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Nipissing University's Fourth Annual Undergraduate Research Conference

April 1 & 2, 2011
Nipissing University

Message from the Vice President Academic and Research (Interim)

Despite education and research, poverty, disease and violence define our world. Jared Diamond in *Collapse* notes that the usual response to these crises has been to look outside ourselves for someone or something to blame for the situations in which we find ourselves. Yet change, in any real sense, must start with individuals who acknowledge that what we think and most importantly what we do has an impact on the world and on those in it. As individuals involved in education we have to come to terms with understanding that living a good life means developing knowledge of self and understanding that our relationships to others, to nature and to things is the core of being an educated person. It is in serving this educational role that universities perhaps do their best work.

Universities are places in which students and their mentor teachers can develop such understandings. Universities are places that have at their core the notion that knowledge creation is central to the human endeavour. Lectures, seminars, labs and community activities provide a foundation for the development of a learning community that values the work of the mind and provides the times and space for students and teachers to develop self knowledge and to think about what it might be to be wise. The 4th Annual Nipissing University Undergraduate Research Conference is a celebration of such activities. This culmination of classroom and independent work showcases the ways in which students are taking up Diamond's challenge to look to ourselves for ways to respond to the issues that plague the world. The students whose work is highlighted here represent the future not only of Nipissing University but of the societies and cultures in which they will lead the remainder of their lives. This celebration of their work and that of the teacher/mentors who challenged, cajoled and celebrated them represents the university at its finest.

Such an event would not have been possible without the exemplary efforts of a number of dedicated faculty members. David Tabachnick led this year's efforts and was ably assisted by Dana Murphy, Susan Elliott-Johns, Jane Barker, and Robin Gendron. Karen Strang from International Services and Janet Ross from Research Services provided valuable support to the conference team.

I am particularly pleased to thank Dr. Pierre Zundel, President of the University of Sudbury who delivered the keynote address and Dr. April James who provided the conference closing remarks. Their efforts combined with that of the many student presenters from the sciences, social sciences, and humanities represent the best of what universities have to offer.



Sharon Rich

Fourth Annual Undergraduate Research Conference Program at a Glance

Friday April 1, 2011

Time	Program	Location
6:30 - 9:30 pm	Registration	Nipissing Front Lobby
7:00 - 7:10 pm	Opening Remarks and Welcome	
	President of Nipissing University Lesley Lovett-Doust	Fedeli Room (F210)
7:10 - 7:15 pm	Introduction of Keynote Speaker – Prof. David Tabachnick	Fedeli Room (F210)
7:15 - 8:00 pm	Keynote Address – President Pierre Zundel	Fedeli Room (F210)
8:00 - 9:00 pm	Poster Presentations	Nipissing Front Lobby
8:00 - 9:30 pm	Reception	Nipissing Front Lobby

Saturday April 2, 2011

Time	Program	Location
8:15 - 8:45 am	Registration	NU Cafeteria A246
8:45 - 9:00 am	Opening Remarks – Robin Gendron	NU Cafeteria A246
9:00 - 10:30 am	Concurrent Sessions	
	#1 – Violence in Society	A224
	#2 – Alternative Lifestyles	A226
	#3 – Culture, Art & Class	A228
	#4 – Ontario's Open Spaces	A242
10:30 - 10:45 am	BREAK	NU Cafeteria A246
10:45 - 12:00 pm	Concurrent Sessions	
	#5 – Humanity & Human Rights	A224
	#6 – Projecting Gender	A226
	#7 – Technology & Society	A228
	#8 – Sex & Education	A242
12:00 - 1:00 pm	LUNCH	NU Cafeteria A246
1:00 - 2:20 pm	Concurrent Sessions	
	#9 – Environmental Policy	A224
	#10 – Group Think	A226
	#11 – Politics & Religion	A228
	#12 – Math & Money	A242
	#13 – You're entering the matrix	A248
2:20 - 2:35 pm	BREAK	NU Cafeteria A246
2:35 - 3:55 pm	Concurrent Sessions	
	#14 – Textual Analysis	A224
	#15 – Social Justice	A226
	#16 – Violence in Society II	A228
	#17 – Biology II	A242
	#18 – Oh Canada?	A248
3:55 - 5:15	Concurrent Sessions	
	#19 – Biology I	A224
	#20 – Health / Running	A226
	#21 – The Doors of Perception	A228
	#22 – H2O	A242
	#23 – Ecology	A248
5:15 - 5:45	Closing Remarks – April James	NU Cafeteria A246
	Prize Presentations – Sharon Rich	NU Cafeteria A246

Friday, April 1, 2011

6:30 - 9:30 pm	Registration	Nipissing Front Lobby
7:00 - 7:10	Open Remarks and Welcome President of Nipissing University Lesley Lovett-Doust	Fedeli Room (F210)
7:10 - 7:15	Introduction of Keynote Speaker Professor David Tabachnick	Fedeli Room (F210)
7:15 - 8:00	Keynote Address – President Pierre Zundel A Case for the Importance of Big Ideas: Does It Matter What You Think?	Fedeli Room (F210)

Pierre Zundel is the President of the University of Sudbury, a bilingual, tri-cultural institution in the Jesuit tradition housed in Sudbury, Ontario. He is a graduate of the University of Toronto (Bachelors and Masters) and of the Université Laval (PhD) in forestry. He has taught forestry at both the Université de Moncton (UdeM) and the University of New Brunswick (UNB). From 2000-2005, he was Managing Editor of the International Journal of Forest Engineering. From 2000-2009, he taught in the interdisciplinary leadership program at UNB's Renaissance College. He has worked as both a professor and in academic leadership – as *Chef de Secteur* at UdeM (1988-1991) and as Dean of Renaissance College, UNB's award-winning interdisciplinary leadership school from 2004-2009.

His passion for teaching and learning was recognized when he was chosen as the first UNB *University Teaching Professor* in 2001. In the following year, he received the Atlantic Association of Universities *Educational Leadership Award* and, in 2003, was made a *3M National Teaching Fellow* by the Society for Teaching and Learning in Higher Education (STLHE). In 2006, he led a team at Renaissance College that received the STLHE's national *Alan K Blizzard Award* for Collaborative Teaching.

8:00 - 9:00	Poster Presentations	Nipissing Front Lobby
Moderators:	Dana Murphy, Carol Rees, Glynn Sharpe, Dan Walters, Jeff Nichol, Jessica Tanner	
Presenters		
Alain Carlson	<i>Personality Dominance and Superior Processing Sensitivity for Vertical Visual Space: A Dichotic Spatial Attention Task</i>	
Danielle Morrow Stephanie Poirier	<i>Family, Individual, and Abuse Characteristics of Child/Adolescent Victims who do and do not have Sexual Behaviour Problems</i>	
Steve Perrotta	<i>An examination of the effect of exposure to affective semantic stimuli on visual perception</i>	
Kelly Clarke	<i>Effects of emotion on orientation sensitivity in older and younger adults</i>	
Nathan Mountain	<i>Volume Dependent Fissioning in Planaria (Dugesia dorotocephala)</i>	
Whitney I. DeLaat	<i>Detection of Transient Moments around the Centre of Pressure Vertical Axis Using Continuous Wavelet Transforms</i>	
Kaloni Plut Meghan Major Claudia Ciotir Joanna Freeland	<i>A molecular genetic approach to identifying the source of the North American invasive common reed, Phragmites australis</i>	
Ryan Auld	<i>Charge Evolution of Neural Isozymes in Teleost Fish</i>	
Sarah Breckon	<i>Mathematical Offering to Music</i>	
Victoria James	<i>The Effect of Acidification on Dragonfly Nymphs (Insecta: Odonata) with Copper Exposure</i>	
Victoria James	<i>Our Game: Reinforcement of Gender and Sexuality with Scandals in Ice Hockey</i>	
Christina Shaw	<i>Ferry Tales: Using a commercial vessel to monitor Lake Nipissing's environment</i>	

Poster Presentations continued		
Presenters		
Stan Achmatowicz-Otok	<i>MCDA in image and object recognition</i>	
Julie Tessier	<i>Alternative splicing changes associated with inhibition of RBM10</i>	
Benoit Chabot		
Leslie Sutherland		
Whitney Winsor,	<i>Quantifying Variation in the Wood Quality of Black Spruce (Picea mariana) in Relation to Site Conditions in the Boreal Forest of Northeastern Ontario.</i>	
Cora Murray	<i>Establishment and Growth of Canada Yew Colonies: a Dendronchronological Approach</i>	
8:00- 9:30 pm	Reception	Nipissing Front Lobby

Saturday, April 2, 2011

8:15 - 10:45 am	Registration	NU Cafeteria A246
8:45 - 9:00	Opening Remarks – Robin Gendron	NU Cafeteria A246
9:00 - 10:30	Concurrent Sessions	

#1 – Violence in Society I A224

Moderator: Toivo Koivukoski

Presenters:

Jordan Babando	<i>Restraints of Time Restrictive Gun Laws and their Affect on Firearm Related Suicide Rates</i>
Tyler Horton	
Benjamin Brzezynski	<i>Domestic Violence and Violence Against Women in Indian Immigrants to Canada: A Literature-Based Policy Analysis</i>
Jessica Tanner	<i>Adolescent Relationships as a Predictor of Externalizing Behaviour in Toronto Youth</i>

#2 – Alternative Lifestyles A226

Moderator: Sal Renshaw

Presenters:

Kelsey Behnke	<i>Examining Wedding Makeovers: The Search and Market for the Ideal Wedding in the Series Bulging Brides, Wedding SOS, and Bridalplasty</i>
Lisa Poulin	<i>Health Benefits of Nudism/Naturism</i>
Brianna Yard	<i>Monsieur Rodolphe Boulanger and Malicious Intent in Madame Bovary</i>

#3 – Culture, Art & Class A228

Moderator: Christine Grandy

Presenters:

Adora Harley	<i>On the relationship between ethnography and the depiction of “Barbarians” in Roman Art</i>
Danielle Pitman	<i>Conflict and Class Divisions in the Hollywood Films: Shrek</i>
Kristen Archbell	<i>Relationship of Personality to Preference for Representational Versus Non-representational Art</i>
Jaymie Lathem	<i>What is Art? Ghada Amer: Thread Paintings</i>

#4 – Ontario's Open Spaces**A242****Moderator:** Rick Vanderlee**Presenters:**

Ashley Tomkins	<i>A Day at the Park: The Victoria Day Disaster 1881</i>
Shawn Mayhew-Hammond	<i>Predictive Habitat Modeling of Canada Yew (Taxus canadensis Marsh) in the boreal forest of northeastern Ontario</i>
Kimberly Demers	<i>Masculine Spaces of Recreation and Conservation, Commodification: A Critical History of the Chapleau Crown Game Preserve</i>

10:30 - 10:45**Break****NU Cafeteria A246****10:45 - 12:00 pm****Concurrent Sessions****#5 – Humanity & Human Rights****A224****Moderator:** Laurie Kruk**Presenters:**

Stephanie Pilon	<i>The Universal Victim Subject and Human Rights</i>
Kelsie Lauzon	<i>Sing Away</i>
Maggie Moore	<i>Creation and Humanity in Mary Shelley's Frankenstein</i>
Sarah-Ann Goodes	<i>Revolution against the Archons – Using Nietzsche's Morality to Disprove Plato's Republic</i>

#6 – Projecting Gender**A226****Moderator:** Rosemary Nagy**Presenters:**

Trevor Levesque	<i>Hegemonic Masculinity and Men's Health</i>
Devon MacPherson	<i>Effects of Childhood Cancer on Gender Roles</i>
Sara Giesler	<i>The Crazy Female: The Character of Electra in Aeschylus, Sophocles, and Euripides</i>

#7 – Technology & Society**A228****Moderator:** David Tabachnick**Presenters:**

Emily A. Rostoks	<i>Distance Education: Relationships between Organizational Models and Operational Performance</i>
Steven Lauzon	<i>Cryptography: Cipher Implementation and Defence Against Cryptanalytic Attacks</i>
Josh Redstone	<i>Human Affection for Robots – Degrees of Robot-likeability and the Success of Social Machines.</i>

#8 – Sex & Education**A242****Moderator:** Kelly Morris**Presenters:**

Samantha Watson-Fredette	<i>Touching and Tips: A Student's Perspective</i>
Ashley Robinson	
Lisa Hutchinson	
Celeste Collins	<i>Medicalization and Sexual Dysfunction</i>
Lisanne Roy	<i>Sexually Transmitted Infections: The Relationship Between Sexual Health Education and Risky Sexual Behaviours</i>
Melissa Dietrich	<i>Sexual Education in Ontario Catholic & Public Schools</i>

12:00 - 1:00	Lunch	NU Cafeteria A246
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1:00 - 2:20	Concurrent Sessions
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#9 – Environmental Policy

A224

Moderator: Dean Bavington

Presenters:

Dawn Lambe	<i>Measuring the Effectiveness of Ontario's Feed-in Tariffs on Renewable Energy Capacity and Sector Growth: An Econometric Analysis</i>
Grant Doherty	<i>The National Energy Program: Reactions through the American Media</i>

#10 – Group Think

A226

Moderator: Trevor Smith

Presenters:

SarahJayne Connick	<i>Analyzing Collective Behaviour in Hitler's Youth Groups</i>
Ian Desjardins	<i>Against the Grain of Modernity: Resistance to Modernity through Social Movements</i>
Ruth Maria Robinson	<i>The Men Who Went to War: Motivations for Canadian Soldiers during the Great War</i>

#11 – Politics & Religion

A228

Moderator: Mark Crane

Presenters:

Owen Hurst	<i>Myth and Religion as Political Propaganda during the Peisistratid Tyranny</i>
Travis Bishop	<i>One Less God: A General Overview of 'Secular Exit' Deconversion</i>
Kaitlyn Morris	<i>Challenging Modernity: From Tyler Durden to Charles Taylor</i>
Madison Busch-Andersen	<i>Avatar and the Pathology of Western Self-Redemption</i>

#12 – Math and Money

A242

Moderator: Mark Wachowiak

Presenters:

Jason Bramburger	<i>An Introduction to Chaotic Dynamical Systems</i>
Morgan Marchant	<i>The role of Fannie Mae and Freddie Mac in the Subprime Mortgage Crisis</i>
Jon Alex Heindl	<i>Understanding Hilbert Cube Manifolds and the Triangulation Theorem</i>

#13 – You're entering the matrix

A248

Moderator: Christina DeRoche

Presenters:

Rene Rochefort	<i>Visualization of Integrated Geospatial and Real Time Sensor Data for Agricultural Decision Support</i>
Erik Rogers	<i>My "Future"</i>
Crystal Stewart	<i>What It Means to be Human: Implications of Our Impending Biotechnological Revolution</i>
Chris Barr	

2:20 - 2:35	Break
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NU Cafeteria A246

2:35 - 3:55	Concurrent Sessions
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#14 – Textual Analysis	A224
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Moderator: Ann-Barbara Graff

Presenters:

Jesse Snodden	<i>The War On Catiline: Defamatory and Exclusionary Language in Sallust's Bellum Catilinae."</i>
Patricia Oprea	<i>Communities of Meaning in David Markson's Vanishing Point</i>
Robin Gibson	
Erin Woods	<i>Choice, Genre and the Fool in Adaptations of King Lear</i>
Dennis Martin	<i>The Church and Nobility in Dante's Divine Comedy</i>

#15 – Social Justice	A226
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Moderator: Larry Patriquin

Presenters:

Jacklyn Frias	<i>Poverty: A Social Democratic Perspective</i>
Stephanie Roberts	<i>Native Pride, Poverty, and Policy</i>
Brittany Curts	<i>Homelessness in Canada</i>
Sandra Linklater	<i>Women's Leadership in First Nations' Welfare</i>

#16 – Violence in Society II	A228
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Moderator: James Dzisah

Presenters:

Andrej Litvinjenko	<i>The United Nations in Rwanda and Somalia: The Pragmatism of Intervention</i>
Alexandra Archibald	<i>Canadian Policies and Violence against Aboriginal Women: A Critical Analysis</i>
Pamela Monahan	<i>The Effects of Violent Video Games on State Anxiety</i>

#17 – Biology I	A242
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Moderator: Jeff Dech

Presenters:

Darby Campbell	<i>Responding to Starvation: Using periods of starvation, and recovery from starvation, in Drosophila melanogaster to determine direction of flow between soluble and storage lipids"</i>
Stephanie Guy	<i>Synthesis of novel indole sulfides</i>

#18 – Oh Canada?	A248
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Moderator: Françoise Noël

Presenters:

Elise Blohm-Gagne	<i>The 'French Question' in Post War Canada: Where do the French-Canadians Belong?</i>
Aaren Hopkins	<i>The Italians of Toronto</i>
Megan Thompson	<i>Nationality Found in Brushstrokes</i>

3:55 - 5:15	Concurrent Sessions
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#19 – Biology II	A224
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Moderator: Peter Nosko

Presenters:

Kristen Ethier	<i>Characterization of a Matched Set of SOD1 P-element Excision Lines in Drosophila melanogaster: Putative Effects of SOD1 Activity on Longevity and Paraquat Sensitivity.</i>
Jim Rogers	<i>Investigation into the effects of Bisphenol-A on the Immune system of Fishes</i>
Sonia Kamal Julie Grandbois Sabine Montaut Hélène Joly	<i>Free radical scavenging activity of flavonoids and glucosinolates isolated from Dithyrea wislizenii fruit</i>

#20 – Health / Running	A226
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Moderator: TBA

Presenters:

Matthew W. Adamson	<i>A comparison of the whole-body oxygen uptake response to constant-load exercise between cycling and running</i>
Graham Scholl	<i>Physical activity in students: The transition between secondary and post-secondary education</i>
Alicia Gal	<i>Differences between forward and defense hockey players during repeated high-intensity bursts of forward and backward skating.</i>
Marina DeMarco	<i>Daily Physical Activity in Northern Ontario: Success Stories from Model Schools</i>

#21 –The Doors of Perception	A228
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Moderator: Tracey Curwen

Presenters:

Sara Warren	<i>The Influences of Locus of Control on the Bistable Perception of Ambiguous Figures</i>
Jeff Lehoux	<i>Metamorphosis of My Mind</i>

#22 – H2O	A242
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Moderator: Murat Tuncali

Presenters:

Martine Lachance	<i>Regional assessment of groundwater vulnerability in Verner Ontario, using the DRASTIC model</i>
Michelle Galoni,	<i>Assessing groundwater vulnerability in Temiskaming, Ontario</i>

#23 – Ecology	A248
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Moderator: Carol Rees

Presenters:

Michelle McCarthy	<i>Christianity and the Secular Age: An Ecological Crisis</i>
Chris Dobson	<i>Restoring water quality of cool water streams near North Bay, Ontario: mitigating, preventing, and adapting to human impacts</i>
Steven Simpson	<i>Amphibian Utilization of Skidder Trails in Central Ontario Hardwood Forests</i>

5:15 - 5:45

**Closing Remarks – April James
Prize Presentations – Sharon Rich**

NU Cafeteria A246

Dr. James grew up in Sudbury Ontario. During her academic career, April has received degrees in Engineering Physics (B.Eng., Royal Military College of Canada), Hydrogeology (MSc. Clemson University) and Geography (Ph.D., McGill University). She has worked as a researcher at the Lawrence Berkeley National Laboratory in Berkeley California and Oregon State University in Corvallis Oregon. Prior to her arrival at Nipissing University, she spent three years as an assistant professor at North Carolina State University in Raleigh, North Carolina. In July 2010 she joined Nipissing University's Department of Geography as a Canada Research Chair in Watershed Analysis and Modeling. She is delighted to return to northeastern Ontario as a working scientist where she has begun to develop experimental and modeling studies in watershed hydrology.

ABSTRACTS

ACHMATOWICZ-OTOK, Stan
saachmatowiczotok327@community.nipissingu.ca

“MCDA in image and object recognition”

The presentation will be about using a Multi - Criteria Decision Analysis (MCDA) approach as a new and innovative method of computer image/object recognition.

ADAMSON, Matthew W.
mwadamson342@community.nipissingu.ca

“A comparison of the whole-body oxygen uptake response to constant-load exercise between cycling and running”

The purpose of our study was to compare the kinetics of the VO_2 on-transient response to moderate-intensity exercise (MOD) between running and cycling, with and without a prior 'priming' bout of heavy-intensity exercise (HVV). We used a novel approach to determine each participant's MOD workload, consisting of a battery of constant-load exercise bouts in each modality to titrate the highest workload that would elicit a steady-state VO_2 . Preliminary results ($N = 3$) demonstrate average VO_2 phase-II tau values for the 'unprimed' MOD of 17.9 s (SD 4.0) and 22.6 s (SD 7.6) for running and cycling, respectively ($P = 0.392$). The average VO_2 phase-II amplitude was 1608 mL (SD 187) and 1202 mL (SD 336) for running and cycling respectively ($P = 0.141$). After a HVV bout, the average tau values for MOD were 18.6 s (SD 1.7) for running and 16.7 s (SD 5.2) for cycling ($P = 0.671$) and average amplitudes were 1273 mL (SD 160) and 1103 mL (SD 252) respectively ($P = 0.505$). Initial results suggest similarities in the speed of the kinetics, however, whether the phase-II amplitude is greater in running and whether tau is decreased more in cycling after a HVV bout is also of interest.

ARCHBELL, Kristen
karchbell985@community.nipissingu.ca

“Relationship of Personality to Preference for Representational Versus Non-representational Art”

Research regarding the connection between personality and artistic preference dates back more than 70 years. One of the earliest studies in this field was carried out by Burt (1933), which involves a series of artistic post cards that his participants ranked in order of preference. Current researchers have been focusing on using different personality inventories to find a relationship to a vast number of art genres as well as artistic activities. The Big Five model of personality has often been used to correlate the relationship of personality and art (Chamorro-Premuzic 2009), as well as a scale of Sensation Seeking – SS (Furnham 1988), and a scale of Ambiguity Tolerance (Furnham & Avison 1997). These scales have been correlated with such art genres as Surrealism, Impressionism, Abstract, Representational, Ancient art and even different aesthetic activities

ARCHIBALD, Alexandra
sandyarchibald@hotmail.com

"Canadian Policies and Violence against Aboriginal Women: A Critical Analysis"

Statistics Canada (1996) reports the rate of violence against Aboriginal women is three times higher than non-Aboriginal women. Canadian social policies are embedded with racist, sexist, and classist attitudes that continue to undermine the well-being and development of Aboriginal women. These policies are sources of oppression that produce multifaceted forms of violence, which continue to persist and flourish. This paper highlights the colonial relationship between Canada and Aboriginal peoples and identifies violence as a subversive context that exists in this relationship and perpetrates violence against Aboriginal women as a method to subjugate, marginalize, and disempower women in socioeconomic and political spheres.

AULD, Ryan
RX_Auld@laurentian.ca

"Charge Evolution of Neural Isozymes in Teleost Fish"

Duplications within the teleost genome have produced isozymes, multiple loci for the same enzyme that often code for proteins with distinct charges and expression patterns. Some gene families contain a generally expressed locus and a locus expressed predominantly in neural tissues. In these families, the neural isozyme is generally negatively charged, while the generally expressed form has a neutral charge. It is thought that the negatively charged isozyme maybe an adaptation to the neural environment, but the actual adaptation is unclear. This pattern of charged isozymes has been studied in four gene families: lactose dehydrogenase, triosephosphate isomerase, malate dehydrogenase, and phosphoglucose isomerase. A similar pair of isozymes has also been reported for guanylate kinase in teleost fish, but these have not been previously studied in detail. We have reconstructed the pattern of evolution of guanylate kinase using fish and tetrapod sequences retrieved from international databases. We have also constructed the patterns of evolution of Tpi, Mdh, and Pgi, the most similar of the other teleost gene families. Examining all available Guk sequences we find evidence for positive selection as well as high frequency of positive/neutral amino acids changing to negative amino acids along the neural lineage. This pattern is consistent with that in Tpi from which we also we find evidence for positive selection and high frequency of amino acid change to negative amino acids. Pgi and Mdh also show strong evidence for positive selection but change towards negative amino acids is not seen like that of Tpi and Guk. With guanylate kinase we are able to provide another example of positive selection and better compare and understand negative amino acid accumulation in neural environments across four different gene families.

BABANDO, Jordan
jx_babando@laurentian.ca

HORTON, Tyler
tx_horton@laurentian.ca

"Restraints of Time Restrictive Gun Laws and their Affect on Firearm Related Suicide Rates"

The aim of this paper is to demonstrate whether or not gun legislation that imposes a time restraint has any relationship with firearm related suicide rates. This study is a cross cultural comparison between three industrialized countries: Canada, the United States of America, and Australia. The information used to compare these countries was obtained from the national statistics that correspond to each country in relation to the annual firearm related suicides. The trends were compared over a period of 20 years where suicide firearm rates were examined before and after the implementation of gun legislation. The findings of this paper suggest that gun legislation has a negative association with firearm related suicides. These findings contribute to the current lack of research that has been conducted in this area and will help in focusing future studies and contribute to any future global firearm policies.

BARR, Chris
crbarr392@community.nipissingu.ca

“What It Means to be Human: Implications of Our Impending Biotechnological Revolution”

The idea of biotechnology, encompassing breakthroughs such as cloning, genetic engineering and neuropharmacology, has been a controversial one to say the least. The topic of my paper centers around the debate between the ethical and moral implications of the biotechnological movement. The implications of which affecting humankind in ways such as human nature, authenticity and the human condition. In other words, where is line drawn in respect to what it means to be human and how can we react to the mounting realization of a post-human society? To support of this imminent event, steps can be taken in order to not only adjust to this future in an accommodating manner, but also how to regulate these advances on account of ethics and morality. Many problems arise that can stem from a lack of regulation and accommodation such as limiting genetic differentiation, destruction of generational lines and family relationships, humans being looked upon in an instrumental viewpoint and also a shift where society becomes a “giant nursing home” in which people are controlled by scientific and medical innovations.

BEHNKE, Kelsey
ktbehnke294@community.nipissingu.ca

“Examining Wedding Makeovers: The Search and Market for the Ideal Wedding in the Series *Bulging Brides*, *Wedding SOS*, and *Bridalplasty*”

In contemporary western culture a stereotype exists that young girls will dream and fantasize about their wedding day up until that special day actually arrives. Film, literature, advertising, cultural mythology and more have played into this idea for years, instilling into society the notion that women long for the day that will put an end to their independence and unite them in matrimony with the ideal husband. Connecting this infatuation with marriage with the endless beauty ideals that have been imposed upon women in the western world, women are increasingly encouraged to reexamine their wedding day as the ultimate defining moment that will begin the rest of their life. Thus, the wedding, along with the brides themselves, must be made ‘perfect’. In recent years the media has reinforced this concept by producing a handful of wedding makeover shows targeted to create the ideal wedding, along with the ideal bride. Together the media and the wedding industry are transforming marriage from what once was a romantic, pragmatic, or economic union into little more than an opportunity to attain increased television ratings and commercial revenue. These industries combine women’s desire for a perfect wedding day with the bride’s individual desire to improve their own physical appearance before embarking on a lifelong union with another human being. Looking specifically at the series *Bulging Brides* (Slice), *Wedding SOS* (Slice), and the more recent reality series *Bridalplasty* (E!), it is apparent the ways in which the media and the wedding industry are inextricably intertwined to transform marriage into a spectacle in need of financial, physical, and personal renovation. Weddings provide a new means for companies to thrive off women’s desire to attain the ideal wedding paired with the perfect self. Defined in terms of the ‘deserving’ bride, the opportunity for expert advice, and the potential for successful self-fashioning, these wedding shows both celebrate and problematize society’s modern obsession with undergoing wedding makeovers.

BISHOP, Travis
travisrbishop@hotmail.com

“One Less God: A General Overview of ‘Secular Exit’ Deconversion”

While conversion has long been within the scope of religious studies scholars, the phenomenon of ‘de-conversion’ has only come into being within the latter half of the 20th century and has only been given a cursory glance from scholars within the last decade. The loss of religious faith has become so widespread, it is a seam of pop-culture, sometimes referred to as the ‘New Atheism’ movement. The following paper examines three main facets of this phenomenon: 1. The stigma generally attached with

loss of religious faith, 2. How the de-conversion experience differs from how it is often understood by religious adherents; 3. How conversion and de-conversion share important characteristics. The method of the paper primarily utilizes criteria of de-conversion established by John D. Barbour to examine first-person accounts of de-conversion which have become widespread via the use of the internet. The paper concludes that there is often a feeling of a certain heart-transforming, life-changing exposure to a great reality, akin to that which is often experienced in religious conversion.

BLOHM-GAGNE, Elise
ebloghmgagne962@community.nipissingu.ca

"The 'French Question' in Post War Canada: Where do the French-Canadians Belong?"

The twentieth century was a century of change for Canada. Within the span of a hundred years, the country became a key member on the world stage, fighting its battles, creating and maintaining peace around the globe and, arguably most importantly, gaining a national identity. The nature of this national identity has been the source of some acrimony between what has been termed the Two Solitudes, the French and the English, and the debate has not always been harmonious. This paper examines the post World War II relations of French and English Canadians, focusing primarily on how the events of the Québec Quiet Revolution and the October Crisis of 1970 have shaped Québec nationalism and the development of a national identity within Canada. By concentrating on post World War II Québec, the essay will highlight the important changes that occurred in the last half of the twentieth century that have created the present state of relations between the two parties.

BRAMBURGER, Jason
jbramburger7@hotmail.com

"An Introduction to Chaotic Dynamical Systems"

In this talk, the notion of dynamical systems and chaotic behaviour will be introduced with particular focus on the quadratic family of functions. Many introductory topics will be presented including the notion of fixed and periodic points, strange attraction and repulsion, and saddle-node and period doubling bifurcations. Throughout my talk we will see that all of these notions build upon each other and are all present within the orbit diagram - the closing point of my presentation. The orbit diagram gives visual representation to all of the above definitions and characteristics of a chaotic dynamical systems and thus helps one to fully grasp the concepts presented throughout my presentation. We will see that even the simplest of functions may exhibit very complicated behaviour and present results that are difficult to predict. This unpredictability among dynamical systems is the very essence of chaos and has sparked the interest of many great mathematicians of the twentieth century. Chaos Theory remains at the forefront of mathematics as an ever expanding subject of interest among mathematicians young and old, and my presentation will help to show just why so many have turned their studies to dynamical systems and chaotic behaviour.

BRECKON, Sarah
srbreckon935@community.nipissingu.ca

"Mathematical Offering to Music"

The aim of this research project is to gain a strong understanding of the role of mathematics in various aspects of music. This includes the composition of music, digital music, synthesis of music sound, symmetries in music, and the production of music by Idiophones, Membranophones, Chordophones, Aerophones and Electrophones,. The mathematics involved in this research include Fourier Series, Fourier Transform, Bessel Function, partial differential equation, special functions, sampling theory and group theory. The research conducted in this paper displays only a small section of mathematics in music, however there is a great potential for the application of mathematics in modern music theory.

BRZEZYNSKI, Benjamin
benjaminbrzezynski@hotmail.com

“Domestic Violence and Violence Against Women in Indian Immigrants to Canada: A Literature-Based Policy Analysis”

Far too commonplace are the allegations and insinuations of acts of domestic violence and violence against women in Canada's immigrant populations, specifically Indian and South Asian women suffering at the hands of their immigrant husbands and brothers. Recent media attention to dowry-related violence as well as the newly recognized phenomena of 'honour killings' has only served to further publicize the issue of domestic violence in immigrant communities in Canada (Caplan, 2010). This investigation reviews the relevant statistics, theories, and similar studies applicable to such violence, and practically applies the literature to formulate hypotheses regarding common characteristics related to violence in Indian immigrant communities in Canada. As Indian and South Asian nationals currently comprise over half of all immigrants to Canada since 2006 (Statistics Canada, 2006c), it is important to consider how the social and legal norms of Indian society compare to Canadian legal and social norms, and how the cross cultural transition of the immigration process affects both social acceptability of domestic violence and violence against women and actual offence propensity of the immigrants themselves. An overview of the many different factors that affect a transitioning Indian immigrant on their journey to Canada results in recommendations for legal and immigration policy to be more inclusive and understanding of how the differences between the two countries as well as the living situation of Indian immigrants to Canada affects criminal behaviour with regards to their perpetration of domestic violence and violence against women.

BUSCH-ANDERSEN, Madison
mabuschandersen747@community.nipissingu.ca

“Avatar and the Pathology of Western Self-Redemption”

James Cameron's Avatar (2009) presents an anti-Iraq war message through his portrayal of colonialism's destructiveness in an identical retelling of Pocahontas. In a critique of the illegitimate Western saviour, Makau Mutua describes the reasoning behind the saviour metaphor as the “pathology of self-redemption,” the notion of Western actors making up for their past injustices against non-Western culture (mainly that of colonialism) (Mutua, 2001, 202). I argue that Mutua's “pathology of self-redemption” is embedded within Cameron's Avatar. In order to connect Mutua's theory within Avatar, the film's Western ideologies must first be located. I argue that the anti-Iraq war message presented to Western viewers in James Cameron's Avatar reproduces stereotypes of indigenous people, perpetuates the dichotomy between East and West and broadens the space for the “inauthentic” Other. Edward Said's Orientalism and his views of the perceived “Other” offer important insight when analyzing the faults within Avatar that undermine Cameron's political message. Western ideologies such as the chosen medium of Cameron's political message (Hollywood film) and Avatar's eery similarity to the equally problematic story of Pocahontas expose Avatar's inherent neocolonialism. Moreover, Avatar's story-line embodies the notion of Westerners speaking for the “Other”; a notion that is often critiqued in postcolonial theory.

CAMPBELL, Darby
DK_Campbell@laurentian.ca

"Responding to Starvation: Using periods of starvation, and recovery from starvation, in *Drosophila melanogaster* to determine direction of flow between soluble and storage lipids"

Lipid metabolism involves a complex metabolic network that can be heavily impacted by periods of stress. Both starvation stress and the period of recovery after starvation consist of a shift in metabolic flux that are expected to cause changes to these networks. In this research I address the effects of starvation, and the period of recovery after starvation, on the concentrations of soluble triglycerides, storage lipids, and nicotinamide co-factors using the model species *Drosophila melanogaster*. These phenotypes were

quantified in order to estimate the flux through, and general state of, the metabolic networks. The relative levels of nicotinamide co-factors indicate if the network is in a net oxidative (lipid catabolism) or reductive (lipid anabolism) state. The lipid content indicates the amount of remaining energy stores and triglyceride concentration suggests the level of available energy at any one point. In many studies triglycerides are commonly measured under the assumption that they are a direct indication of lipid content. Thus far, my results show no significant differences in triglyceride concentration for either starved flies, or flies recovering from starvation, when they are compared to fed controls. However, significant decreases in lipid concentration were observed in both starved flies and flies recovering from starvation, compared to controls. Taken together these results suggest a relatively stable pool of triglycerides likely due to flux into and out of this pool. Furthermore, my results suggest that triglyceride concentration may not always accurately reflect lipid content, an important note when considering previous studies. Due to the suggestion of such a dynamic system future research will focus on determining flow into and out of the pool of triglycerides.

CARLSON, Alain
alainc99@hotmail.com

“Personality Dominance and Superior Processing Sensitivity for Vertical Visual Space: A Dichotic Spatial Attention Task”

This project seeks to further establish the relationship between personality traits and perception. Recent studies have found that individuals on either extreme of certain personality dimensions can process sensory information in fundamentally different ways. Like these investigations, this project also aims to further contribute to the literature on the processing basis of personality traits. In particular, it seeks to demonstrate the relationship between personality dominance and preferential processing of the vertical dimension of visual space. Individuals high in personality dominance tend to think in terms of hierarchies, status, and other vertical metaphors. Individuals low in personality dominance tend to think less in these terms.

CLARKE, Kelly
kelly.m.c@hotmail.com

“Effects of emotion on orientation sensitivity in older and younger adults”

The amygdala is an area of the brain that is critical for the perception of emotionally salient, especially negative, visual stimuli. Neurophysiological studies have shown that there are magnocellular (M) neural pathways that project directly from the amygdala to visual cortex. Converging evidence has been provided by a recent behavioural study showing that the benefit to vision that is conferred by the presence of emotionally salient stimuli is limited to the low range of spatial frequencies (i.e., ~1-2 cycles per degree (cpd)). That study used fearful faces to activate the amygdala and measured orientation sensitivity in younger adults. Here we sought to expand on those findings by investigating the effect of emotion on contrast sensitivity in older adults (i.e., 60 years and older). Older and younger (i.e., 30 years and younger) adults were briefly exposed (~40 ms) to happy, fearful, or negative faces and were then briefly presented (~40 ms) with a low spatial frequency (~2 cpd) sine-wave grating (i.e., fuzzy, alternating black and white bars). Observers performed an orientation discrimination (vertical or not) concerning the target grating. Based on previous research showing that, in older adults the amygdala activate more strongly to positive than negative affective stimuli, we predicted that brief exposures (~40 ms) to happy faces, rather than fearful faces, would enhance visual perception (i.e., orientation sensitivity) in older adults. We also predict that we will replicate previous research and show that exposure to fearful faces enhances visual perception at low spatial frequencies in younger adults.

COLLINS, Celeste
ccollins976@community.nipissingu.ca

“Medicalization and Sexual Dysfunction”

Through the process of medicalization, drug companies have invaded what was, at one time, viewed as sacred: sex and sexuality. Through aggressive advertising campaigns and the intrusion into the medical profession, sex and sexuality have become a target for monopolization. Female Sexual Dysfunction is a fairly new disorder, however, pharmaceutical companies have aggressively promoted the new emergence of treatments. There are great differences between men and women with regard to sexuality; however, these drug companies and campaigns attempt to convince individuals otherwise. With the emergence and success of Viagra in the late 90s, the potential profit that can be made by these companies through creating FSD, is where we see a natural occurrence turn into a medical problem. Drugs, creams, and surgeries have emerged to treat Female Sexual Dysfunction almost as quickly as it was defined. This paper will attempt to explain the influence pharmaceutical companies have on the creation and treatment of disease, and possibly open up these practices to some criticism that are greatly needed.

CONNICK, SaraJayne
saconnick757@community.nipissingu.ca

“Analyzing Collective Behaviour in Hitler’s Youth Groups”

This paper analyzes the collective behaviours of Hitler’s Youth Group through the lens of the Learning Theory of Miller and Dollard, which is one of the three Individualist Approaches. These behaviours are also viewed from the perspective of Bandura’s Modelling Process. The focus of the analytical review is the ways in which Adolf Hitler used conditioning, socialization and propaganda in order to fulfil his intention of eradicating the Jewish people. This paper evaluates not how, but why the individuals who were perpetrators of the Holocaust were able to commit such horrific acts then return to their everyday lives afterward. The Learning Theory provides the most fitting explanation as to why this was not only possible but why it did in fact occur.

CURTS, Brittany
blcurts526@community.nipissingu.ca

“Homelessness in Canada”

Homelessness in Canada has become a pressing social issue. The Salvation Army recently reported that 1 in 9 (3 million) Canadians have experienced or come close to experiencing homelessness. There are a myriad of factors that can increase one’s risk of becoming homeless such as; substance abuse, mental illness, unemployment, poor education, and lack of available affordable housing. These factors have also been identified as risk factors for criminal involvement and incarceration. Research on the relationship between homelessness and incarceration is scarce at the present time however that which has been conducted predominately suggests that being homeless increases the likelihood of becoming involved with the criminal justice system, and also that the criminal justice system increases the likelihood of remaining or becoming homeless. The purpose of my research is to utilize logistic regression from combined mental health a corrections data base to determine if a relationship exists between homelessness and incarceration and if so, what variables are the best predictors. Results from my analysis could be used to change and/or improve policy by targeting aspects in the criminal justice system to preventing a revolving door phenomenon among homeless people from prevailing in the future.

DELAAT, Whitney I.
widelaat368@community.nipissingu.ca

“Detection of Transient Moments around the Centre of Pressure Vertical Axis Using Continuous Wavelet Transforms”

The relationship between changes in centre of pressure (CoP) and the moment around the CoP's vertical axis (T_z) remains to be clarified. Continuous wavelet transform (CWT) signal analysis was used to detect transient moments and changes in CoP during quiet standing. Preliminary results indicate that CWTs provide clear detection of transient moments and postural oscillations. CWT analysis also suggested that there is no clear relationship between CoP components and T_z . The utility of CWTs in biomechanics and examples of their application is presented. During data collection one male participant stood, eyes closed on a force platform, where anteroposterior, mediolateral and vertical forces were recorded. Anteroposterior (x) and mediolateral (y) ground reaction forces and CoP were acquired at a sampling frequency of 1 KHz. All signals were centered about their means, and were filtered with a third-order zero-phase shift Butterworth lowpass filter with a cutoff frequency of 300Hz. The CWT decomposes these signals into scales, resulting in a graphical representation known as a scalogram. The results of the data collected suggests in these preliminary findings, there are indications that the time-frequency relationship between postural CoP oscillations and T_z during quiet standing may be weaker than previously reported by Beaulieu et al., (2010).

DEMARCO, Marina
mdemarco233@community.nipissingu.ca

“Daily Physical Activity in Northern Ontario: Success Stories from Model Schools”

Daily Physical Activity (DPA), a health initiative, was implemented in elementary schools across Ontario in an effort to prevent the rising levels of obesity amongst school-aged children. This study examined the strategies used to implement the DPA program successfully by Northern elementary schools, and how these strategies help contribute to the overall learning environment of the schools. Interviews of approximately 10-15 minutes were conducted individually with principals (N=4), teachers (N=5), and students (N=26) from two school boards in North Bay, ON. Participants were asked questions about specific DPA activities, participation and motivation levels, DPA resources, the importance of DPA, and specific barriers that were overcome. Questions were analyzed and examined and strategies were identified. The principal and teacher results were comparable in that DPA is important and has considerable influence on the learning behaviour of their students. Schools with the most success implemented DPA into their daily timetables and kept DPA consistent and fun for their students. Students found DPA exciting, and understand it to be important for their health. It is evident that a whole-school approach to DPA may alleviate the “chore” of implementing it; however the entire school community must be motivated to keep this initiative alive.

DEMERS, Kimberly
kademers987@community.nipissingu.ca

“Masculine Spaces of Recreation and Conservation, Commodification: A Critical History of the Chapleau Crown Game Preserve”

My research is focused on the ideological and historical origins of the Chapleau Crown Game Preserve which was created in 1925. I am interested in situating this Game Preserve within the larger provincial and Canadian context of creating these spaces of preservation. This is not a narrative history but one that looks critically at how the Game Preserve was created within a patriarchal Western understanding of land management. Imperialist male-dominated policies interested in protecting fur bearing animals ignored the hunting rights of the Michipicoten Ojibwe and Brunswick House First Nation Band guaranteed under the Robinson-Superior Treaty and Treaty 9. Creating spaces of conservation furthered imperialist missions within Canada. My paper will explore how the land was colonized through these preservation policies.

Only certain groups then had access to these lands, mainly white middle class men interested in recreational use of the space. My paper will explore how this land was used and how that was related to white male identity. The Michipocoten Ojibwe and the Brunswick House First nation were not passive receptors of this imperial policy and have put up resistance to this particular understanding of how the Chapeau Crown Game Preserve was to be used. In this situation we see the clash between different understandings of space. My overall goals with this project are to shake up our notions of how land management has been understood and to point out that it is a particular white male dominated western understanding.

DESJARDINS, Ian
i_deez3000@hotmail.com

“Against the Grain of Modernity: Resistance to Modernity through Social Movements”

Counter-Enlightenment movements aim to challenge the dominant ideas of social justice that stem from the Enlightenment. Through social conflict, political structures have been challenged to become more accepting, thereby allowing for recognition of difference to foster in North America. Since the Enlightenment, man's final coming of age through the evolution of human consciousness, there has been historical contingencies that affected humanity. Each historical contingency was needed, however, to allow mankind the chance to evolve into a self-expressive being interconnected with its own humanity. In this paper I want to argue that the Enlightenment, because of its objective characteristic and how it is so disconnected from nature, revolutionary movements provides a means to forcing the State to recognize Othered beings, and in doing so, forces a dramatic social shift that allows for progress to happen.

DIETRICH, Melissa
mdietrich373@community.nipissingu.ca

“Sexual Education in Ontario Catholic & Public Schools”

The Ontario curriculum currently deals with the issue of sexual education within the Health and Physical Education course in grades one through twelve. Students are not being equipped with the proper information on safe sex practices or how to avoid the spread of STI's until they have already reached the age of 14. This presents an issue since according to recent statistics over 40% of 14 year olds have engaged in vaginal intercourse (Vanderheyden). In April of 2010 Premier Dalton McGuinty and the Ministry of Education proposed a new curriculum which takes into account the fact that children are entering puberty and becoming sexual active at a younger age. However, the Catholic school board along with other Catholic groups rejected the revised curriculum, which forced McGuinty to withdraw the revisions for further consideration. Alex McKay, the research co-ordinator for the Sex Information and Education Council of Canada states that “all the changes are developmentally appropriate, and sex education doesn't lead to sex ... if anything, young people who are very well educated about sexuality and sexual health tend to actually delay having sex, because they fully understand everything that's involved, biologically and psychologically” (Hammer and Howlett). Therefore, knowledge proves to be a source of power in regards to sexual health and the government should proceed with the revised curriculum in order to properly inform young teenagers of the risks involved with sexual activity because parents, peers, and the media are not taking responsibility thus far.

DOBSON, Chris
chris_dobson_7@hotmail.com

“Restoring water quality of cool water streams near North Bay, Ontario: mitigating, preventing, and adapting to human impacts”

Over the past decade, water quality concerns have grown in municipalities across Ontario. Increasing stress from land use practices, demand for clean water resources, and degrading aquatic habitat have all

led to increased awareness of Ontario's hydrologic systems. This paper presents the importance of establishing communication between governmental organizations, community groups, and the public for any concerns regarding stream systems. It focuses on two streams, Doran Creek and Four-Mile Creek, located East of the City of North Bay. These two streams present excellent examples of concerns over water. They feed Trout Lake, which is the source of North Bay's drinking water. Both have large stresses on them currently. Doran Creek's headwaters are in the middle of a large scale aggregate pit operation which is soon to be expanding its scope. This will greatly affect the native Brook trout population spawning there. Four-Mile Creek experienced a large zinc contamination in the 1960's, the residual effects of which may still be impacting the stream. It also has a growing beaver population impacting the only non-anadromous Atlantic salmon population in Ontario which spawns in this stream.

This paper seeks to establish the current status of the streams based on water chemistry samples, water temperatures, benthic sampling, as well as insight and data from local community members, groups, and governmental agencies. This will boost recent stream restoration activities, and offer suggestions for future mitigation and restoration methods should they be necessary. The intentions of the results are not to give an overall answer on what should be done to improve these rivers, but rather to determine the current state of the rivers, and so be able to see over time positive or negative changes to the systems.

DOHERTY, Grant

gcdoherty897@community.nipissingu.ca

"The National Energy Program: Reactions through the American Media"

In October of 1980 Canadian Energy Minister Mark Lalonde introduced the National Energy Program (NEP) under the Trudeau government. While it was a new attempt to reach Trudeau's goal of 'Canadianization' and fiscal stabilization within the energy sector it was also a divisive policy within the domestic political sphere. Aside from internal political conflict, the NEP received a strong reaction from the American government and American oil industry stakeholders. By 1980, the Canadian oil industry was owned and operated by an overwhelming American majority. The terms of the NEP would attempt to undercut foreign ownership and involvement within the industry with the goal of achieving 50% Canadian ownership by 1990. The initial response by the Reagan administration was strong criticism in an attempt to protect American economic national interests. While the historiography on the NEP is rich when looking at American governmental responses, this paper contributes to the field by examining how the programme was represented within the American media through the New York Times and the Wall Street Journal. Using popular media, this paper attempts to form a picture of the American public opinion of the NEP and examines if this depiction differed from the US government's position.

ETHIER, Kristen

KX_Ethier@laurentian.ca

"Characterization of a Matched Set of SOD1 P-element Excision Lines in *Drosophila melanogaster*: SOD1 Activity, Longevity, and Paraquat Sensitivity"

The superoxide dismutases (SODs) function as an enzymatic defense against the reactive oxygen molecule superoxide, a harmful by-product of aerobic respiration. The enzyme SOD1, or cytosolic SOD, protects the cell by scavenging potentially toxic superoxide radicals that have been linked to the oxidation of lipids, proteins, carbohydrates, and nucleic acids. Such damaging effects of reactive oxygen species are thought to greatly influence the overall processes of disease and aging. In this study, I characterize a matched set of SOD1 P-element excision-derived alleles in *Drosophila melanogaster* using a SOD activity assay, longevity, and sensitivity to reactive oxygen generating agent paraquat. The SOD assay indicates the relative levels of SOD1 activity in the different genotypes, while the longevity measurements provide an estimation of average lifespan, a phenotype that is known to be affected by mutations of the SOD1 gene. Paraquat sensitivity is a common measurement used when assessing the impact of a mutation on oxidative stress defense. The alleles examined in this study were originally thought to span from a knockout to a hypermorph. However, results from the longevity and paraquat sensitivity assays suggested the absence of a SOD1 knockout within this set. The SOD activity assay results confirmed the

absence of a SOD1 knockout, and suggest little variation in SOD1 activity among the lines. We suspect that this is likely due to a contamination of the third chromosomes in these lines. In order to confirm this, I will perform the characterization assays with a set of lines that have been previously described in the literature. Future work will focus on creating another set of SOD1 P-element excisions in a matched genetic background.

FRIAS, Jacklyn
jmfrias797@community.nipissingu.ca

“Poverty: A Social Democratic Perspective”

According to Statistics Canada (2006), North Bay, with a population of 53,966, has 8,415 individuals living in poverty. Almost one in five of Nipissing District's children under the age of five are affected by poverty. This paper argues that high poverty rates produce a level of social suffering that is not acceptable in one of the most affluent countries in the world. The paper adopts a social democratic approach to identify the root causes of poverty that reside at the centre of Canadian economic, social, and political systems. It also provides recommendations for lowering poverty that are built on the provision of free education, universal childcare, early intervention strategies, improved health, and a stronger social safety net.

GAL, Alicia
agal387@community.nipissingu.ca

“Differences between forward and defense hockey players during repeated high-intensity bursts of forward and backward skating.”

Positional performances between forward and defense players in the game of ice hockey has not yet been investigated for either gender and/or at any level of play. In order to analyze these positional differences backwards and forwards skating must be tested and observed. Again, no investigation has taken place to analyze backwards skating for any style of ice-skating. The purpose of this study is to see if forwards and defense players on elite male hockey teams perform differently when skating forwards compared to skating backwards. Mean age, height, and weight will be measured and provided in the results component. The athletes will perform a vertical jump test two times and average jump height recorded, a 3-rep maximum leg extension, and a 3-rep maximum leg curl tests off-ice, and a modified Reed Repeat Sprint Skate test both in the forwards and backwards direction on-ice; original design by Reed et al. 1980. Heart rate and perceived exertion ratings will be taken for the on-ice component. A fatigue index will be created by the increase in lap time for each of the 6 laps in a single direction on-ice, and will be combined and compared to the opposing direction. Anaerobic power on-ice will be defined by the following equation: $AnPow = (\text{subject's wt [kg]} \times \text{total distance skated [51.2064m]}) / (\text{time})$, which is obtained from the fastest goal-goal time (initial sprint). Anaerobic capacity will also be calculated using $AnCap = (\text{subject's wt [kg]} \times \text{total distance skated [504.7488m]}) / (\text{total time})$, providing the total overall power produced throughout the entire test. These on-ice anaerobic measurements will also be compared to the off-ice anaerobic measurements. The results of this study will show the differences in power exerted between a forward positioned player and a defensive positioned player.

GALONI, Michelle
mgaloni837@community.nipissingu.ca

“Assessing groundwater vulnerability in Temiskaming, Ontario”

This study provides insight into groundwater vulnerability within the agricultural region of Temiskaming, Ontario. Temiskaming farming has historically been predominantly livestock farming supplying the beef and dairy industry but has recently been shifting to the production of cash crops (e.g. Hay). The agricultural processes occurring in this region are important to understand, as the runoff or infiltration from both the livestock and cash crop practices each have their own potential threats to groundwater

contamination. For example, contamination could occur from animal waste products infiltrating into the groundwater with livestock farming, or contamination could occur from pesticides that are being used to help with the growth of crops infiltrating into groundwater sources from cash crop farming practices. As well, the use of land, whether it is livestock farming or cash crop farming will determine the quantity of water being used from the groundwater source. Excess amounts of groundwater withdrawals can cause depletion of groundwater in the agricultural region. For example, the amount of water that is needed to be used for irrigation purposes for growing crops in cash crop farming practices is extensive. In order to determine groundwater vulnerability in the agricultural region of Temiskaming, the DRASTIC index method was used. With this method, it is possible to assess the susceptibility of the groundwater to potential contamination from surface activities of livestock and cash crop farming practices of the Temiskaming region. This is done by using secondary data sources to estimate the seven different parameters encompassed in this index method. These seven parameters include; Depth to groundwater, Recharge rate, Aquifer media, Soil media, Topography, Impact of the vadose zone, and hydraulic Conductivity. These seven parameters are then rated and weighted based on their importance and effects on the potential contamination of groundwater within this specific region. The outcome of this assessment provides a look at certain agricultural areas within the Temiskaming region and how the characteristics of the landscape may contribute to potential vulnerability to groundwater. This analysis will help further develop awareness of groundwater resources for long term sustainable agriculture in the Temiskaming region.

GIESLER, Sara
smgiesler342@community.nipissingu.ca

“The Crazy Female: The Character of Electra in Aeschylus, Sophocles, and Euripides”

The role of women in ancient Greek tragedy is ambiguous, dependent on the purpose of the author, and is often difficult to interpret. These interpretations depend to a large extent on the author's own attitudes and biases. The author's bias and purpose can often reflect upon the character. The character of Electra in Aeschylus', Euripides', and Sophocles' plays is one such character. Her role in Aeschylus' *The Libation Bearers*, Sophocles' *Electra*, and Euripides' *Electra* differ dramatically from one another. Aeschylus' Electra is weak and helpless, whereas Euripides' is a cold, calculating figure that plots her own mother's demise. For one, it is clear that Aeschylus and Euripides are at two different ends of the spectrum. This leaves the play by Sophocles to be examined. It is my interpretation that due to the nature of his play, Sophocles incorporates elements from both Aeschylus' *Libation Bearers* and Euripides' *Electra* to find a more moderate view on a woman's role in society, thereby finding an approach that would satisfy a large majority of upper class Athenian males.

GOODES, Sarah-Ann
sgoodes682@community.nipissingu.ca

“Revolution against the Archons – Using Nietzsche's Morality to Disprove Plato's Republic”

In the *Republic*, Plato outlines an ideal society for the functioning of humanity. He defines the just city, discusses divisions between classes, creates the ideal leaders, and describes how the city would function. The purpose of this paper is to outline the conditions under which the ideal society in Plato's *Republic* can exist, and then to examine the flaws in relation to human nature and morality as described by Nietzsche in *On the Genealogy of Morality*. I will argue that if we accept Nietzsche's arguments regarding the moral stage of our development, it is impossible to accept Plato's outline of the ideal society as human nature would demand a revolt of all who are not the archons.

GUY, Stephanie
smguy892@community.nipissingu.ca

"Synthesis of novel indole sulfides"

Substituted indoles constitute a vast number of synthetic and naturally occurring compounds that possess a diverse array of biological and pharmacological activities. Sulfur containing indole-based molecules have special place among biologically active medicinal agents. In particular, many indole conjugated sulfides and sulfoxides have been shown to possess potent antiviral, HIV-1 reverse transcriptase inhibitors, protein tyrosine kinase inhibitor, antitumor, antihyperlipidemic and antiulcer activities. Recently we have developed an efficient Lewis acid-catalyzed chemoselective S-alkylation of indolin-2-thione using substituted alcohols. The details of this study will be presented.

HARLEY, Adora
ahartley775@community.nipissingu.ca

"On the relationship between ethnography and the depiction of "Barbarians" in Roman Art"

This paper presents an investigation into the depiction of "barbarians" in Roman art, as well as elucidating the dialectical relationship between art and the ethnographies written about certain ethnic groups in antiquity. The manner in which first the Greeks and then the Romans perceived and depicted those considered in their eyes to be "barbarians", was significantly connected to what had been written throughout their literature about these foreign people, which served to perpetuate the established stereotypes. If a group of barbarians were described in ethnographic literature to be effeminate, luxurious, and slavish by nature, the artistic representations of them thus reflected these characteristics. Of course there were instances where interpretations varied, for not every individual's opinions were the same, which created varied ethnographies and artistic imageries used for propaganda and to justify the treatment of barbarians. However, for the most part the intimate relationship between artistic representation and ethnography holds true. In order to present evidence for this, examples will be provided that demonstrate the links between ethnography and art where negative, mixed, and positive depictions are represented. In this way, it becomes apparent that such ideas of ethnic difference have indeed been perpetuated since antiquity and influenced modern thought of race and racism.

HEINDL, Jon Alex
jonheindl@hotmail.com

"Understanding Hilbert Cube Manifolds and the Triangulation Theorem"

This paper examines the Triangulation Theorem for Hilbert Cube Manifolds and its proof. The Triangulation Theorem states that for any Q -manifold M , $M \times [0,1)$ can be triangulated. This result has many implications in the study of Hilbert cubes and in infinite dimensional topology. To understand this theorem, numerous definitions and theorems relating to Hilbert cubes and Hilbert cube manifolds will also be examined.

HOPKINS, Aaren
ahopkins445@community.nipissingu.ca

"The Italians of Toronto"

Italian immigrants were an important part in shaping Central Toronto with the creation of their own "Little Italy." The purpose of my study was to analyze the dynamic within an Italian household in order to determine the similarities and differences among nuclear families, as well as Italian homes with boarders, lodgers, and extra family members. The sample size conducted consisted of 421 individuals from the 1911 census of Ward 3 in Toronto, Ontario. Italian individuals were categorized based on religion, occupation, income, nationality, type of home, marital status and gender. The 1911 census demonstrated

the diversity of Ward 3, while similarly illustrated the dominance of the Italian population in Toronto. The data collected allows for a cross examination of employment and age, heads of households and lodgers, as well as, social class and occupation of working Italians. A majority of Italian family's income was below the poverty line and numerous Italian homes had lodgers or boarder as a means of extra income, even though lodgers and boarders drastically changed the idea of the nuclear family.

HURST, Owen
owen.hurst005@gmail.com

"Myth and Religion as Political Propaganda during the Peisistratid Tyranny"

Myth and religion, an essential aspect of ancient Greek life, was at times exploited by those persons daring enough to manipulate popular beliefs in support of their own political agendas. The exploitation of myth and religion for political propaganda may appear unimportant, however, it allows assumptions to be presented regarding the link between religion and politics in ancient Greece, and the power that could be achieved by individuals who gain the approval of the lower classes. The present study is concerned solely with the use of myth and religion as political propaganda during the Peisistratid tyranny in Athens, which occurred with several breaks, from 560 BCE down to 510 BCE. A combined study of literature and material evidence reveal a highly successful political campaign that relied on the exploitation of myth and religion, allowing the tyrants to maintain absolute power. The study is intended as a detailed look at the use of mythic propaganda and the growth of the Athenian identity through politics and religion, which remained after the expulsion of the tyrants.

JAMES, Victoria
vjames933@community.nipissingu.ca

"The effect of Acidification on Dragonfly Nymphs (Insecta: Odonata) with Copper Exposure "

Dragonfly nymphs are important invertebrate predators of their ecosystem. They also have been used to determine water system health and hydrological conditions. Dragonfly nymphs have been underutilized as an organism that is useful for toxicological testing. Toxicity tests generally test only one contaminant at a time, however, it is often not common in the environment, where generally there is multiple different contaminants in the system that can create different effects and responses than each of the contaminants on their own. Copper and acidification are wide spread contamination situations. In this study, the effects of acidification (pH 4.4) and increasing copper concentrations was examined to determine its mortality effects, sub lethal physical effects (such as differences in weight and length), and effect on feeding behaviour. After a 10 day acclimation time, a 10-day static renewal toxicity test was performed. There was a 20% increase in mortality in an acidified pH (4.4) compared to a circum-neutral pH (6.4). There was also a significant decrease in average different weight with increasing copper concentration. In circum-neutral pH there was decrease in the average difference in length of the dragonfly nymphs with increasing copper concentrations, whereas in the acidic pH there was an increase in the average difference in length of the dragonfly nymphs with increasing copper concentration. These results suggest that the combination of acidification and increased copper concentrations have an increased effect on the survival and decreases on the sub lethal effects of the surviving individuals.

JAMES, Victoria
vjames933@community.nipissingu.ca

"Our Game: Reinforcement of gender and Sexuality with Scandals in Ice Hockey"

My research will focus on the ways that ice hockey rules as well as the culture surrounding ice hockey reinforce gender and sexual societal norms. These norms are reflecting white masculinity and white femininity in a middleclass context. This reinforcement of gender and sexual norms will be examined through four different alleged sexual scandals and the media coverage and response to the scandals that

had alleged different sexual behaviours. These sexual scandals that are being examined are alleged to involve consensual sexual acts between legal adults; these scandals do not involve illegal acts such as child molestation or rape. The first scandal involve the reinforcement of heterosexual ideals (men want and are expected to have numerous sexual partners, however women must not want sex and have very few sexual partners) as well as homophobia with the assumptions made within the reports and media representations of the scandal. In the second scandal the dramatic correction of the non-normative male (heterosexual) sexuality by others within the society to reinforce the 'normal' heterosexuality and masculine roles within a sexual relationship is discussed and examined (men as the penetrators never the penetrated ie. the female or lesser power structure). The third scandal involved the gender identities (women have to be concerned about their appearance), the expectation of the sexuality of the player (all female hockey players are gay, there is not any straight women in hockey). The fourth scandal involves the threat of being othered in terms of sexual identity and the necessity of maintaining the heterosexual identity and fighting back against allegations of being other than heterosexual.

KAMAL, Sonia
sx_kamal@laurentian.ca

GRANDBOIS, Julie

MONTAUT, Sabine
SMontaut@laurentian.ca

JOLY, H      
HJoly@laurentian.ca

“Free radical scavenging activity of flavonoids and glucosinolates isolated from *Dithyrea wislizenii* fruit”

Free radicals are very unstable and reactive species that can disrupt cellular processes and have been shown to be at the root of many different diseases. Recently, there has been a drive to find natural products that can react as free radical scavengers, which will help reduce free radicals. In preliminary work carried out in our laboratory, the crude extract of *Dithyrea wislizenii* fruit was found to have free radical scavenging activity. Analysis of the extract by LC-UV/MS showed that the complex mixture of compounds contained at least 2 glucosinolates and 2 flavonoids which were subsequently isolated by our group. The glucosinolates have been identified as glucosquerellin and glucosesperin by NMR spectroscopic analysis and the flavonoids, flavonoids 1 and 2, have yet to be fully characterized. These two classes of compounds are known to have free radical scavenging activity. The purpose of the present study was to determine if and to what extent the glucosinolates and/or flavonoids contributed to the free radical scavenging activity of the *Dithyrea wislizenii* fruit extract. Electron Paramagnetic Resonance (EPR) spectroscopy was used to determine the free radical scavenging activity of the flavonoids and glucosinolates by testing the ability of the individual natural products to reduce the stable free radical, 2,2-diphenyl-1-picrylhydrazyl (DPPH). The free radical scavenging activities of the flavonoids and glucosinolates will be presented and discussed

LACHANCE, Martine
mlachance346@community.nipissingu.ca

“Regional assessment of groundwater vulnerability in Verner Ontario, using the DRASTIC model”

With high concentrations of livestock and application of fertilizers and pesticides, agriculture is considered to be the biggest threat to water quality. Further, with agriculture becoming more concentrated, and increasing in size, these activities are threatening Canada’s water resource. About one third of Canadians (80% in rural communities) rely on groundwater for their drinking water. Groundwater vulnerability mapping has been widely used for environmental planning and groundwater monitoring by determining areas of high vulnerability to contamination. DRASTIC is a groundwater vulnerability mapping model based on seven overlying major hydrogeological factors that influence groundwater contamination. The seven hydrogeological factors include: depth to water (D), net recharge (R), aquifer media (A), soil media (S), topography (T), impact of vadose zone (I) and hydraulic conductivity (C). A final vulnerability index map is produced by calculating and overlying the seven hydrogeological factors with Geographic Information Systems (GIS). Although DRASTIC has been applied in southern Ontario, very little groundwater vulnerability mapping has been conducted in northern Ontario regions. This work demonstrates a DRASTIC model applied in Verner, a small agricultural community about 50 kilometres

west of North Bay, Ontario. This work intends to identify areas of high vulnerability in the community of Verner and emphasize the importance of groundwater management in northern Ontario.

LAMBE, Dawn
dawnlambe@sympatico.ca
dslambe753@community.nipissingu.ca

“Measuring the Effectiveness of Ontario’s Feed-in Tariffs on Renewable Energy Capacity and Sector Growth: An Econometric Analysis”

In 2009, the Government of Ontario implemented a Feed-in Tariff (FiT) policy to spur growth in the percentage contribution of renewable energy to overall supply, and to foster the development of a skilled workforce and a strong manufacturing sector in renewable energy technologies. Critically assessing the effectiveness of Ontario’s FiT policy in achieving its objectives is vital to ensuring the wise allocation of public funds in time of financial constraint, and to informing future energy policy decisions in other jurisdictions. The objectives of this paper are to determine whether the FiT price structure is related to capacity growth of renewable energy supply and how the FiT program is related to growth in the renewable energy manufacturing and service sectors.

LATHEM, Jaymie
jtlathem868@community.nipissingu.ca

“What is Art? Ghada Amer: Thread Paintings”

What is Art? The entire academic study of art comes down to this one question. How can one study a subject when no one is quite sure what the subject is? Textbooks, academic papers, magazines, museums, professions and entire educational institutions have been built on the subject of art, artists and artworks, yet somehow the distinction of what Art is still has yet to be clearly defined. Perhaps studying and breaking down a particular body of work by one artist will help simplify and clarify what makes art, Art. Examining Ghada Amer’s *Thread Paintings* through a formal analysis established by Clive Bell, while also looking at Amer’s work as understood through ‘Family Resemblance’ and historically recognized movements to establish a definition of Art will bring us closer. Amer’s reaction to pushing those recognizable boundaries; challenging the theme of feminism is also relevant to this discussion. What will become clear is that Amer’s *Thread Paintings* are appropriately situated in the Fine Art Canon of Contemporary Art.

LAUZON, Kelsie
klauzon@hotmail.ca

“Sing Anyway”

My paper will focus on a body of work I have been developing this year entitled *Fragility*. This body of work is comprised of a series of photographs, as well as a sound installation, and is based on my grandmother who is battling cancer. These intimate photographs illustrate the expressive power of gestures, as well as the special connection that happens between the camera and the subject when the subject is not directed or posed. While this series is intended to showcase her strength in such difficult times, this body of work has provided a somewhat therapeutic experience for both my grandmother and myself. The notion of interiority is introduced through the use of the sound component, which is a recording of my grandmother. In the recording she shares her personal experiences with those who choose to stop and listen.

LAUZON, Steven
sdlauzon882@community.nipissingu.ca

“Cryptography: Cipher Implementation and Defence Against Cryptanalytic Attacks”

An examination of the fundamentals of theoretical cryptography with a more detailed examination of the Vernam Cipher, the Diffie-Hellman Key Exchange Protocol, the RSA and various forms of block ciphers.

LEHOUX, Jeff
jefflehoux@hotmail.com

"Metamorphosis of My Mind."

I am presenting a philo-biographical prose-piece based on real life events of profound experiences I have encountered in both Afghanistan and Cameroon, Africa. Punctuated by regular absurdity and disillusionment, I live an everyday life here in North Bay.

LEVESQUE, Trevor
tlevesque243@community.nipissingu.ca

“Hegemonic Masculinity and Men’s Health”

Hegemonic masculinity consists of the dominant ideas about masculinity by which men regulate their behaviour according to societal expectations. Hegemonic masculinity has a direct impact on the ways in which men practice and promote health. Under its ideals and processes, men are culturally constructed to take risks with their bodies. Some risks include high volumes of substance abuse, excessive smoking and drinking, poor eating habits, dangerous motor vehicle operation (i.e. not wearing seatbelts), engaging in violent and aggressive activities, and having unsafe sex. In addition, men who are reluctant to seek and utilize health services do so because they do not want to be seen as weak, vulnerable and feminine. Men who actively reject health-promoting behaviours are performing their masculinity. In contrast, men who do promote and actively engage in good health ground their reasoning for such on the basis of hegemonic masculinity. Men who do not practice health-promoting behaviours and who engage in risk-taking activities are more susceptible to heart disease, diabetes, cancer, early morbidity and death.

LINKLATER, Sandra
sandrاملinklater@hotmail.com

“Women’s Leadership in First Nations’ Welfare”

In the past ten years, Aboriginal women have increased their leadership role in First Nations’ communities. The task of being a leader is not easy for a woman as she has to balance her workload at home and in the office, and in both domains she is devoted to advancing the wellbeing of the family and the community. This paper discusses the case of one of the first female chiefs on a reserve in northern Ontario in the 1990s. It demonstrates that a woman can be a leader in her community and that her determination and skills are of great benefit as she organizes her community to negotiate with outside powers.

LITVINJENKO, Andrej
alitvinjenko@hotmail.com

"The United Nations in Rwanda and Somalia: The Pragmatism of Intervention"

With the fall of the Soviet Empire we committed ourselves to the international community and the primacy of the rule of law. We repelled the Iraqi invasion of Kuwait and valiantly tried to help the Somali people. However, as Kigali stood in flames and rivers ran with blood the world stood silent. Why did we intervene a year before in Somalia and not in Rwanda? My research studies the language of UN resolutions and American Foreign Policy between the years of 1991 and 1995. My thesis will argue that, in addition to other factors, a modicum of stability is necessary for any international forest to exist before an international force can go in. There must be a peace to keep.

MACPHERSON, Devon
dmmacpherson332@community.nipissingu.ca

"Effects of Childhood Cancer on Gender Roles"

According to the Public Health Agency of Canada, cancer is the leading cause of disease related death for children over the age of one month (Public Health Agency of Canada, 2008). Although much research has been presented on the experiences of children with cancer, a new topic of interest is how childhood cancer plays out in the family sphere and affects the experiences of parents involved. This paper reviewed the traditional gender roles associated with being a father or mother in relation to the diagnosis of their child's illness and contrasts the two roles in demonstrating the integral facet each plays in their child's care.

Areas of discussion include hegemonic masculinity, gender role expectations, and instrumental coping styles in the way a father behaves and reacts to his child's cancer. Since fathers are often not explored when it comes to a family's experiences of childhood cancer it is essential that this area be mentioned and contrasted with the role of the mother. With this in mind feminist theories for mothers and how their emotion focused coping behaviour played out in their child's care are also reviewed. This discussion ultimately shows how traditional gender role conceptions and parental involvement can be impacted by childhood cancer.

MARCHANT, Morgan
morgan_marchant@hotmail.com

"The role of Fannie Mae and Freddie Mac in the Subprime Mortgage Crisis"

The paper provides an analysis of Fannie Mae and Freddie Mac's exploitation of their dual (private and public) nature and will determine the manner in which these government sponsored enterprises took advantage of their unique corporate structure in order to abuse a perceived implicit guarantee in the financial market, as well as adopt an unreasonably high degree of financial leverage.

MARTIN, Dennis
dmartin222@community.nipissingu.ca

"The Church and Nobility in Dante's Divine Comedy"

In this paper I, propose to analyze The Divine Comedy, written by Dante Alighieri between 1308-1321. The Divine Comedy is an allusion/satirical piece of literature, that displays Dante's political views in regards to the church, and certain nobility. I am hoping to use his contemporary viewpoint to research the individuals, and place them in a historical context, and look at what level of hell they are in (and why they are there). I believe that ideas of sanctity, poverty and charity will be apparent within the nine circles of hell, and will be used to frame the essay.

MAYHEW-HAMMOND, Shawn
shawn.mh@hotmail.com

“Predictive Habitat Modeling of Canada Yew (*Taxus canadensis* Marsh.) in the Boreal Forest of Northeastern Ontario”

Canada Yew (*Taxus canadensis* Marsh.) is a gymnosperm shrub that grows in the understory of coniferous and deciduous forests throughout the Northeastern United States and Southeastern Canada. The foliage of Canada Yew contains relatively high concentrations of Paclitaxel and other valuable taxanes, which have been proven highly effective in treating many forms of cancer. Pharmaceutical use of taxanes has resulted in an increase in demand for the harvest of Yew species in general, and wild harvest of Canada Yew in Ontario is receiving increasing attention as a new forest bioproduct. To retain Canada Yew as a valuable resource, the province must ensure that the harvest of this species is managed sustainably. One major challenge in the sustainable management of Canada Yew is the lack of an accurate inventory of the resource. The objective of this study is to create a spatial habitat distribution model that will accurately predict the location and abundance of Canada Yew populations in the Boreal Forest.

The study was conducted in the Romeo Mallette forest located on the southern edge of the Boreal Forest west of Timmins, Ontario. Population characteristics of Canada Yew were assessed in 121 sample plots (6400 m²) selected using a stratified random sampling design, with canopy composition, forest age and distance to a large body of water as stratifying variables. Canada Yew abundance was quantified in each plot based on the average percent cover estimated independently by three trained observers within three 10x10m² subplots. These abundance data were joined to a spatial database of field and remote sensing data to develop a predictive model of Canada Yew abundance on the landscape. The predictor variables chosen for inclusion in this modeling exercise were acquired from the provincial forest resource inventory (e.g. age, species composition and basal area), and from layers derived from a 5 meter Lidar point cloud (e.g. digital elevation models, slope, aspect and topographic wetness index). Regression tree analysis was used to analyze the percent cover of Canada Yew and develop a classification model for forest polygons based on patterns of abundance. This analysis is ideally suited for non-parametric data and is relatively unaffected by missing values. Furthermore, the analysis is displayed in the form of a simple dichotomous tree that allows for easy extraction of classification rules for implementation in a GIS with the correct source data. Initial results indicate that topography may be the most significant predictor of Canada Yew distribution. The model will ultimately result in a classification map predicting the spatial distribution of Canada Yew over the Romeo Mallette forest.

MCCARTHY, Michelle
mlmccarthy936@community.nipissingu.ca

“Christianity and the Secular Age: An Ecological Crisis”

Christianity is often accused of being the root cause of people's destructive attitudes towards the environment. Secularists have referred to Christian theology as their “proof” of the tradition's given permission to exploit the earth to no ends. One term that is present in Genesis that is believed to have created havoc on the environment is “dominion”. Dominion is a term that can easily be manipulated to place blame on Christian theology. However, this term is taken out of context as it actually refers to the necessity for all beings to tend to the earth; it is believed to be a gift from God, even though it does not truly belong to humankind. On the contrary, one could ask how a person could truly respect the natural world if it is not believed to hold any intrinsic value. Believing that God created the earth for all living things to inhabit should provoke a sense of responsibility for all people to take care of it. Christian theology, when not manipulated, can serve as an inspirational tool for proper stewardship towards the earth.

MONAHAN, Pamela
pmonahan696@community.nipissingu.ca

“The Effects of Violent Video Games on State Anxiety”

This study uses the “Big Five” personality inventory to explore the relationship between personality and representational versus non-representational art. There will be approximately 500 Nipissing University undergraduate participants in this study, across a variety of majors. The age of the participants will likely range from 18-22. Each participant will complete the “Big Five” inventory that was created by John (1991) at Berkeley University. Then they will be presented (in a randomized order) with 20 artworks, 10 being representational and 10 non-representational, to be evaluated for preference on a five point Likert scale. Correlations between personality characteristics (and other measured variables) and preference will be computed.

MOORE, Maggie
mmmoor645@community.nipissingu.ca

“Creation and Humanity in Mary Shelley's *Frankenstein*”

The novel, *Frankenstein*, is a declaration that art is an uncontrollable and unavoidable aspect of human life, and that once it has been created it will always grow and change beyond the maker's intention, its direction depending on the audience's perspective. This essay explores the powerful influence of art on humanity, including our maternal and scientific instincts to create and the impact that literature has on both authors' and readers' understandings of life.

MORRIS, Kaitlyn
krmorris556@community.nipissingu.ca

“Challenging Modernity: From Tyler Durden to Charles Taylor”

This paper will centre on the counter and anti-enlightenment tradition. The enlightenment has brought about the gems of the modern age and has borne as a result the institutions and ideologies of modernity. Modernity, however, is not all that the enlightenment thinkers thought it would be. Through an examination of the key thinkers of the counter and anti-enlightenment tradition, I intend to express how best to ‘fix’ the issue of modernity through the use of the three categories of counter and anti-enlightenment reactions: the aggressive reaction, the moderate reaction, and the passive reaction.

MORROW, Danielle
dmorrow478@nipissingu.ca

POIRIER, Stephanie
spoirier996@nipissingu.ca

“Family, Individual, and Abuse Characteristics of Child/Adolescent Victims who do and do not have Sexual Behaviour Problems”

Sexual abuse can have considerable effects on child and adolescent victims. Theories have been developed to explain why some children and adolescent victims of sexual abuse go on to sexually abuse others and why some do not. The current project examined various familial, individual, and abuse characteristics of victims to explore whether these differentiate between children and adolescents with and without sexual behaviour problems. File review data gathered from multiple agencies was collected on 198 children and adolescent victims of sexual abuse and logistic regressions were used to analyze the variables. The results will be presented comparing child victims who did and did not subsequently develop sexual behaviour problems; adolescents were analyzed separately and their results will also be presented. Further discussion will be offered comparing the results between children and adolescents along with implications on characteristic differences.

MOUNTAIN, Nathan
nmountain442@community.nipissingu.ca

“Volume Dependent Fissioning in Planaria (*Dugesia dorotocephala*)”

Reproduction by fission in the *Dugesia dorotocephala* has been found to be suppressed by population density (Best, Howell, Riege, & Abelein, 1974; Davison, 1973). The mechanism underlying this suppression is not known. We investigated the possibility that reduced water volume may play a role in inhibiting fissioning. Since the absence of light induces fissioning in planaria (Dasheiff, B., & Dasheiff, R., 2002; Morita & Best, 1993; Sheiman, Sakharova, Tiras, Shkutin, & Isaeva, 2003) we also manipulated light levels in this experiment. All other environmental variables were controlled, such as temperature (Claussen, Grisak, & Brown, 2003; Vowinckel & Marsden, 1971), body mass (Best, Goodman, & Pigon, 1969), water soluble pheromones (Best, Goodman, & Pigon, 1969; Best, Howell, Riege, & Abelein, 1974; Davison, 1973) and water quality (Legner & Tsai, 1978; Hyman, 1929), in order to ensure optimal conditions for planaria to fission.

MURRAY, Cora
cora_murray5@hotmail.com

“Establishment and Growth of Canada Yew Colonies: a Dendrochronological Approach”

Canada Yew (*Taxus canadensis* Marsh.) is a clonal understory shrub of northeastern forests, and a significant source of taxanes, which are used to develop medications for the treatment of breast and ovarian cancer. Whereas much is known regarding the biochemical and medicinal characteristics of this species, relatively little work has been done on its general ecology. The objectives of this study are to determine the potential to use dendrochronological techniques for reconstructing growth trends in Canada Yew, to examine site specific differences in age structure and growth rates among different Canada Yew populations, and to relate Canada Yew growth to key environmental factors (e.g. climate, soil) and the growth of associated tree species. At each of 20 sites selected for study, the oldest stem (largest) in the Canada Yew clone was identified for sampling. In three randomly selected directions from the oldest stem, additional samples were collected from the clone margin. A basal disk was cut from the stem at all four locations. At each plot six tree cores were also taken; three were selected from representatives of the dominant canopy species, and three were selected from the veteran population in the stand. The cores and disks were sanded and manually dated using standard dendrochronology techniques. We observed excessive pinching rings and accentric growth on the majority of sample disks, and therefore dated all Canada Yew samples in four directions from the pith. Initial analysis of the Canada Yew samples have found that the disks range in ages from ten up to forty-five years. Ongoing analyses include the scanning of disks and cores into the program Windendro, for measurement of dated annual ring widths. To determine if dendrochronology techniques are applicable to Canada Yew, we will develop a master tree-ring chronology using the program COFECHA, and assess the common signal present in our samples based on correlation analyses. Cross-dated series will then be aged, and age data will be used to calculate growth rates for each Canada Yew Clone. As a result of this study it will be determined whether or not dendrochronology techniques can be applied to shrubs such as Canada Yew. As well, given the significant interest in commercial harvest of Canada Yew, this study will provide critical information that will help implement sustainable management practices in Ontario.

OPREA, Patricia
patricia_pco@hotmail.com

GIBSON, Robin
ragibson243@community.nipissingu.ca

“Communities of Meaning in David Markson's *Vanishing Point*”

David Markson's postmodern novel is a rambling collection of snippets of historical facts, quotes, and insights spanning centuries of primarily Western culture. We will explore how Markson challenges readers to create communities of shared meaning out of a novel without conventional plots, characters, and narrative structures.

PERROTTA, Steve
sperrotta374@community.nipissingu.ca

“An examination of the effect of exposure to affective semantic stimuli on visual perception”

Recent behavioural evidence indicates that visual perception is enhanced when a task-irrelevant fearful face is merely present in the visual array. Here we sought to replicate and extend those findings by examining whether task-irrelevant taboo words could improve spatial resolution (i.e., an early visual process that determines our ability to perceive fine details). Observers were first briefly presented (~100 ms) with either a taboo or a neutral word at the centre of the screen and were then briefly presented (~100 ms) with a target in each corner of the screen (the letter S). In half of the trials, one of the targets was different (the number 5) from the others, and in the other half all targets were alike. Our task required observers to report whether the oddball target was present or not. Responses were made using two buttons (one for “present” and one for “absent” responses) on a computer keyboard. As expected, we found that observers performed significantly better at the task (i.e., spatial resolution was enhanced) when the targets were preceded by a taboo word, compared to a neutral word. The results contribute to a growing body of research showing that vision for innocuous stimuli is enhanced when affective stimuli are present in our immediate visual surroundings.

PILON, Stephanie
spilon445@community.nipissingu.ca

“The Universal Victim Subject and Human Rights”

This paper discusses the benefits and drawbacks of the victim subject as it is presented in human rights discourse. While sensational images and stories prove to be a useful tool for human rights agencies wishing to garner public support, I argue that the limited explanations which such stories provide can result in the implementation of basic solutions for complex problems. These explanations for human rights violations also tend to be cultural in nature, suggesting that Western countries must act to prevent the implementation of “bad” third world cultural practices. I argue that images and stories which more accurately depict the complex situations in which human rights violations occur may help to lessen such problems.

PITMAN, Danielle
dv_pitman@laurentian.ca

“Conflict and Class Divisions in the Hollywood Films: *Shrek*”

As its title indicates, this essay will discuss the underlying themes of class divisions and capitalist ideology as portrayed by the Hollywood films *Shrek*. By focussing on the roles of characters and setting I hope to link the fairy tale structure to Marxist notions of class divisions. Also, to suggest that these distinctions cause much of the conflicts that arise throughout the first three films. Additionally, the role of parody is the primary way these films are able to take a serious subject matter and make it humorous. Parody works both with the fairy tale context as well as the appeal to a contemporary audience. By

raising the idea of monarchy and its role in the films I suggest that this hierarchical rule strengthens the distinctions between classes: bourgeois and proletariat. While one class works, the other gains from exploitation, and there underlies the motives for characters such as the fairy godmother and questions concerning values and true happiness. The roles of these values are in question, since the notion of a *happily ever after* may be equated with materialism or some preconceived expectations of what is desirable. For the coalescence of fairy tale motif and contemporary concerns sets up a binary of expectations in an anachronistic manner. Rule by monarchy and medieval settings appear outdated, yet fit well in a comic cartoon such as *Shrek*. While the contemporary elements also add humour, they work to appeal to modern audiences. In doing so, the *Shrek* films appear to advocate a concern regarding capitalist values and the harmony of social relations.

PLUT, Kaloni
kaloniplut@trentu.ca

MAJOR, Meghan

CIOTIR, Claudia

FREELAND, Joanna

“A molecular genetic approach to identifying the source of the North American invasive common reed, *Phragmites australis*”

Invasive species are of great concern because they can disrupt habitats and displace native species; however, the reasons behind invasive success are generally not well understood. A well-documented bioinvasion is that of *Phragmites australis* in North America. In the 1800s *P. australis* was considered rare, but by the 1900s had increased dramatically in its abundance and distribution. Although this species is native to North America, a comparison of chloroplast haplotypes from modern and herbarium samples revealed that an invasion, likely of Eurasian origin, had occurred sometime in the 19th century and is the likely cause of its rapid spread. The goal of this study was to infer the relationship between continental European populations and United Kingdom, North American native and invasive populations to elucidate possible sources of origin using a population genetics approach. It was hypothesized that overall, continental Europe populations would be distinct from those of the United Kingdom, which in turn would allow us to identify the most probable source of the cryptic invasion. Based on preliminary data of microsatellite genotypes, it appears that continental European populations are different than the others, because of the identification of novel alleles in several populations across mainland Europe. Therefore, the United Kingdom remains a strong contender as country of origin.

POULIN, Lisa
lpoulin496@community.nipissingu.ca

“Health Benefits of Nudism/Naturism”

This term paper presents how nudism/naturism can be seen as an acceptable life style choice; nudists express many benefits including mental, emotional and social well-being for both themselves and the family unit. Concepts discussed include nudism and naturism as a health benefactor in an individuals or family lifestyle using social constructionism as a theoretical basis. It further explore show it is perceived as an erotic lifestyle choice both deviant in nature and sexual in its roots. Lastly, this paper suggests that a nudist/naturist lifestyle is a healthy from of behaviour. Ultimately, nudism/naturism is grounded in specific subcultural beliefs and goes against the social norms of Western society; it shows that construction of reality can affect individual's overall health and social well-being.

REDSTONE, Josh
jdredstone@gmail.com
jredstone977@community.nipissingu.ca

“Human Affection for Robots—Degrees of Robot-likeability and the Success of Social Machines.”

One of the many areas of study to which philosophy -- among other disciplines in the sciences and technical fields -- is nowadays applied, is the future. With regard to the future, three subjects on the

frontlines of scientific and technological development, along with their ethical and social implications, that are discussed across scientific and scholarly fields are genetic engineering, nanotechnology, and robotics (Joy 2000). I shall be concerned with robotics in this investigation; specifically, human affection toward robots. With the prospect of robots taking a larger role in human society a very real possibility in the near future (*Vanguard*: "Japan: Robot Nation"), the question of how we will regard them may be a factor in how successful human-like robots solve the social needs we design them for. To assess possible degrees of affection for robots, modern perspectives from both the West, which some may regard as more suspicious of robots and other technology in general, and Japan, which some may in turn regard as more affectionate toward robots (Motohiro 2003), shall be considered. I argue that, although there seems to be some differences in the degree of affection for robots between Japan, and North America and Europe, it also seems that our attitudes toward human-like robots and technology are flexible. On the matter of whether or not "human-like" robots will be successful in fulfilling the more social roles we assign them, such as assisting the elderly or caring for and educating children, our flexibility regarding our affection toward them will be an important factor regarding their ultimate acceptance. Thus I further argue that we ought to use our flexibility regarding robot affection to develop a positive relationship to them.

ROBERTS, Stephanie
sroberts765@community.nipissingu.ca

"Native Pride, Poverty, and Policy"

This paper focuses on aboriginal poverty in Canada. The life of Aboriginal peoples changed dramatically after European colonization. Along with the loss of traditional lifestyles, Europeans brought advanced technology and disease that left Aboriginal people disadvantaged; created residential schools where students faced discrimination and abuse; and developed reservations which isolated the population. Governmental social policies have robbed Aboriginal peoples of their pride, forcing them to live in poverty under governmental social policy. The paper will conclude by examining the transformations that have occurred recently in First Nations communities, transformations geared toward the long-term reduction of Aboriginal poverty.

ROBINSON, Ruth Maria
rmrobinson389@community.nipissingu.ca

"The Men Who Went to War: Motivations for Canadian Soldiers during the Great War"

At the outbreak of World War 1, Canada had not been established as a separate country, but was still a part of the British Empire. Canada was a mosaic of ethnicities, some of British descent and some of non-British descent. As the call went up for Canadian men to enlist, men eagerly answered. What were their motivations for enlisting? Particularly, how did the soldiers' motivations differ based on their descent, and what does this reveal about their relationships to Canada and the British Empire? This paper examines these motivations through the use of soldier's biographies, as well as academic journals and books. The paper touches on the ideals of Canadian society at the time of the War and examines whether the reason for fighting was to establish a sense of national unity on a global scale.

ROCHFORD, Rene
rene.rochford@gmail.com

ROGERS, Erik

"Visualization of Integrated Geospatial and Real Time Sensor Data for Agricultural Decision Support"

This investigation integrates research into information visualization and human computer interaction for the purpose of developing a web-based application to support agricultural decision-making processes. Real-time data from weather stations and other sensors will be integrated with maps, GIS data, and community experiences to promote knowledge-sharing amongst Northern Ontario farmers.

ROGERS, Jim
jarogers297@community.nipissingu.ca

“Investigation into the effects of Bisphenol-A on the Immune system of Fishes”

Bisphenol-A (BPA) is a carcinogenic contaminant used in the manufacturing of polycarbonate plastics and epoxy resins which has been discovered in freshwater systems worldwide as a result of effluent from the manufacturing process. This bioactive molecule is an estrogen mimic and has become a concern for exposure, especially during development, resulting in BPA being removed from baby bottles and other consumer products. BPA is a powerful endocrine disruptor in mammals and other species including fish and in 2010 was classified as a toxic substance in Canada. In fishes BPA has been shown to illicit an immune response under laboratory conditions, and has also been seen to accumulate in the liver and muscle tissue. We aimed to determine whether or not this immune response would occur in wild yellow perch (*Perca flavescens*) under environmental conditions and if there would be compound effects when combined with exposure to *Saprolegnia* spp. (an infectious water mold commonly found in freshwater). Yellow perch were exposed for 7 days at BPA concentrations of 2, 4 and 8 ppb plus a blank control. In the second experiment, perch were exposed to 4 ppb BPA only, *Saprolegnia* + 4ppb BPA or a blank control. Blood samples were taken after 48 hours and 7 days. Immune response was determined by leukocyte counts taken from blood smears. No significant difference was observed in leukocyte counts between perch exposed to BPA and controls after 48 hours; however, after 7days we found a significant increase in leukocyte levels in 4ppb and 8ppb exposures relative to the control. In the second experiment we examined whether the combination of BPA + *Saprolegnia* would change the impact on the immune response. Blood samples were again collected and counted at the same intervals as experiment 1. No difference was seen in response of individuals exposed to BPA alone when compared with individuals exposed to BPA + *Saprolegnia*. This suggests that over short term exposures there is no compound effect of BPA and *Saprolegnia* on the immune system. The immune response to BPA observed at these levels shows that its presence in freshwater bodies could effect the immune system of wild fishes populations of yellow perch (*Perca flavescens*).

ROSTOKS, Emily A.
emilyr@community.nipissingu.ca

“Distance Education: Relationships between Organizational Models and Operational Performance”

Due to increased financial pressures combined with growing demand and government support for distance education, further efficiencies in the offering of non-traditional university education is necessary in order to support sustain economic growth. By determining some of the key relationships between current organizational models and operational performance of continuing and/or distance education units in regards to asynchronous undergraduate internet-based distance education this study assists in identifying the most effective organizational models within Ontario universities. Such relationships are to be determined through the comparison and analysis of existing organizational structures to operational performance within 13 Ontario continuing and/or distance education university units. Structural items surveyed include degree of centralization, degree of integration, reporting structure, revenue model and offering characteristics, while performance measures will include costs of goods sold to sales, gross income to sales, operating expenses to sales, age of inventory, staffing to enrolments, enrolments to successful completion, expenses to customer service (both student and faculty) and overall revenues to expenses. Such measures should not only help in the identification of the most appropriate models within Ontario, but also provide guidelines in which other Canadian continuing and/or distance education units may use general benchmarks.

ROY, Lianne
lianne_roy@hotmail.com

“Sexually Transmitted Infections: The Relationship Between Sexual Health Education and Risky Sexual Behaviours”

In Canada, the rates of infection of sexually transmitted infections (STIs) have been steadily increasing since 1997. The population at the highest risk for infection is young adults between the ages of 15 and 24. The main objective of sexual health education (SHE) is to enhance positive sexual health outcomes while reducing negative sexual health outcomes. In Canada, research in the field of sexual health is poor and inconsistent. As a result, this study approached undergraduate students at Nipissing University's North Bay campus in order to ask them to complete a paper and pencil questionnaire. Due to the personal nature of some of the questions, students were asked to complete the questionnaire on their personal time. Of the 1274 questionnaires distributed, 275 were returned and 255 were completed. Participants who submitted their responses were between the ages of 17 and 47, and 82.7% of them identified themselves as female. All other results for this study are forthcoming.

SCHOLL, Graham
gscholl435@community.nipissingu.ca

“Physical activity in students: The transition between secondary and post-secondary education”

Recent studies have shown that Canadian children are less active and are therefore at greater risk of health problems (Tremblay et al. 2003). However, the challenge is not in identifying the problem, but determining the reasons for this trend in an effort to develop effective solutions. This study examines the relationship between physical education participation in secondary school, extracurricular sports participation, and other physical activity with student's subsequent post secondary physical activity level and overall health. Students were asked to complete a questionnaire relating to their levels of physical activity during their secondary school years, including physical education classes, extracurricular sports, and other physical activity. The questionnaire will also ask participants to fill out information about age, gender, and current health and physical activity levels. Upon completion the data will hopefully show any relationships that may exist between activity levels of students throughout secondary school, including participation in physical education, and physical activity and health status during post secondary education.

SHAW, Christina
kris.ballantyne@gmail.com

“Ferry Tales: Using a commercial vessel to monitor Lake Nipissing's environment”

Lake Nipissing serves important economic, cultural and ecosystem functions for residents and visitors. The lake experiences considerable variability in biological productivity both within and between years, and particular concern has been raised regarding apparent declines in fish population and more frequent incidences of blue-green algae blooms. While this may be due in part to the inherent variability of the system, growing levels of human activity within the region, as well as broader changes in lake level and temperature associated with climate change are also likely factors.

Efforts to understand highly variable environments like Lake Nipissing require that data be collected in ways which identify spatial and temporal changes; however, conducting multiple samples along consistent transects is often very expensive. This paper describes an affordable method to collect consistent baseline environmental data about Lake Nipissing on an easily accessible sampling platform. During the summer of 2010, a sensor measuring temperature, conductivity, oxygen and chlorophyll was attached to the Chief Commanda II, a commercial vessel, which journeyed to different parts of the lake twice daily. The results of this pilot project are discussed, as well as plans to refine the method for more efficient analysis and dissemination of data to the public.

SIMPSON, Steven
ssimpson648@community.nipissingu.ca

“Amphibian Utilization of Skidder Trails in Central Ontario Hardwood Forests”

Amphibian populations have been experiencing a general global decline for decades. Although amphibian population decline may be caused by any or all of several different factors, it is suspected that most amphibian populations in decline are suffering from alteration or loss of habitat. Pond-breeding amphibians in forest habitats are very sensitive to changes in their environments and may decline in numbers as a result of stressful conditions before other species are affected. As a result of amphibians' sensitivity, the health of amphibian populations in a habitat may be used as a measure of ecosystem health as a whole.

Some pond-breeding amphibian species exploit temporary pools for laying eggs in order to avoid egg predation. Anecdotal evidence suggests that rubber-tired skidders used during timber harvest may create artificial pools which mimic the natural pools normally used for reproduction by such pond-breeding amphibians. This study examines amphibian reproduction within artificial skidder-trail pools. Environmental characteristics and amphibian activities within pools created by rubber-tired skidders during a harvest in the previous year are compared to those characteristics and behaviours in natural ephemeral pools found in a similar unharvested forest.

Preliminary findings indicate that pond-breeding amphibians preferentially select artificial skidder-trail pools for the deposition of their eggs, and that these pools represent a different physical and biological environment than natural pools. Invertebrate community composition, water quality, water depth, and basal area are more homogeneous among artificial pools whereas water temperatures are more homogeneous among natural pools. Invertebrate communities are also more diverse within artificial pools. Further analysis of the data may reveal environmental characteristics which best predict amphibian reproductive activity. Further study may reveal whether skidder-trail pools serve as useful habitat to pond-breeding amphibians.

SNODDON, Jesse
everynametakent@hotmail.com

"The War On Catiline: Defamatory and Exclusionary Language in Sallust's *Bellum Catilinae*."

This paper is an exploration of the depiction of the character of Catiline as seen in Sallust's "*Bellum Catilinae*". Through an analysis of the language employed, it can be seen that although Sallust presents Catiline as a force of malignant evil, there are clues within the narrative which undermine and contradict this portrayal. Through a close analysis of Sallust's rhetorical technique, however, there is clear evidence that Catiline had evoked far more sympathy with his contemporaries than Sallust would have us believe and that Catiline may have been a political scapegoat of sorts.

STEWART, Crystal
clstewart454@community.nipissingu.ca
stewartlittle_13@hotmail.com

“My ‘Future’”

I created six original works of poetry in the free verse format and then wrote a philosophically based explanation of what I was trying to express in each poem. I also accompanied each poem with an illustration that I found on Google which I thought would further capture the meaning of what I was trying to convey. My topics include an autobiography, factory farming, predestination, deforestation, the uncanny as explained with sex bots, and 'a never-ending future.'

TANNER, Jessica
jatanner754@community.nipissingu.ca

"Adolescent Relationships as a Predictor of Externalizing Behaviour in Toronto Youth"

Youth Survey (2006), including 3290 adolescents from the Toronto Metropolitan Area. Specifically, this study will look at current negative parent-adolescent relationships in predicting externalizing behaviours. Also specific types of past traumatic events will be examined to see if they strengthen/moderate the relationship between these two variables. Although moderation usually implies the weakening of an effect, it can also describe the amplification of an effect. Using hierarchical multiple regression analyses, negative parent-adolescent relationships will be used as a predictor/independent variable of externalizing behaviours with traumatic events as a moderator. Since the parent-child relationship has been shown to undergo a transformation in early adolescence, the relationship refers to that currently perceived by the adolescent. It is expected that parent-adolescent relationships of a negative quality will predict externalizing behaviour and that this effect will be strengthened by any type of traumatic event previously experienced. Such a study could have implications in family therapy settings, that is exploring past traumatic events which could be exasperating problem behaviour resulting from a negative parent-adolescent relationship. Also further understanding the relationship between these three variables could lead to research into more effective therapy approaches for adolescents with behavioural difficulties.

TESSIER, Julie
jj_tessier@laurentian.ca;

CHABOT, Benoit
Benoit.Chabot@usherbrooke.ca

SUTHERLAND, Leslie
lesutherland@hrsrl.on.ca;

"Alternative splicing changes associated with inhibition of RBM10"

RBM proteins are thus classified because of the presence of at least one RNA Recognition Motif (RRM) domain in their protein sequence. The RRM domain is present in many RNA binding proteins that function in multiple aspects of RNA regulation. RBM10 and RBM5 are two RBM-containing proteins with strong sequence conservation. RBM5 is involved in the regulation of alternative splicing of factors that function as modulators of apoptosis. While RBM10 was recently identified as a modulator of apoptosis, its mechanism of action remains to be elucidated. We hypothesize that, like RBM5, RBM10 also modulates apoptosis by altering alternative splicing. We used RNA interference and a reverse transcription-polymerase chain reaction (RT-PCR) screening platform to investigate the relationship between inhibition of RBM10 expression (RBM10 "knockdown") and changes in the alternative splicing pattern of apoptosis- and cancer-associated factors. In the first of two different alternative splicing platforms that were examined, 96 alternative splicing events relating to 92 cancer- and apoptosis-associated genes were examined in five cell lines (MCF-7, MDA-MB-231, SKOV-3, OVCA-3 and PC3) from two transient RBM10 knockdown experiments per cell line. Inhibition of RBM10 expression was associated with many splicing alterations, six of which were significant in at least three of the cell lines in two different knockdown experiments. Anticipating that any significant alternative splicing change associated with RBM10 inhibition would be reproducible in a stable RBM10 knockdown clone, alternative splicing was analysed in a stable RBM10 knockdown MCF-7 subline. Using RT-PCR, changes in the alternative splicing of five of the six significantly altered genes were examined. Data and conclusions will be presented.

THOMPSON, Megan
mlthompson874@community.nipissingu.ca

"Nationality Found in Brushstrokes"

During the early twentieth century in Canada, a distinct artistic movement began to take shape and gain notoriety with the public. Through the work of the essentially self-taught painters of the Group of Seven, the vast and wild landscape that constitutes most of Canada was captured on canvas as a direct representation of the Canadian spirit. Although these painters found their muse in Northern Ontario at the start, they began to travel and discover Canada's mountains and prairies, eventually aiding the tourism industry with their images. The feeling of wanderlust was evident in many city-dwellers. The Group of

Seven published their paintings into brochures for the west, convincing Southern Ontarians of its beauty. Ultimately, the art schools and movements that were developing in Europe at the same time were not transferred across seas as Canada was lacking a central artistic institution. Instead, Canadian art was cultivated solely by Canadians who found spirituality and fantasy within the majestic landscape.

TOMKINS, Ashley
altomkins894@community.nipissingu.ca

"A Day at the Park: The Victoria Day Disaster 1881"

This paper will provide an analysis of the newly developed urban parks throughout the nineteenth century. In order to discuss the dynamics of these early North American parks, I will examine the Victoria Day Disaster of 1881, which occurred in the county of Middlesex London, Ontario on Victoria Day. The goal of this paper is to provide a discussion on the nature of these parks by examining the History of the County of Middlesex, as well as the Canadian Census of 1881 in an effort to determine the reasons why these urban green spaces were used, reasons for their popularity, but most importantly the demographics of the individuals who attended and used these parks.

WARREN, Sara
swarren748@community.nipissingu.ca

"The Influences of Locus of Control on the Bistable Perception of Ambiguous Figures"

During the viewing of ambiguous figures, such as the Necker Cube, observers experience fluctuating perceptions that alternate between the possible interpretations of the figure even though the stimulus pattern remains unchanged. This is referred to as bistable perception (Toppino, 2003). Furthermore, locus of control is described in terms of being externally, in which a subject perceives events contingent on forces outside of their control, or internally controlled, where a subject perceives an event contingent on forces based on their own behavior (Lopez & Snyder, 2003). The present research project investigated whether a person's locus of control influences bistable perception of the Necker Cube. Participants first viewed three variations of the Necker Cube and recorded the number of reversals they perceived and then answered a questionnaire to determine their locus of control. The data were analyzed to determine the whether locus of control significantly predicts the frequency of reversals. This experiment provides novel data on mechanisms that may influences bistable perception. (Approved by Nipissing University Research Ethics Board)

WATSON-FREDETTE, Samantha
swatsonfredette@hotmail.com

ROBINSON, Ashley
a.robinson@hotmail.com

HUTCHINSON, Lisa
hutch_x0x0@hotmail.com

"Touching and Tips: A Student's Perspective."

In this paper, the topic researched was the effect touching customers had on the amount of tips received by hospitality workers. The study was conducted at a student pub, on campus, over a three week period. Our research methods included tracking the amount of each tip and observing customers reaction to the waitress's touch. We hypothesized that touching a customer, the number of people in a group, and the sex of the customer in relation to the sex of the server would affect gratuity. This paper oversees the correlation between the consumer's environment and their behaviour. Our research showed that the factors examined in this study did have an affect on gratuities.

WINSOR, Whitney
wwinsor223@community.nipissingu.ca

“Quantifying Variation in the Wood Quality of Black Spruce (*Picea mariana*) in Relation to Site Conditions in the Boreal Forest of Northeastern Ontario.

Trees in temperate environments produce annual growth rings with anatomical features that reflect the environmental conditions prevailing at the time the tissue was produced. Trees existing under conditions of chronic stress, are slower growing and tend to exhibit higher proportions of wood composed of high density, thick-walled cells. Wood materials with these properties are associated with stronger wood products, considered to be of higher quality in the forest industry. The objective of this study was to determine the relationship between soil moisture regime (MR) and wood quality attributes of Black Spruce (*Picea mariana*), a tree species notably sensitive to soil moisture conditions in Northeastern Ontario, Canada. Using a dendroecological approach, trees were sampled with a specialized (12 mm diameter) boring tool in a stratified random sampling design with plot homogeneity and specific environmental conditions as selection criteria. Three representative tree cores were extracted from each plot. The plots represented four replicates from wet ecosites and four replicates from fresh ecosites, classified according to the Ontario Ecological Land Classification (ELC) field guide. Further sample processing involved the sectioning of each tree core at five locations along the radial plane and the tangential plane. With use of a confocal microscope digital images have been taken to analyze the density of wood cells from the radial sections and the lengths of wood fibres from the tangential sections. Images will be analyzed with a program called WinCell 2010a to quantify wood quality variables to determine averages that can be compared across ecosites with associated moisture regime using a one-way analysis of variance. We hypothesize that a strong correlation exists between soil moisture regime and wood density/fibre length of Black Spruce. Given that the forest resources inventory now includes spatial information on soil moisture, and represents the cornerstone of forest management planning, establishing a predictive model of wood cell attributes will support more informed decision making and could result in increased efficiency and sustainability in forest management.

WOODS, Erin
erinwoods@gmail.com

“Choice, Genre and the Fool in Adaptations of *King Lear*”

The essay examines the relationship between the Fool and the concept of choice in *King Lear*, and the influence that has on the presentation (or elimination) of the role in various adaptations.

YARD, Brianna
byard636@community.nipissingu.ca

“Monsieur Rodolphe Boulanger and Malicious Intent in *Madame Bovary*”

The essay examines the character of Rodolphe Boulanger, his relationship with the title character, and his perniciousness as the quintessential rake in Gustave Flaubert's novel, *Madame Bovary*.