancy rates, re-engage local consumers, and stimulate main street economies. These Pop-Ups are often supported by local shoppers. For example, a Toronto based Pop-Up Shop Project resulted in vacancy rates reducing from 17% to 6% demonstrating the success of institutional Pop-Up retail operations. A Pop-Up project by Danforth East Community Association and Woodgreen Community services is one such example. The research method consisted of interviews, observation, and consumer surveys to better understand the perceptions of retailers, community, and consumers. Through data analysis, best practices are summarized and recommendations are provided to others looking to have an institutional Pop-Up retail operation.

### **McLandress, Adam**

“Neurological implications of marijuana use & spatial memory performance: PFC & hippocampal volume-take a hit.”

The cognitive and neural effects of chronic marijuana use are not clear. Currently available evidence is limited and inconsistent. In this paper, we tested for spatial memory differences between non-marijuana users and chronic marijuana users and discussed the likely neural basis of a spatial memory-marijuana link. Our spatial memory test (Corsi spatial memory) requires participants to remember and reproduce progressively longer spatial sequences of briefly illuminated squares (computer images). Spatial sequences began with 2 briefly illuminated squares on the set of 9 non-linearly positioned squares. Two repetitions of each sequence length were assessed, and two errors within a sequence length ended the task. We also systematically assessed marijuana use based on: intensity (grams per week), duration (years), age of first use, and recent time of use. Memory span scores did not differ between chronic marijuana users (n = 38) and non-users (n = 39). Among marijuana users, memory performance did not correlate significantly with any of the marijuana use measures. Given these results and other similar results, we turned to the brain systems underlying spatial memory processing as a potential explanation for the link between marijuana use and spatial memory. Two key spatial memory brain regions are the hippocampus and lateral prefrontal cortex. Both regions have the highest volume of marijuana (CB1) receptors in the brain. Other research also indicates these brain regions are reduced in chronic marijuana users. These results imply that structural brain differences may account for the differences in associations between spatial memory performance and chronic marijuana use.

### **McLean, Reginald**

“Predicting Major League Baseball Pitch Types with Machine Learning”

Major League Baseball (MLB) pitchers have a repertoire of pitch types that they can go to in any situation with almost any batter, which is why they are considered the best in the world. However, they are still human and follow a pattern and because of this if someone is given the right type and amount of data, the pitch type of the pitch that is about to be thrown can be predicted with a certain amount of accuracy. Using data collected on every pitch from 2008-2015, I am using machine-learning models to predict the selection of the pitch type. This is completed using R libraries and packages to gather the data and Weka models to predict. Such models can also be used to build optimized lineups based on the type of pitches that the lineup will be most likely to see, and what type of pitches the lineup is best at hitting. As MLB teams become more and more interested in the use of data analytics to build rosters and form daily lineups, this becomes a potentially incredibly powerful tool.

### **Miller, Cole**

“Dietrich Bonhoeffer: Theology at work”

Developing his theology in Germany in the 1930s, Dietrich Bonhoeffer was forced to work through both political, and religious turmoil. At this point in time, the popular theological standpoint was that of nationalism and imperialism, believing that God is working for the betterment of the German nation and that German Christianity is the purest form, and that all other Christians are inferior. Bonhoeffer's theology exists as a counter to the academic and theological situation that he found himself in. Instead of accepting the superiority of the German church and God's allegiance to the German state, Bonhoeffer's theology focused on the communal nature of the church and Christianity, as well as the importance of a lived Christianity. Disenchanted from the Christianity of Germany during his time, Bonhoeffer moves towards an understanding of Christianity as a social entity that exists for the other. Through Christ, Christians are able to exist in fulfilled community where they are not focused on the power, or ego of the self, but rather on the other. The significance of Bonhoeffer's theology is that it was not solely devised in a scholarly setting without any application, but was instead lived out through his own life. His theology was not empty, being found only in the words that he wrote, but was instead found in his actions, and his embrace of what he believed it meant to be a Christian in his time.

### **Miller, Julia**

#### **“Understanding the Hearts of Civil War Soldiers through Music”**

Characterized as a battle for liberty, equality, and democracy, the American Civil War has been the bloodiest of American wars to date. Given the unprecedented degree of suffering, brutality, and carnage, wide ranging debate over the true beliefs and motivations amongst those involved in the Civil War continues into the present. In the view of some soldiers of the day and more modern observers, this was a ‘justly’ waged war. However, others argue that soldiers of both sides actively struggled with the moral dilemmas of war, and that it is their notions of morality one must regard in order to glean a proper account of the conflict as a whole. Analysis focused specifically on the music of the Civil War can be instrumental in making sense of the diverging ideas that exist on how soldiers themselves viewed death. Music was a central, “contributory force in the formative circumstances that governed life at the front.” Experiencing the preserved music of the Civil War fields and camps privileges the modern observer to the conditions of the period. Thus, an examination of contemporary music concerned with death provides a more in depth understanding of just how keen soldiers were to valorously ‘bite the bullet’ in a flurry of enemy fire; Or at least, how the romantic patriotism of popular songs cry they should be. The conclusion made from this examination is that there was indeed a spectrum of opinion and popular sentiment with regards to death, the proper use of one’s life, and whether or not the Civil War’s cause was truly worth sacrificing one’s life for.

### **Nguyen, An**

#### **“Constructing Race and Gender: The Sexual Exploitation of Enslaved Black Women in the Early American South”**

Americans remember Thomas Jefferson as a Founding Father, the man who wrote that “all men are created equal,” and a slave-owning hypocrite who kept a young enslaved girl, fourteen-year-old Sally Hemings, as a concubine. Under slavery, white slave-owners subjected enslaved black people to many gross inhumanities, including physical, emotional, and sexual abuse. Enslaved black women, carrying the double burden of their race and gender in a white patriarchal society, were at particularly high risk for many forms of abuse, including sexual exploitation. We tend to accept this as an inherent part of slavery, but the reality is that there is nothing inherent about such systems of oppression. As most scholars agree, race and gender are social and historical constructs. Throughout the slave-holding South, slave-owning white men sexually exploited enslaved black women. There was little recourse for victims of sexual exploitation, despite laws prohibiting white people from having sex with black people. In this paper, I seek to understand how race and gender were constructed in the early South as it related to the sexual exploitation of enslaved black women. How did law and society create the circumstances within which this exploitation was implicitly permitted? How did the sexual exploitation of enslaved black women support early Southern constructions of gender and race? Through analyzing personal and public texts from the seventeenth to nineteenth century South, we can begin to understand the answers to these questions.

#### **“Challenging ‘Vietnam Syndrome’: The Nam and Changing Perceptions of the Vietnam War in the 1980s”**

The Vietnam War was the most controversial war in American history. By the end of the war and for years afterward, a majority of scholars and the general public believed that the war had been a mistake. This led to widespread public aversion to military engagements overseas, a condition described as “Vietnam Syndrome” by Henry Kissinger and Ronald Reagan. By the mid-1980s, some Americans wanted to move beyond “Vietnam Syndrome”. In 1986, Marvel Comics began publishing The ‘Nam, a comic book series featuring characters serving in the 23rd Infantry. The series focused on the experiences of Vietnam War soldiers, depicting life as it was for the average grunt. Fans acclaimed the series as the truest portrayal of the Vietnam War for its realism and emphasis on soldiers’ experiences. What were the creators’ intentions in publishing The ‘Nam? In what ways did the artistic and narrative content of The ‘Nam challenge popular perceptions of Vietnam War soldiers? How did readers’ responses indicate a changing understanding of the war at the time? An analysis of the production, content, and consumption of The ‘Nam will explain how the series fit into the cultural and historiographical moment of the mid- to late-1980s.

### **Plaunt, Jonathan**

“Canadian Military Renders Itself Unfit for Peacekeeping Duty: The Somalia Affair”

During Operation Deliverance, a number of atrocities occurred including the torture and death of indigenous persons. These incidents led to a number of legal actions against members of the Canadian military, the withdrawal of Canadian forces from Somalia, the disbandment of a Canadian airborne regiment, and has brought into question Canada's identity as a peacekeeping nation. Numerous historians have dissected countless aspects of the Canadian mission in Somalia from the transgressions of the Canadian Airborne Regiment (CAR) to the ensuing alleged cover-up. This essay will progress through the setting, transgressions, consequences, and the possible influences upon the behavior of Canadian Forces (CF) personnel in Somalia to demonstrate the ways in which Canadian military personnel acted irresponsibly, unprofessionally, and unethically during their mission in Somalia, as well as the repercussions that followed. The underlying theme essentially addresses the ways in which the Canadian peacekeeping mission in Somalia may have been doomed to failure as a result of the policy and procedures of the Canadian military. With the use of books and scholarly articles including works by historians Sherene Razack and Katherine Bestemen, a case study will be developed involving the actions of Canadian military personnel, as well as the responses and repercussions on a national level. In addition to these, primary sources such as the Report of the Commission of Inquiry into the Deployment of Canadian Forces to Somalia, as well as CBC radio broadcasts will be utilized in the essay to provide some understanding of the Canadian peacekeeping mission in Somalia and the experiences of soldiers. The Somalia Affair holds major implications for the quality and effectiveness of the CF within a peacekeeping setting which has remained relatively unquestioned in the past.

### **Perry, Katie**

“Metformin and French Lilac (*Galega officinalis*) ameliorates neuromuscular dysfunction in glutathione-impaired *Drosophila*”

The biguanide compound metformin is currently the most widely used pharmaceutical treatment for type II diabetes, and has recently gained attention for its protective effects against cancer, neurological disorders, and aging. However, the mechanism of action of metformin remains unclear. One proposed mechanism for the longevity-extending and anti-cancer properties of metformin is protection against oxidative stress resulting from reduced release of reactive oxygen species from the mitochondrial electron transport chain. We reasoned that if metformin functions in this manner, it should be effective in ameliorating phenotypes in *Drosophila* models of oxidative stress. *Drosophila* impaired for synthesis of the antioxidant tripeptide glutathione (GSH) within the nervous system display a unique neuromuscular syndrome characterized by reduced viability, ataxia, myasthenia, and reduced longevity. We show that developmental treatment with 5mM metformin significantly enhances viability, partially rescues myasthenia-associated phenotypes, and extends longevity in these animals. A similar effect is observed with a natural source of biguanide, *Galega officinalis* extract. In contrast, 10mM metformin significantly reduces viability in GSH-impaired flies, possibly reflecting a known side effect of biguanide treatment, namely the induction of lactic acidosis. Our results support the notion that metformin acts via countering oxidative stress, and suggest that metformin may be an effective therapeutic agent in treatment of the rare human disorder Glutathione Synthase Deficiency, which shows phenotypes strikingly similar to those observed in the *Drosophila* model.

### **Petroff, Natasha**

“The Gates of Purgatory: An Analysis of Portal-Quest Fantasy in *One Last Death* and Dante's *Purgatorio*”

This paper places my own creative work, *One Last Death*, in the context in the context of the larger sphere of literature that depicts death and the afterlife, including texts by Dante, William Blake, and C.S. Lewis. It forms a comparative analysis of literary texts dealing with purgatorial spaces set in both Primary and Secondary worlds, with a greater emphasis on the latter. It places my own creative work, *One Last Death*, in the context of the larger sphere of literature that depicts death and the afterlife, including texts by Dante, William Blake, and C.S. Lewis. It employs the methodology of close-reading a passage from *One Last Death* through the theoretical framework of Farah Mendelsohn's work on the portal-quest fantasy. The paper focuses on the following dichotomies found in texts with Purgatorial settings: isolation versus

community, amnesia versus memory, and religion versus secularity. It contrasts isolation with community, arguing that Purgatorial fantasies characterize the latter as key in finding redemption or acceptance of death. While isolation leads to further despair and stagnation, relationships rekindle the bond of humanity, learning to help one another – in a sense, a form of charity. It also examines amnesia as a common theme in these texts and examines the way that they show that remembering events and people from one's life brings horror as well as understanding, and eventual acceptance of the past in order to move forward to new horizons. The paper concludes by addressing the differences in the use of Purgatory in religious and secular fantasies.

### **Quigley, Hailey**

“Effects of THC on Adolescents Experiencing Chronic Stress Induced Anxiety”

THC, or delta-9-tetrahydrocannabinol, is found in cannabis. Cannabis is a drug that is interesting due to its increasing legalization in many parts of the world. THC is known to reduce symptoms of anxiety, but may also lead to paranoia in high doses. Anxiety is a mental disorder that affects approximately 15-20% of youth. Anxiety disorders can be induced from exposure to chronic mild stress (CMS) in adolescence. Many adolescents turn to cannabis as a coping mechanism for their stress. The interaction of CMS and THC in adolescents has not been fully explored (Lee, et al., 2016). This study examined the deleterious effects on anxiety related behaviors following CMS and chronic THC administration in adolescent rats. The rats were exposed to 16 days of a CMS paradigm that consisted of light cycle changes, social isolation, and cage tilting. Immediately after this the OFT was performed to obtain a baseline measure of anxiety. THC injections began the next day for 11 days with increasing doses every four days starting at 2.5mg/kg doubling to 5mg/kg and finally 10mg/kg. Maturity was then allowed to proceed until PND 63 when the Elevated Zero Maze was performed to measure anxiety. On PND 64 the Social Interaction Test was performed to measure anxiety and aggressive behavior toward a novel rat. Finally, the Morris Water Maze was performed over the next four days to assess spatial awareness and spatial memory. Behavioral results will be presented and hypothesis on potential synaptic changes in relevant brain regions will be discussed.

### **Rees, Katherine**

“Black Lives Matter, but Do They Really? An Examination of Racism in Protest Policing”

My paper examines the part racism plays in the police force's response to black protests surrounding the deaths of unarmed black people and argues that police must be trained not only to handle protests, but to do so in a way that is without racial prejudice and allows for civil disobedience from social movements such as Black Lives Matter. I analyze the events of several Black Lives Matter protests, including the protests of Michael Brown and Alton Sterling's deaths, and argue that police are more likely to respond violently towards black protesters due to systematic racism in the policing institution.

### **Rhodes, Steven**

Cu-Catalyzed synthesis of  $\gamma$ -carbolines using 2-bromo-3-formylindoles and phenylacetylenes

Heterocyclic cores are commonly encountered as part of natural products and biologically active compounds. Hence developing innovative and efficient synthetic strategies to access diverse heterocyclic frameworks in an intense area of investigation in the current literature. Pyrido[4,3-b]-5H-indoles or  $\gamma$ -carbolines are indole alkaloids investigated extensively for their biological and pharmaceutical importance. Transition metal catalyzed annulation strategy using alkynes is considered an efficient approach for the construction of  $\gamma$ -carboline ring system. As part of a research program dedicated towards the development of indole-based heterocycles we have developed a Cu-catalyzed one-pot atom-economical synthesis of  $\gamma$ -carboline skeleton. The details of the developed methodology will be presented.

### **Robins, Artemisia**

“Planetary Urbanization and the Settler Colony: Comparing bullshit now to bullshit a hundred years ago”

Prince Rupert is the Northernmost deep water port on the coast of British Columbia. A city of around 12,000 people, Prince Rupert occupies a peripheral place in any urban hierarchy. In other ways, though, it is becoming increasingly central as part of two new geographies of capital circulation: as a logistics centre

(a 'gateway' city) connecting commodities produced in Asia to markets in North America, and as a node in an imagined potential landscape of liquefied natural gas extraction and export. The City and Port Authority are making sense of this current moment partly by comparing it to Prince Rupert's founding in 1909 as the terminal for the Grand Trunk Pacific railway. The port expansion is painted as a revival or fulfillment of speculation from the early twentieth century. This paper pulls apart the continuities and discontinuities between these two moments of intense speculation and boosterism. Comparing the role that 'cityness' played at the time of railway construction and in the new logistics infrastructure, I discuss how urbanization in Canada is fundamentally tied to a settler colonial project, and what this means for scholarly debates around planetary urbanization.

### **Sandziuk, Thomas**

"The Spirit Sings: Misrepresentation and Exploitation"

Using the Glenbow's exhibition of "The Spirit Sings: Artistic Traditions of Canada's First Peoples" as the source focus, the Canadian government has spent years reconciling with and acknowledging the First Nations people's presence in Canada. Canada as a nation, however, has spent years misrepresenting this community through, generalization, racial stereotypes and exploitation. The Glenbow's exhibition of The Spirit Sings acts as a recent example of the history of imperial modernity over primitivism. The outburst from the Indigenous community act as a reminder of the negative impacts the exhibition had on the community it sought to praise. Historic examples are drawn upon, referring to 1889 Exposition Universelle in Paris, a display of technological modernity over cultural primitivism, and the 1845 exhibition of the Travelling Indian Gallery. The Exposition Universelle signaled colonial control and possession by placing individuals who were clearly being marked off under political authority on display. Creating "types," this led to a trend in expositions to come. The Travelling Indian Gallery, which predates the Exposition Universelle but relates best to the events seen at The Spirit Sings, signifies one of the earliest expositions of Indigenous work. American painter George Catlin, who ran the Travelling Indian Gallery, took it upon himself to display the American Indigenous community. His portrayal led to typecasting and inaccuracies that would continue into modern context. The effects of these shows and galleries from the 19th century all the way up to the late 20th century have had a negative impact on the First Nations people of Canada.

### **Short, Spencer**

"Composition and Medicinal Properties of *Thuja occidentalis*"

This review paper investigates the characteristics, composition and medicinal properties of the conifer *Thuja occidentalis* (cedar) and its essential oils. Physical characteristics of the plant are described with specific information pertaining to the oil reservoirs and leaf structure. *Thuja occidentalis*' traditional uses are compared with modern applications. The chemical composition of the essential oil is examined to determine key constituents focusing closely on thujone, sabinenes, fenchone, camphor and  $\alpha$ -pinene. Different extraction methods and their results are also compared. Prior research conducted within medicinally related studies are compiled, with metabolic and cell functions effected by *Thuja occidentalis* reviewed. The clinical efficacy of the plant is examined to determine what concrete observations have been made from a trial standpoint. Research relating to antibacterial and antifungal is summarized, examining the effects of *Thuja occidentalis* on microbes. Lastly, the toxic effects of the plant are summarized. The information provided in this report offers a broad understanding of the potential and confirmed effects of *Thuja occidentalis*, and the methodology and analysis behind these effects. Medicinal and chemical information is compiled and analyzed from prior research papers. Additional physical information regarding *Thuja occidentalis*' structure and growth is inferred by examining high resolution photographs of branch and leaf growth.

### **Socha, Patrick**

"Creating Young Entrepreneurs: An Assessment of the Ontario Summer Company Program"

A research team from the Ted Rogers School of Management at Ryerson University has been working with the Ontario Ministry of Economic Development to study the impacts of the Summer Company Program over the past ten years. This program funds young entrepreneurs still in full-time education to start a company during their summer break. The purpose of this research is to achieve an understanding of the effects of

the program and the impact that it has had on past program participants and the economy since its launch in 2001. The data from more than 4000 past program participant end-of-season surveys was collected, organized, and analyzed for the years of 2004-2014. This allowed for the overall demographics and opinions of past program participants to be determined and compared over time. Furthermore, using performance data collected for both the 2013 and 2014 years, differences in the revenues, profits, and forward looking permanence of each business sector and demographic group were analyzed. The second stage of this research, currently ongoing, involves conducting a further survey and interview with past participants to measure the lasting impacts of the program and individual experiences. The information collected in the first stage of this research will be presented in the form of a poster for the purposes of this conference. Ultimately, this research will attempt to compare the outcomes of the Ontario Summer Company program with other youth entrepreneurship programs. The author/presenter has been the research assistant on this project since its beginning and is the co-author of two papers published during the project.

### **Steadman, Victoria & Camille Gray**

“Marijuana use and physical aggression: When use came to blows”

Cannabis use is associated with various types of altered emotional processing, including negative affect. In this study, we examined the link between intensity of marijuana use and levels of anger, aggression, and fear. We then identified the brain regions that likely underlie these behavioral findings. Using Human Connectome Project data, we examined 64 marijuana-dependent users, 64 intermediate users, and 64 non-users emotional experiences and emotion recognition, while controlling for intellectual capacity, family psychiatric history, alcohol use, and other pre-existing traits. Statistical group comparisons were based on ANCOVAs, while within-group associations with THC use variables were tested using correlations. Results indicated that abusers, compared to non-users, scored higher in both levels of anger aggression and anger affect. Across all three groups, dependent users scored highest in levels of somatic fear and fear-affect. Within-group correlations among dependent users demonstrated that earlier use is associated with greater self-reported fear-affect. Dependent users scored lower in the identification of neutral faces, suggesting impairments in ambiguous social signal interpretations. Three potential brain regions are discussed as potential neural correlates of the above behavioral alternations: the amygdala, associated with threat perception, the right prefrontal cortex, associated with interpretation of emotional affect, and the medial anterior cingulate cortex, associated with affect regulation. We suggest that chronic marijuana use should generate exaggerated activation in the amygdala and right prefrontal cortex, but reduced activation in the anterior cingulate cortex during fear- and anger-related thoughts or imagery. The broader implications of this pattern of behavioral and neural evidence will be discussed.

### **Steele, Deagan**

“Thomas Jefferson and slavery”

I wish to answer the same questions that the debate of the 60's aimed to answer, what was Jefferson's political and personal view on slavery, how did it compare to other Revolutionary figures, and did Jefferson's ideology match his action? What many historians have attempted to do with Jefferson with a purpose of gaining context is juxtapose him to other Revolutionary figures to see if his views were relatively egalitarian, and I will attempt to do the same. After establishing Jefferson's views on slavery, if they changed, and if he attempted to stop slavery, I will then attempt to contrast those arguments to the other Founders who co-wrote the Declaration with him, Adams and Franklin. In terms of methodology, I am overwhelmed with the amount of both secondary and primary sources available. Thankfully, for secondary sources, there are historiography articles which summarize the key points of the Jeffersonian debates and include the topic's best books. I have and will continue to collect those books as well as the most acclaimed books from the past 40 years, to achieve a sense of the historiography. For primary sources, there are even more works available. All of Jefferson's letters are keyword searchable online, and a simple search of “slave” and it's forty pages of results shows the work I have ahead of me. There is also the works that Jefferson made public in his lifetime like the first edition of the Declaration of Independence, State of the Union addresses, and Autobiography, which I will be able to contrast to his personal life, and examine how Jefferson dealt with slavery and race with a public audience. I plan on writing a paper that largely focuses on the political life of Jefferson rather than his personal life. While Examining either Jefferson's personal or

public life will yield results that he was privately pro-slavery but publically pro-slavery however, Jefferson's significance was not as a Virginian planter but as a politician, and for that, I will ignore his private life. While the deification of Jefferson has gone too far in some cases, the neo-Progressive demonization of Jefferson is based on present notions which de-contextualize Jefferson. The man who championed States Rights, Religious Freedom, Separation of Church and State, Egalitarian rhetoric, created the Library of Congress, revolutionized gardening and agriculture, invented the swivel chair, and popularized Mac and Cheese in America did not also Emancipate every slave or even his own. However, an examination of just the asterisk of slavery unfairly represents Jefferson. My paper will attempt to clarify this asterisk beside his name. "I ask your indulgence for my own errors... and your support against the errors of others, who may condemn what they would not if seen in all its parts." -Thomas Jefferson

### **Sutherland, Kiethen**

"Weskatch Opimatisowen: The Old Way of Life of the Cree's of James Bay"

The Cree people of James Bay have been living in the area since time immemorial. They have depended on the land for their survival and depended on their social customs in order to do so. They had their own customs and were able to survive before the arrival of colonizers in their area. Everybody in the family would have a role to play in their hunting and gathering culture. When the colonizers arrived in the James Bay region, their culture had some drastic changes. What were the changes the Cree people of James Bay experienced when the colonizers arrived? What were the factors that have forced these changes in the Cree culture? How have family roles changed? To answer these questions, the research will be based on the story-telling culture of the Cree people. Louis Bird is one of the story-tellers that will be used in the research as he has recorded his stories and have published them to a website. The Ojibway and Cree Culture Centre located in Timmins Ontario have conducted their own interviews with elders along the coast. These elders have shared their experience being out on the land and have talked about on how things were done back in the day. They have also talked about their experiences moving to a permanent settlement, and how that has affected their way of life. There have also been some scholars who have done some research on the culture in James Bay, and also on its histories. The work of John Long and Richard Preston will be used also in the research, as they have done some phenomenal research in the James Bay region.

### **Vucic, Analucia**

"Lived Experiences of Military Spouses Finding Work in North Bay, Ontario"

The military requires its members to move frequently which causes military spouses' careers to be constantly interrupted and can contribute to increased difficulty finding a new job with every move. American literature demonstrates that this frequent mobility and career instability has had a negative effect on many aspects of military spouses' lives. This often results in a tied-migration where the military member moves for employment or career reasons and the civilian spouse follows. Thus, being in a relationship with a military member poses career and work challenges for the civilian spouse. The alternative option to tied-migration would be paramount stress for the military member and his/her family because of family separation. Thus, military spouses often struggle with career choices because they need to a new job with every move, and also because they may find work that does not match their interests. In addition, by cutting into the earning cycle of the tied spouse's work, tied migration leads to slower growth of wages over the lifecycle of the spouse, which in turn, can lead to personal frustration and personal stress. Currently, there are limited government programs to facilitate military spouses' employment transitions due to military tied-migration. Therefore, a more nuanced understanding of the effects of tied migration for military spouses is needed. This study will fill a gap in literature on the experiences of military spouses in Canada.

### **Wittmaier, Kyle**

"Seeking Evidence of Internal Phosphorus Loading in Callander Bay and Wasi Lake Using Temperature and Dissolved Oxygen Data Paired with Water Chemistry and Phytoplankton Sampling"

A recent report concluded that internal phosphorus loading was negligible due to the consultant's modeled overestimated phosphorus loading using only the external phosphorus loading to Callander Bay. Internal loading is an important mechanism in hydrological systems due to increased phosphorus availability. The

objective of this research is to seek evidence of internal phosphorus loading in Callander Bay, and Wasi Lake using water chemistry, dissolved oxygen and temperature profile data. Occurrences of cyanobacteria blooms in Canadian Shield lakes are on rise. Understanding the complex mechanisms that contribute to these blooms helps to identify appropriate management responses. Callander Bay and Wasi Lake are shallow, eutrophic, polymictic systems in central Ontario that occasionally experience cyanobacteria blooms. Oxygen controls the phosphorus release from sediments. A continuous record of temperature (1m interval) and dissolved oxygen (0.5 m off surface and bed) were recorded using buoys. Bi-weekly monitoring included secchi depth, water chemistry (dissolved P, Fe, Al, NH<sub>4</sub> (0.5m off surface and bed) and phytoplankton samples. The temperature and dissolved oxygen data are fed into the Lake Analyzer software to analyze periods of stratification and stability. These data were combined and analyzed using regression and correlation statistics. Both Callander Bay and Wasi Lake show evidence of stratification and hypoxia throughout the 2016 season. The data also shows that dissolved oxygen levels are lower during periods of stratification. In addition, correlation statistics show a strong negative correlation between DO and dissolved P, Fe, Al, and NH<sub>4</sub>, all indicators of internal phosphorus loading in Callander Bay and Wasi Lake. Future efforts to control phosphorus loading should consider the internal, as well as external sources.

### **Xie, Hanping**

“Second Stage of Feminist Equality: The Introduction and Impacts of the “Equal Pay Acts” in Canada”

World War I and World War II periods were the first “stage” of women in replacing men in the labor force in Canada. Then during post-war periods, these women were forced to withdraw their positions. Those who preserved their jobs experienced discrimination against their gender. The second “stage” began when both the federal and provincial of Canada introduced “equal pay acts” since the early 1950s. These acts displayed an increasing number of women labors, which the gender gap within Canada began to be minimized. This essay will examine the significance of the economic, social, and cultural influences of these reforms within society from the mid-1940s to the early 1980s by reviewing historical documents, peer-reviewed sources, and statistics. Also, it will cover the three important subjects regarding this study. Firstly, Canada’s inventions of these reforms were part of an international movement of protecting the “basis” of human rights after signing the Universal Declaration of Human Rights(UDHR) in 1948. Secondly, the “equal pay acts” were a political instrument erasing sexual discrimination and traditional views against women in society in order to equalize gender differences. Thirdly, these policies did improve the status and livelihood of women but still failed to equalize gender differences within Canadian society.

## NOTES



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