THE UNIVERSITY OF WINNIPEG

GRADUATE STUDIES
THE UNIVERSITY OF WINNIPEG

Special Thanks:

Opening Greetings:
Jino Distasio

Colloquium Judges:
Jeff Martin
Charles Wong
Chris Wiebe
Carlos Colorado

3MT Judges:
Neil Besner
Sarah Whiteford
Jennifer Rattray

Keynote Speaker:
Jennifer Keith

Moderators:
Samantha Clarke
Bakul Trehan
Trudie Broderick
Ashmeet Singh

Thank you to all participants and guests, we look forward to seeing you again next year!

For any questions about this event, please contact Deanna England,
Graduate Studies Officer at 204-786-9093 or d.england@uwinnipeg.ca

DISCOVER · ACHIEVE · BELONG

The University of Winnipeg's Sixth Annual Graduate Students Research Colloquium & First Annual Three-Minute Thesis Competition

April 10, 2014: 1L06 & 1L08

Schedule of Events

8:00—8:45 AM: Registration & Coffee
8:50 AM: Opening Greetings— Dr. Jino Distasio
9:00 – 11:30 AM & 12:30—1:30 PM: Oral Presentations
10:00—10:30: Poster Presentations & Coffee
11:30– 12:00 PM: Lunch Break
12:00 PM: Keynote Speaker— Jennifer Keith, MA in Indigenous Studies Alumna
2:00—3:30 PM : 3MT Competition
3:30 PM: Prize Presentation & Reception

ORAL PRESENTATION SCHEDULE

Time	Room	Name
9:00	1L06	Olivia Weigeldt
9:00	1L08	Sheena Manghera
9:20	1L06	Katelin Neufeld
9:20	1L08	Cenker Sengoz
9:40	1L06	Ken Genlik
9:40	1L08	Samah Alsaadi
10:30	1L06	Grace Paizen
10:30	1L08	Peni Jacob
10:50	1L06	Adam Smith
10:50	1L08	Qianjia (Shy) Huang
11:10	1L06	Behnaz Alimohammadisagvand
11:10	1L08	Brent Bencharski
12:35	1L06	Lauren Bosc
12:35	1L08	Matthew Turnbull
12:55	1L06	Brad Cownden
12:55	1L08	Quinn Webber
1:15	1L06	Badriyya Yusuk & Dulce Gonzalez Ramirez
1:15	1L08	Alana Wilcox

POSTER PRESENTATION SCHEDULE

Time	Name
10:00—10:30	Genevieve Berard
10:00—10:30	Brielle Beaudin
10:00—10:30	Jesse Bellec

3:15 PM Kaitlyn Duthie-Kannikkatt—*Master's in Development Practice (University of Winnipeg)*: **"Our Oldest of Relatives": Seed Conservation and Collaboration for Indigenous Food Sovereignty.** There is increasing evidence that Indigenous knowledge systems associated with the production of traditional foods are under serious threat due to a variety of factors including the historical alienation of Indigenous peoples from their lands, neo-liberal government policies, and modern development pressures. In spite of these threats, communities across Turtle Island are demonstrating resilience and innovation in keeping traditional seeds and foods alive through reviving and strengthening networks and relationships. The Anishinaabe Seed Library, developed by White Earth Land Recovery Project, is one such initiative that has revived not only the White Earth Indian Reservation's "oldest of relatives", but also a set of stories and traditions that are integral to their assertion of self-determination. This research examines how horizontal networks and intergenerational relationship building is supporting Indigenous seed conservation in northern Minnesota. It also examines the implications of this work for fostering resilient networks of seed sovereignty here in Manitoba.

2:45 PM Behnaz Alimohammadisagvand—*Environmental, Resource and Development Economics (University of Winnipeg):* **Behavioral Determinants of Stock Market Participation.** In this paper we present the effect of two behavioral factors, optimism and sociability, on stock market participation. We use novel measures of optimism and sociability based on the questions from the Survey of Health, Ageing and Retirement in Europe (SHARE). Results show that both of these variables are significant and have a positive effect on stock market participation, controlling for risk aversion, wealth, age, education, and gender. Furthermore, risk aversion is found to have the largest effect on the probability of direct stock market participation. The analysis is conducted with a Probit model, and utilizes a sample composed of individuals fifty years of age and above.

3:00 PM Matthew Turnbull—*BioScience, Technology & Public Policy (University of Winnipeg):* **In Silico modeling of the endogenous retrovirus K protease.** The human genome is filled with ancient retrovirus-like elements called Human Endogenous Retroviruses. Most of these elements are inactive under normal conditions, but some endogenous retrovirus K family members are activated in inflammatory diseases. These genetic elements express classical retroviral proteins: polymerase, capsid and envelope proteins, as well as protease. Protease is essential for the maturation of structural viral proteins. Inhibition of ERVK protease may lead to amelioration of disease outcomes, as it does in Human Immunodeficiency Virus (HIV) infection. ERVK protease is poorly inhibited by drugs that target HIV protease; the discovery of new inhibitors is hampered by the lack of a published ERVK protease structure. An alignment of characterized retroviral proteases and prototypic ERVK proteases created using Geneious software was used to evaluate the suitability of ERVK protease for homology modeling. ERVK protease models will be used to predict in silico the efficacy of novel small molecule inhibitors.

3MT® THREE MINUTE THESIS
FOUNDED BY THE UNIVERSITY OF QUEENSLAND

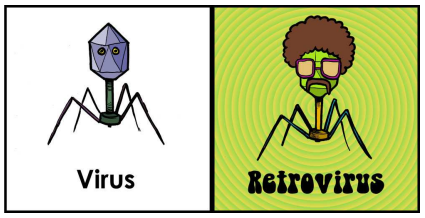
The Three Minute Thesis Competition will take place in room 1L06.

Time	Name
2:00	Sheena Manghera
2:15	Qianjia (Shy) Huang
2:30	Samah Alsaadi
2:45	Behnaz Alimohammadisagvand
3:00	Matthew Turnbull
3:15	Kaitlyn Duthie-Kannikkatt

ORAL PRESENTATIONS

9:00 AM— Olivia Weigeldt—*Cultural Studies (University of Winnipeg)*: An **Invitation to Visit the Witch: The Strange Gift of the Witch's Hut to the Children of Manitoba.** In honour of Manitoba's Centennial in 1970, the German community of Manitoba dedicated the Witch's Hut in Kildonan Park to the children of the Province. The Witch's Hut adapts the Grimms' fairy tale of Hansel and Gretel and features life-sized models of the tale's characters. The Hut's witch is still "alive", both in terms of her ability to incite fear in some, and the fact that she has not yet been killed. This paper questions the meaning of the Hut as a "gift," and what it means to invite children into the home of a witch. Relying on theories of space, in particular Michel Foucault's heterotopia, this paper argues that the Witch's Hut is a strange space. Since, following Henri Lefebvre, space exerts power on subjects and implies both order and disorder, I argue the Witch's Hut both asserts normative narratives for children despite also inviting their queer behaviours.

9:00AM Sheena Manghera—*BioScience, Technology & Public Policy (University of Winnipeg)*: **Re-activation of human endogenous retrovirus-K during neuroinflammation: A consequence of augmented NF-κB signaling.** Retroviral sequences, such as human endogenous retrovirus-K (ERVK), constitute over 8% of our DNA. Re-activation of ERVK has been implicated in neuroinflammatory diseases, notably Amyotrophic Lateral Sclerosis (ALS). Unfortunately, the signals that re-activate ERVK remain unclear. An inflammatory protein, Nuclear Factor kappa B (NF-κB), is constitutively active in ALS, and may induce ERVK gene transcription by interacting with putative NF-κB binding sites in the ERVK promoter. We have over-expressed NF-κB in astrocytes and neurons using plasmids encoding this transcription factor, and through cytokines – TNFα and LIGHT. Using quantitative real-time PCR and western blot, respectively, enhanced NF-κB levels were shown to augment ERVK RNA and protein levels. Through fluorescent microscopy, we confirmed that increased ERVK expression correlates with enhanced NF-κB nuclear translocation. NF-κB binding to the ERVK promoter will be evaluated using chromatin immunoprecipitation. These findings will allow identification of new therapeutic targets to control potentially pathogenic ERVK expression during neuroinflammation**.**



2:15 PM Qianjia (Shy) Huang—*Applied Computer Science & Society (University of Winnipeg)*: **Cyber bullying detection using social networks features.** Cyber bullying, which often has a deeply negative impact on the victim, has grown as a serious issue among adolescents. To understand the phenomenon of cyber bullying, experts from social science have focused on the personality, social relationships and psychological factors involving both the bully and the victim. On the other hand, recently Computer Science researchers have also come up with automated methods to identify cyber bullying messages by identifying bullying-related keywords in cyber conversations. However, the accuracy of these textual features based methods remains limited. In this research, we investigate whether analyzing social networks features can improve the accuracy of cyber bullying detection. By analyzing on the social network structure between users and deriving social networks features such as number of friends, and network embeddedness, we find that the detection of cyber bullying can be significantly improved by integrating the textual features with social networks features.

2:30 PM Samah Alsaadi—*BioScience, Technology & Public Policy (University of Winnipeg)*: **Detection of Human Endogenous Retroviruses-K by Innate Immune sensor RIG-I.** 8% of our DNA contains retroviral sequences called human endogenous retroviruses. Expression of human endogenous retrovirus-K (ERVK) has been associated with neurodegenerative diseases, including Amyotrophic Lateral Sclerosis (ALS). Retinoic acid inducible gene-I (RIG-I), an intracellular viral sensor, may detect ERVK RNA. Recognition of ERVK may trigger an innate immune response, causing ALS pathology. To test whether ERVK RNA induces pro-inflammatory responses, SVGA (astrocyte) and ReNcell (neuronal) cell lines will be transfected with ERVK RNA, i) Isolated from NCCIT cell-derived ERVK virions and ii) synthetic ERVK RNA hairpin structures. Q-PCR and western blot will be used to measure indicators of RIG-I activation. To validate that the RIG-I signaling pathway mediates this innate response, pSUPERretro shRNA vectors will be transfected into these cell lines to knock-out RIG-I expression; we expect that this should limit the pro-inflammatory response against ERVK RNA. This data may illustrate the association between ERVK expression and ALS neuropathology.

10:00 AM Jesse Bellec—*Physics & Astronomy (University of Manitoba)*: **Target Field Based Design of a Phase Gradient Transmit Array for 3D TRASE MRI**. Conventionally, in magnetic resonance imaging (MRI) spatial encoding is acquired through the rapid switching of gradient coils that superimpose a gradient upon a uniform magnetic field. Unfortunately, this generates loud acoustical noise, mechanical vibrations, eddy currents, and large power consumption by the gradient electronics. Transmit array spatial encoding (TRASE) is a novel MRI technique that utilizes specially designed radiofrequency transmit coils, known as phase gradient coils, to spatially encode the MR signal. Effectively, TRASE is a cheaper, safer, and silent MRI technique. To develop phase gradient coils, a target field method was implemented to investigate surface currents on a cylinder that are linked to a targeted phase gradient field. The ideal phase gradient field has uniform magnitude and a linear phase. In this paper, the surface currents generated by the target field method are discussed, and a resulting prototype transmit array for 3D TRASE MRI is presented.

2:00PM Sheena Manghera—*BioScience, Technology & Public Policy (University of Winnipeg)*: **Re-activation of human endogenous retrovirus-K during neuroinflammation: A consequence of augmented NF-κB signaling.** Retroviral sequences, such as human endogenous retrovirus-K (ERVK), constitute over 8% of our DNA. Re-activation of ERVK has been implicated in neuroinflammatory diseases, notably Amyotrophic Lateral Sclerosis (ALS). Unfortunately, the signals that re-activate ERVK remain unclear. An inflammatory protein, Nuclear Factor kappa B (NF-κB), is constitutively active in ALS, and may induce ERVK gene transcription by interacting with putative NF-κB binding sites in the ERVK promoter. We have over-expressed NF-κB in astrocytes and neurons using plasmids encoding this transcription factor, and through cytokines – TNFα and LIGHT. Using quantitative real-time PCR and western blot, respectively, enhanced NF-κB levels were shown to augment ERVK RNA and protein levels. Through fluorescent microscopy, we confirmed that increased ERVK expression correlates with enhanced NF-κB nuclear translocation. NF-κB binding to the ERVK promoter will be evaluated using chromatin immunoprecipitation. These findings will allow identification of new therapeutic targets to control potentially pathogenic ERVK expression during neuroinflammation**.**

9:20 AM Katelin Neufeld—*Psychology (University of Manitoba)*: **Doing good and getting away with it: Mitigating public distrust of moral leaders.** Why are moral leaders often the targets of vicious public criticism? We present experimental and correlational evidence suggesting that one source of derogation is the distrust of public figures who act charitably. In Study 1, participants reported judgments of people who acted charitably in either private or public. Participants viewed the leaders as equally worthy of moral praise regardless of whether their actions were made public or kept private. However, participants trusted moral leaders less when their actions were made public than when kept private. Perceptions of selfishness mediated this relationship. In Study 2, participants were less willing to donate to the charitable cause of someone who acted charitably in public (vs. private) because they were perceived as untrustworthy. In Study 3, we found preliminary evidence that disclosing one's self-interest might be one way in which moral leaders can promote their social cause without incurring distrust.

9:20 AM Cenker Sengoz - *Applied Computer Science (University of Winnipeg)*: ***A* Semi-Supervised Learning Algorithm for Web Information Extraction with Tolerance Rough Sets.** In this paper, we propose a semi-supervised learning algorithm named tolerant pattern learner (TPL) to extract categorical noun phrase instances from unstructured web pages based on the tolerance rough sets model (TRSM). TRSM has been successfully employed for document representation, retrieval and classification tasks. However, instead of the vector-space model, our model uses noun phrases which are described in terms of sets of co-occurring contextual patterns, rather than vectors. The categorical information that we employ is derived from the Never Ending Language Learner System (NELL). The performance of the TPL algorithm is compared with the Coupled Bayesian Sets (CBS) algorithm. Experimental results show that TPL is able to achieve comparable performance with CBS in terms of precision.

9:40 AM Ken Genlik—*Marriage and Family Therapy (University of Winnipeg):* **Emotionally Focused Couple Therapy (EFT): Couples' Reports of Change Experiences.** This research project focuses on couples' reports of change experiences in EFT stage two. Data from three different couples is utilized. The couples are asked to share their experience of change and identify what has changed in their interactional patterns as they are leaving the old patterns behind and creating a new pattern. A qualitative analysis of the transcribed interviews indicates five themes that are presented by the couples. Accessibility, responsiveness, engaged, acceptance and stepping out/coming forward are the themes that contribute to the change in the couples' interactional patterns. These five themes help them to feel connected, respected, cared for, loved, close and intimate. The couples report that change means to be responsive, accessible, and accepted. Although EFT does not explicitly talk about acceptance and stepping out/coming forward, further research focusing on these themes and their connection to softening events could enrich the EFT framework.

9:40 AM Samah Alsaadi—*BioScience, Technology & Public Policy (University of Winnipeg)*: **Detection of Human Endogenous Retroviruses-K by Innate Immune sensor RIG-I.** 8% of our DNA contains retroviral sequences called human endogenous retroviruses. Expression of human endogenous retrovirus-K (ERVK) has been associated with neurodegenerative diseases, including Amyotrophic Lateral Sclerosis (ALS). Retinoic acid inducible gene-I (RIG-I), an intracellular viral sensor, may detect ERVK RNA. Recognition of ERVK may trigger an innate immune response, causing ALS pathology. To test whether ERVK RNA induces pro-inflammatory responses, SVGA (astrocyte) and ReNcell (neuronal) cell lines will be transfected with ERVK RNA, i) Isolated from NCCIT cell-derived ERVK virions and ii) synthetic ERVK RNA hairpin structures. Q-PCR and western blot will be used to measure indicators of RIG-I activation. To validate that the RIG-I signaling pathway mediates this innate response, pSUPERretro shRNA vectors will be transfected into these cell lines to knock-out RIG-I expression; we expect that this should limit the pro-inflammatory response against ERVK RNA. This data may illustrate the association between ERVK expression and ALS neuropathology.

10:30 AM Grace Paizen—Cultural Studies (University of Winnipeg): **Dirty Laundry: The Dangerous Cultural Function of Fashion Advertisements.** Throughout British and American fashion history, fashion advertisements have attempted to shape the feminine ideal. From their earliest forms, fashion advertisements have taught women the rules of proper womanly behaviour, telling them what to wear to be heterosexually attractive, and how to perform being a woman. Today, the fashion industry creates hyper-sexualized images of the female and the female body to invoke a post-feminist motif. Such ads insist that the feminist fight for equal rights has already been won, arguing that a fashion model poses in a hyper-sexual manner out of her own agency. In effect, they create an illusion that the West has entered the post-feminist age, attempting to mask the fact that female performance remains largely determined by masculine desire. The function of fashion advertisements is, therefore, culturally damaging as they diminish the urgency of striving for gender equality, consequently posing a threat to the Western feminist objective.

10:30 AM Peni Jacob—BioScience, Technology & Public Policy (University of Winnipeg): **PROBING WHITE MATTER PATHOLOGY USING MULTIPLE MRI METRICS**. The most common neurodegenerative autoimmune disease that affects white matter is multiple sclerosis (MS). Magnetic resonance imaging (MRI) methods thought to assess myelin integrity and the structural integrity of axons have played an important role in the diagnosis and management of MS especially because of their ability to detect lesions prior to clinical symptoms. Despite the demonstrated efficacy of conventional MRI, correlations between conventional MRI findings and clinical status are weak. As a solution to these limitations. I propose the use of several quantitative MRI methods as complementary biomarkers for MS. Given the varying influence tissue pathology can have on different quantitative MRI metrics, a multiparametric approach combining measurements from more than one quantitative MRI metric would provide a probabilistic map of white matter pathology allowing a better understanding of the pathological changes associated with the changes seen in MRIs. I will present my progress toward this goal.

POSTER PRESENTATIONS

10:00 AM Genevieve Berard—*BioScience, Technology & Public Policy (University of Winnipeg)*: **Detection of the Heterogeneous Vegetation Cover Zone for Geocoding of Shoreline Position in Subarctic Canada using Landsat 8 Satellite Imagery.** Sea ice amount and distribution are changing faster in the arctic than in any other environment on the globe (Serreze and Francis, 2006). Between 1993 and 2009, the estimated mean rate of sea level rise was 3.3 ± 0.4 mm/year and is projected to continue accelerating (Nicholls and Cazenave, 2010). The goal of this research is to improve geocoding of multi-temporal remotely sensed imagery for accurate change detection of the Hudson Bay shoreline using a heterogeneous coastal vegetation zone as a geocoding feature. Field data collection coincided with three Landsat 8 images acquired for the study site, near Churchill, Manitoba. Leaf Area Index data will be compared with spatial objects, spectral reflectance and texture measures to ascertain the best image products for improving classification of heterogeneous coastal vegetation. If this is successful, the zones of homogeneous-, heterogeneous-, and no-vegetation can be mapped and used for geocoding multiple images.

10:00 AM Brielle Beaudin—*Indigenous Governance (University of Winnipeg)*: **Métis Food Sovereignty in Manitoba: Perspectives from Harvesters on Traditional Foods and Métis Harvesting Rights.** The Métis of Canada have long relied on the gifts of the land as their main source of food, water, medicine, warmth and shelter. Traditional harvesting skills have been shared throughout generations. Today, numerous Métis peoples continue these traditions and for many, harvesting plays a significant role in their lives, however, very little is known about the influences of their practices on their culture, identity, and well-being. Furthermore, less is known about the impacts of former and current legislations affecting their rights to harvest in Manitoba. This case study research aims to explore Métis food sovereignty in Manitoba by investigating Métis harvesters perspectives on harvesting traditions and the legislations that influence these traditions and practices through the following methods: archival research, individual semi-structured interviews and a review of secondary sources. This presentation will highlight the research process and preliminary findings from the research.

1:15 PM Badriyya Yusuf and Dulce Gonzalez-Ramirez—*Master's in Development Practice (University of Winnipeg):* **Sexual exploitation, abuse and U.N. peacekeepers.** In times of war and conflict, women are known to be susceptible to sexual violence perpetuated not only by adversaries, but their protectors as well. Evidence increasingly indicates that some peacekeepers have been no exception in taking advantage of broken systems through their involvement in human trafficking for the purpose of sexual exploitation and abuse. A limited amount of scholarly literature exists on this issue due to a dearth of evidence. This study uses a systematic literature review to explore peacekeeping economies and their unintended consequences of sexual violence. Militarized masculinity is used as a framework to assess documented cases and responses of the UN to charges of sexual abuse and exploitation by peacekeepers. The study also highlights the contributions of women on the international front in helping to bring about changes to peacekeeping operations. The study recommends the need for more drastic measures such as removal of immunity to serve as a deterrent.

1:15 PM Alana Wilcox—*BioScience, Technology & Public Policy (University of Winnipeg)*: **Bat house heating: climate controlled roost boxes as a conservation tool for bats.** During spring and summer, temperate bats face selection pressure to roost colonially in warm microclimates in order to increase offspring growth rates. In North America, many of these species are currently facing declines due to white-nose syndrome (WNS), a fungal disease that causes premature fat depletion. Mortality rates are extremely high, but a few bats survive. If these individuals exhibit heritable survival traits, enhancing their spring survival and reproduction could facilitate evolution. Artificially heated roost structures are already widely used by bats during spring and summer (i.e., bat houses) and could provide a new conservation tool. We are testing two hypotheses: 1) little brown bats preferentially select heated roosts; and 2) artificial heating enhances healing and chances of reproductive success in captive bats. These hypotheses predict that bats roosting in heated structures should heal from WNS more quickly, use torpor less often, and gain mass more quickly compared to controls.

10:50 AM Adam Smith—*Theology (University of Winnipeg)*: **Agamben's Anaphora: On the Figure of the Priest.** In his Opus Dei, the Italian philosopher Giorgio Agamben has highlighted the conceptual perplexity that surrounds the Christian priest. On one hand, the priest bears the burden of being a representative of God. Yet, the priest is also seen as a pure instrument of God's power, whose intentions are viewed as irrelevant. The priest, Agamben argues, is the model that enacts an entire ontology of the modern ethical subject. The liturgical paradigm, Agamben argues, makes action prior to being: a priest acts and only thereafter can be. This paper will argue that Agamben's articulation of the priestly aporia is not sufficient. The character of the priest is not actually indifferent, but disappears entirely. The priest is not a having-to-be, but rather a having-to-not-be. In 'repeating' the unrepeatable sacrifice of Christ, and representing the un-representable Christ, the priest is only there to disappear. The priest exists only as a negation.

10:50 AM Qianjia (Shy) Huang—*Applied Computer Science & Society (University of Winnipeg)*: **Cyber bullying detection using social networks features.** Cyber bullying, which often has a deeply negative impact on the victim, has grown as a serious issue among adolescents. To understand the phenomenon of cyber bullying, experts from social science have focused on the personality, social relationships and psychological factors involving both the bully and the victim. On the other hand, recently Computer Science researchers have also come up with automated methods to identify cyber bullying messages by identifying bullying-related keywords in cyber conversations. However, the accuracy of these textual features based methods remains limited. In this research, we investigate whether analyzing social networks features can improve the accuracy of cyber bullying detection. By analyzing on the social network structure between users and deriving social networks features such as number of friends, and network embeddedness, we find that the detection of cyber bullying can be significantly improved by integrating the textual features with social networks features.

11:10 AM Behnaz Alimohammadisagvand—*Environmental, Resource and Development Economics (University of Winnipeg):* **Behavioral Determinants of Stock Market Participation.** In this paper we present the effect of two behavioral factors, optimism and sociability, on stock market participation. We use novel measures of optimism and sociability based on the questions from the Survey of Health, Ageing and Retirement in Europe (SHARE). Results show that both of these variables are significant and have a positive effect on stock market participation, controlling for risk aversion, wealth, age, education, and gender. Furthermore, risk aversion is found to have the largest effect on the probability of direct stock market participation. The analysis is conducted with a Probit model, and utilizes a sample composed of individuals fifty years of age and above.

11:10 AM Brent Bencharski—*BioScience, Technology & Public Policy (University of Winnipeg):* **Organizational Learning Best Practices in Environmental Management Systems in the Electrical Utility Industry in Canada**. Evolving societal values, and concerns for transparency and accountability, are major pressures influencing corporations to improve their environmental management and sustainability practices. In the electrical utility industry, a major tool used to address these pressures is an Environmental Management System (EMS). Preliminary interviews with a major electrical utility company in Canada have revealed that EMS implementation challenges exist. Particularly, employees in an organization are not aware and/or are not adopting and utilizing the EMS. This proposal suggests that the concept of organizational learning is a necessary component to improving the efficacy of an organization's EMS. Using a qualitative research design with multiple data collection methods - document and literature review, interviews, Delphi - I aim to identify organizational learning "best practices" by studying the EMSs of 10 Canadian electrical utilities. I expect to find that strengthening the organizational learning system(s) in a corporation will enhance the overall environmental management.

12:35 PM Lauren Bosc—*Cultural Studies (University of Winnipeg):* **Shaming, Pitying, and Valorizing the Body: The Spectacle of Fatness in *Half Ton Killer?*** In 2008, a woman named Mayra Rosales was arrested in Texas after confessing to killing her two year old nephew by falling on him with her 800 pound body. In a television documentary called Half Ton Killer? produced by The Learning Channel (TLC), Rosales' body and weight are spectacularized and function as markers of her grotesque and freakish physique and crime. Through the lens of the camera, Rosales' body is displayed as her death sentence, regardless as to whether or not she is convicted of the crime she has been arrested for. This paper intends to trace the ways in which Half Ton Killer? situates Rosales as a spectacle to be shamed, pitied, and valorized as representative of an act in a freak show; an argument which will attempt to uncover the power inherent in spectacularizing and *fetishizing the "abnormal" body*.

12:35 PM Matthew Turnbull—*BioScience, Technology & Public Policy (University of Winnipeg):* **In Silico modeling of the endogenous retrovirus K protease.** The human genome is filled with ancient retrovirus-like elements called Human Endogenous Retroviruses. Most of these elements are inactive under normal conditions, but some endogenous retrovirus K family members are activated in inflammatory diseases. These genetic elements express classical retroviral proteins: polymerase, capsid and envelope proteins, as well as protease. Protease is essential for the maturation of structural viral proteins. Inhibition of ERVK protease may lead to amelioration of disease outcomes, as it does in Human Immunodeficiency Virus (HIV) infection. ERVK protease is poorly inhibited by drugs that target HIV protease; the discovery of new inhibitors is hampered by the lack of a published ERVK protease structure. An alignment of characterized retroviral proteases and prototypic ERVK proteases created using Geneious software was used to evaluate the suitability of ERVK protease for homology modeling. ERVK protease models will be used to predict in silico the efficacy of novel small molecule inhibitors.

12:55 PM Brad Cownden—*Physics (University of Manitoba):* **Modern Models of Extra Dimensions in String Theory.** String theory is a leading contender for a theory that describes all the types of matter and interactions in the known universe. This theory is built upon the simple premise that the most fundamental objects of the universe are tiny, one-dimensional strings of energy. One of the consequences of string theory is that our universe is, in fact, ten-dimensional, meaning that there are six dimensions not accessible to everyday physics. My thesis uses the low energy limit of Type IIB string theory to study the motion of D-branes (instrinsically stringy objects) in the compact dimensions in the presences of fluxes. The coupling of the D-brane motion to other moduli is solved in the full 10D theory, then dimensional reduction is used to produce a 4D theory that encodes the physics of the compact space. The coupling terms thereby produce first order corrections to background moduli equations.

12:55 PM Quinn Webber—*BioScience, Technology & Public Policy (University of Winnipeg):* **Behaviour and pathogen transmission dynamics in little brown bats.** Host-pathogen interactions may be influenced by host behaviour. For example, some individual animals exhibit more sociable tendencies (i.e., personalities) than others, which could influence risk of pathogen exposure. Bats are among the most gregarious of mammals and their colonial nature likely influences transmission of pathogens that have human biomedical (e.g., zoonotic viruses) and conservation importance (e.g., the fungus that causes white-nose syndrome – WNS). My research will examine the influence of personality on pathogen transmission dynamics in little brown bats at the local scale of individual colonies and the landscape scale of populations. I will quantify personality traits using a novel environment test and roosting associations using social network analysis. I will then assess the role of behaviour in the transmission of a non-invasive but highly "contagious" proxy for WNS. I predict that more active and sociable bats will face greater risk of acquiring and transmitting parasites and pathogens.