



Keystone Symposium Schedule, 2 & 3 May 2019

THURSDAY

Date + Time		Room A (AC.208)	Room B (AC.214)	Room C (AC.315)	Room D (AC.322)	Room E (AC.119)
Thurs 9-10	1	Chair: Jamie Alexander Gillespie (Jamie) Josie Bauman (Jamie) Rachel Davis (Jamie)	Chair: Darcy Dan Lee (Darcy) Max Notarangelo (Darcy) Lars Š Laichter (Darcy)	Chair: Kim Tully Henke (Kim) Heather Waterous (Kim) Matthew Peck (Kim)	Chair: Kaija Catriana MacKinnon (Kaija) McCoy Lum (Kaija) Samuel Macdonald (Kaija)	
Thurs 10-11	2	Chair: Tamara Carl Lovestrand (Jamie) Liliana Weimer (James B.) Katie Verigin (Tamara)	Chair: Ahalya Maya Treuheit (Ahalya) Anna Carlson-Ziegler (Ahalya) Kelsey Green (Ahalya)	Chair: Andrew John Taylor-Robins (Andrew) Kristophe Bédard (Andrew) Amaya Cherian-Hall (Ian P.)	Chair: Mai Kysa Johnson (Mai) Emily Hammond (Mai) Kaela Evenchick (Mai)	
Thurs 11-12	3	Chair: Tamara Mohamed Mohamed (Tamara) Tam Nguyen (Tamara) Ahmed Faarah (Tamara)	Chair: Tanjeem Sasha Broadwater (André) Nicole Zanesco (André) Ryan Malone (Molly)	Chair: Andrew Maya Andersen (Ian P.) Paulina von Löwis of Menar (Doug) Sophie Mahalia Reiner (Doug)		Chair: Jeff Jason Ames (Jeff) Simon Digby (Jeff) Ian Fischer Baldwin (Jeff)
Thurs 1-2	4	Chair: Mai Byron Essert (Steve) Valerie Fowles (Steve)	Chair: Ahalya Kynyn Doughty (Ahalya) Dayne Sabo (Ahalya)	Chair: Andrew Kailyn Pritchard (Glen) Owen Scholes (Ian H.) Kika MacFarlane (Glen)		Chair: Colin Joe Charles Seibert (Jeff) Nathaniel Hanson (Shira) Paris Rosenthal (Shira)
Thurs 2-3	5		Chair: Molly Elin Sober-Williams (Molly) Adrienne Gomes (Molly)	Chair: Emma Robert Nutt (Andrew) Devon Mitchell (Emma)		Chair: Jamie Aliya Millson (Jamie) Lista Spensley-Tagornak (Jamie) Andrea Denny-Jiles (Jamie)
Thurs 3-4	6				Chair: John Hannah Petrillo (Emma) Hayley Birss (John) Ariel Maggi-Byers (John)	

FRIDAY

Date + Time		Room A (AC.208)	Room B (AC.214)	Room C (AC.315)	Room D (AC.322)	Room E (AC.119)
Fri 9-10	7	Chair: Tamara Jack Gralla (Doug) Levi Robert Kirkby (Doug) Sachi Swift (Tamara)	Chair: Jacy Marissa Kingzett (Jacy) Eluti Danzig (Jacy) Franka Hentze (Jacy)	Chair: Colin Keltie Hansen (Molly) Ella Van Cleave (Colin)	Chair: Andrew Benjamin Shanafelt (Marjorie) Brianne Swanson (Marjorie)	Chair: Ahalya Ava Swanson (Ahalya) Teaguen Craig (Ahalya) Aina Yasué (Ahalya)
Fri 10-11	8	Chair: Tamara Rachael Sandri (Darcy) Emily Frame (Negar)	Chair: Tanjeem Bonnie Warburton (Kaija) Kyra Boulding (Thor)	Chair: James B. Brian Evasiuk (James B.) Alec Phillips (James B.)	Chair: Fei Alexander Webster (Fei) Maya Cook (Fei) Akasha Muxia Long (Fei)	Chair: Colin Tala Schlossberg (Colin) Marijn Kuizenga (Colin) Casper Clausen (Colin)
Fri 11-12	9	Chair: Negar Jordin Wilkinson (Negar) Satori Clarke (Negar) Sophie van Baar (Negar)	Chair: Emma Emily Lachenmayer (Emma) Matilda Taylor (Emma) Emily Bison (Emma)	Chair: James B. Elise Dube (James B.) Rachel Giacomodonato (James B.) Benjamin Henkel (Kim)	Chair: Mai Jordan Kaltenbruner (Fei) Bijah Spevakow (John) Riann Lognon (John)	Chair: Jamie Emily Glasberg (Jamie) Laurel Baskin (Jamie) Kathryn Luebkehan (James M.)

Showcase

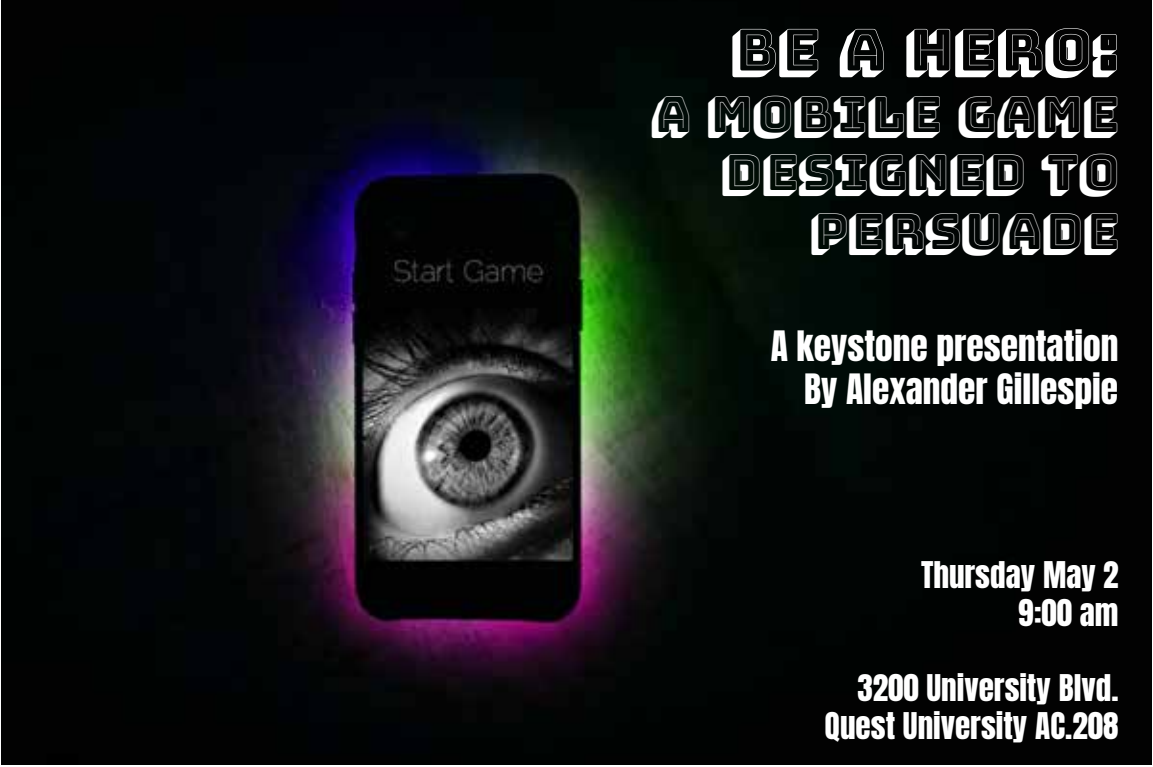
Date + Time	MPR
Fri 3:30-5:30	Molly Hamilton (John) Lexis Kepler (Molly) Maximilian Kahn (Darcy) Mathias Horne (Jamie) Martin Lentz (Steve) Samantha Leigh (Eric)

NOTE: Each session will run continuously, with no breaks between talks. The audience will be encouraged to remain in the room for the duration of the session. There will be approximately 10 minutes between sessions for audience members to move between rooms.

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Be A Hero: A mobile game designed to persuade

Alexander Gillespie | Jamie Kemp

What is the connection between lifestyle and well-being? While the question of what makes a good life has been being asked for ages, recent studies from the field of positive psychology have moved us closer to pinning down the thoughts and behaviors that facilitate well-being. Simultaneously, studies of choice architecture and CAPTology (Computers As Persuasive Technology) are being used by marketers and designers around the world to shape what people think and do, perhaps nowhere more so than in the field of video game design. The field of serious gaming has attempted to use the findings of positive psychology to improve the lives of their users, but have largely stayed away from the persuasive techniques used by their profit-driven counterparts. For this Keystone presentation, I have created a serious game designed to use the modern techniques and tools of persuasion to improve the lives of its users. In this presentation, I will walk the audience through what using the app is like and some of the academic reasoning behind its creation. What I hope listeners will take away is that many of our daily thoughts and actions were strategically designed by outside actors, that they may not be in our best interest, but that we have the tools to change this for the better. While this Keystone was undertaken primarily for my own growth and education, it is my hope that this presentation will lead listeners to demand that the programs that fill our lives are designed to improve our collective well-beings rather than treating it as an externality.



On Track, Off Track: A photographic exploration of identity in roller derby

Josie Bauman | Jamie Kemp

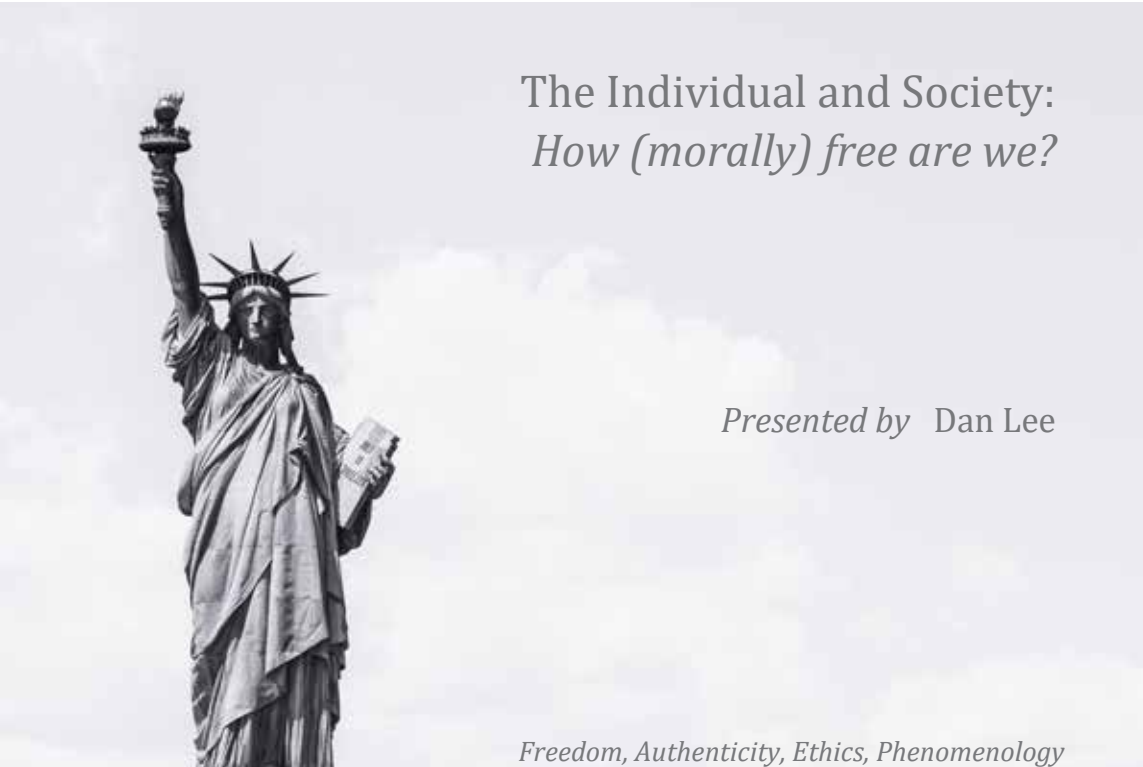
For my keystone project, I chose to research identity in the subculture of roller derby through interviewing and photographing skaters in British Columbia. I used methods of ethical photography to create an art series of conceptual photographs and accompanying artist statement. I began learning about the history and current questions facing roller derby when I joined the Sea to Sky Sirens (the Squamish-based team). I quickly became interested in the unusual space roller derby offers for women, as the sport has its roots in resistance to traditional athletic practices, hegemonic norms, and performances of gender. My images and research explore the notion that on the roller derby track athletes are able to perform aspects of their identity that are not socially acceptable off the track. Roller derby encourages women to be aggressive and bold in contradiction to traditional expressions of femininity. Photography is a method of inquiry that has long been used as a method of subjugation; a voyeuristic way of framing others through a lens of domination. I wanted to use photography, but I wanted to do so in a way that did not cause harm, and did not perpetuate the objectification of my subjects. There is currently no singular clear-cut methodology to conduct ethical photography, so in my work I acknowledge the power dynamics at play and attempt to mitigate their effects. The result is a conceptual photography series of a sport that is unusual in many ways, in which I present a new framework for creating feminist spaces through photography.



(Re)Grow: An Activity book for Grief

Rachel Davis | Jamie Kemp

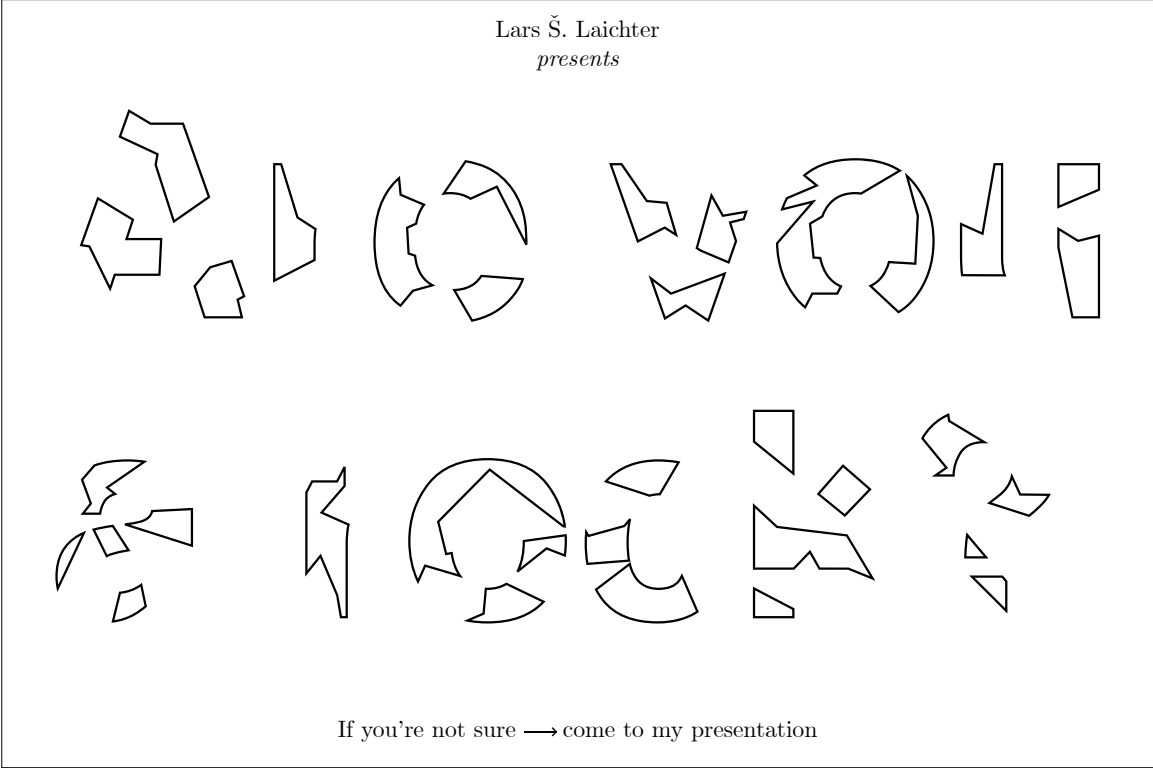
How Does Art Heal? Examining this Question through the discipline of psychology, visual art has shown positive correlations with decreasing anxiety and depression, and increasing stress resilience, mindfulness, and overall mental wellbeing. Despite these positive research findings, a large gap remains in the literature regarding the relationship between art and psychological healing for at-risk demographics, such as adolescents. In this Keystone presentation, I explain why I created a visual art therapy activity book for grief, why I targeted adolescents and the decisions behind my content and design choices. An activity book that merged written and art-based interventions specifically designed for adolescents is, to my knowledge, nonexistent and has the potential to provide a beneficial avenue of support for this demographic. Through this presentation, I will highlight the psychological theories of grief and successful design elements that motivated the activity book. I will also share aspects of my own experiences with grief as a way to create personal meaning for the project. This presentation will ask you to consider the importance of offering meaningful support mechanisms for adolescents and young adults experiencing grief.



**The Individual and Society:
How (morally) free are we?**

Dan Lee | Darcy Otto

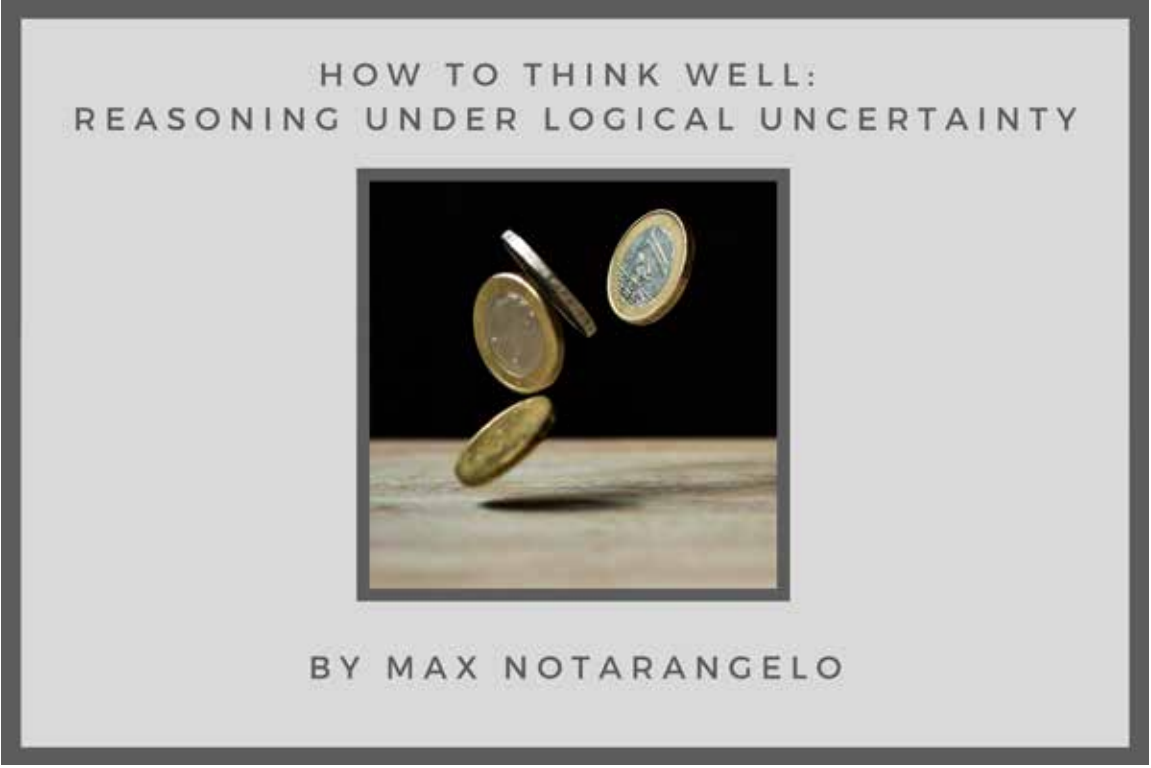
What is the relationship between the individual good and the political good? This question has been studied by scholars across the social sciences and the humanities. Although the following inquiry was limited to the philosophical disciplines, within philosophy alone, scholars have explored this question from disparate perspectives. My inquiry was motivated by an important sub-question relating to the question above: Does a relationship between the individual and society imply limits on individual freedom? Although many of us in the democratic West generally believe that there should be some limits on individual freedom, we also believe that individual freedom is paramount. This is reflected in the common opinion that the aforementioned limits on freedom ought only to be in place insofar as they contribute to a more just distribution of freedom throughout society. At a subtler level, we reveal the extent to which we have internalized the ideal of individual freedom when we exhort another to "just be yourself!" Underlying this statement is the belief that individuals are fundamentally free to be authentic, i.e., to define themselves on their terms alone, and that they are being inauthentic when they allow themselves to be constrained in their individual expression. As a central part of his argument in the book, *After Virtue*, Alasdair MacIntyre calls this belief into question, arguing that individual identity is crucially determined by one's relationship to others (i.e., by social identity). According to MacIntyre, this means that individuals are not radically free to "be authentic." In this Keystone presentation, I provide an overview of one of the most important and controversial aspects of MacIntyre's argument: The claim that morality is not a matter of individual freedom or opinion, but is determined by our social identity.



Are you a rock?

Lars Š. Laichter | Darcy Otto

What are the limits of the mind? I examine my Question through the lens of analytic philosophy, in particular, the lens of philosophy of mind. Philosophy of mind is a branch of philosophy that studies the nature of the mind and its relation to the physical world. In my Keystone presentation, I introduce and discuss one of the prominent problems in the philosophy of mind, which is the nature of conscious experiences. Conscious experiences have been claimed to be unexplainable through the reductive methods of the sciences. I discuss the problem from the perspective of a theory of consciousness, named illusionism. Illusionism claims to explain away the incongruity of conscious experiences with physicalism by claiming that conscious experiences are a product of an illusion. Nevertheless, the French philosopher François Kammerer has objected that it appears particularly difficult to conceive of the illusionist theory as true. I evaluate the consistency of the illusionist approach and propose four criteria to constrain a possible illusionist explanation. I do so by employing formal methods from logic and formal epistemology. I conclude that the proposition of the existence of the illusion of consciousness is conceivable if its account can meet all four of my criteria. My four criteria constraint the illusionist account as conceivable, thereby paving a possible way for a functional account of the illusion of consciousness.



How to Think Well:
Reasoning under Logical Uncertainty

Max Notarangelo | Darcy Otto

What is the nature of rationality? The field of decision theory has a proposed answer, split into two parts. First, a rational agent should have beliefs that can be represented by probabilities (for instance, an agent might believe that there is a 30% chance it will rain in Squamish tomorrow), which change in response to new evidence according to the rules of probability theory. Second, a rational agent should have preferences among states of the world, called utilities, that obey some simple criteria (for instance, if I prefer state A to state B, and state B to state C, I must prefer state A to state C). Given such beliefs and preferences, a rational agent simply takes the action that maximizes their expected utility.

Unfortunately, assigning probabilities to beliefs in a coherent fashion requires an agent to be logically omniscient; in other words, they must know all facts about logic and mathematics. This is not a realistic constraint, which motivates the following question: how ought an agent that is logically uncertain (that does not know all logical and mathematical facts) produce good beliefs about such statements, and refine them over time? In my Keystone talk, I describe this problem, and then explain the logical induction criterion, a criterion for good reasoning under logical uncertainty, developed by Garrabrant et al. [2016].

The logical induction criterion satisfies many of the proposed desiderata for reasoning under logical uncertainty. Thus, the logical induction criterion is a good definition of rationality for logically uncertain agents. It is also a good framework for mathematicians reasoning quantitatively about unproven conjectures, as well as a standard to compare faster-running algorithms that reason under logical uncertainty.



Re-Focusing Our Lens

Heather Waterous | Kim Dawe

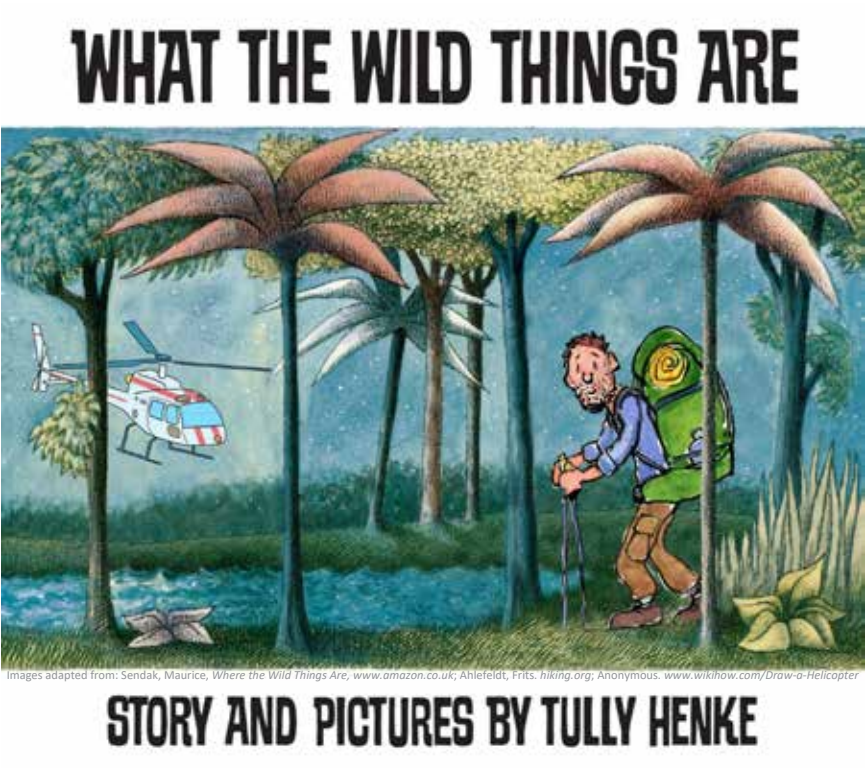
How are Arctic wildlife responding to climate change, as understood through various ways of knowing? This question, which I developed during my Question block a few years ago, has shifted as I turned my attention to my Keystone. My line of questioning became: how should we study and manage wildlife? Wildlife management is an interdisciplinary field that brings together science, politics, belief systems and worldviews, as well as a variety of stakeholders and nations. It is thus critical to consider many aspects of the nuanced and varied information that drives wildlife management. When I walked into a meeting with my mentor to plan my Keystone, my only stipulation was that I really wanted to produce something that would be useful. It turns out that I was able to do just that! A new-found passion for photography and my long-standing passion for wildlife collided and, remembering my initial questions’ interest in wildlife responses, I took a deep dive into how camera trap (CT) studies can be built and designed to meet specific management needs. I identified a key methodological gap in camera trap programs: while matching specific research objectives to study design is not a novel concept, it is often left out in camera trap programs and is also largely omitted from the literature. This enticing knowledge gap was just waiting to be filled. In the process of doing just that, I produced a set of recommendations that has already been shared with Provincial ungulate biologists and has also now been disseminated to the team designing the province-wide camera-trapping “best practices”. Taking you along for what I feel is a truly WILD ride, I will share how we can tailor study designs so that we get exactly the kind of pictures we need.



Flirting With Fish: Asking Resident Chinook Salmon “Where They Are From” Using Microsatellite DNA Analysis

Matthew Peck | Kim Dawe

How Can We Conserve Ecosystem Integrity of the Salish Sea? The Salish Sea is a biodiversity hotspot that has been facing large declines in biodiversity in the last few decades. Recently the Salish Sea has been drawing major attention due to the declines of well-known species such as southern resident killer whales and their primary food source, Chinook salmon. Both of which are an endangered species in the Salish Sea. For my research I studied wild resident Chinook salmon or “Blackmouth”, these are fish that supposedly never leave the protected waters inshore of Vancouver Island. And therefore are a critical food source for marine predators in the winter months when other salmon are not available. Despite the importance of this population, no studies have attempted to identify where wild Blackmouth come from. Results using tagged hatchery fish have found that all Blackmouth originate from hatcheries surrounding the Salish Sea but no studies have confirmed that this is true for wild fish as well. Accordingly it was the goal of my research to determine stocks of origin for 10 wild Blackmouth using genetic analysis of 13 microsatellite loci. The results of this analysis found that contrary to the studies done using hatchery fish, the wild salmon in this study came from as far away as southeast Alaska and the central coast of California. These results bring into question whether or not wild Chinook salmon present in the Salish Sea in the winter months can actually be considered resident and also suggest that there are fewer wild Chinook salmon originating from rivers surrounding the Salish Sea than previously thought. This has implications that Southern Resident Orcas may have even less food than expected.



What The Wild Things Are

Tully Henke | Kim Dawe

What is the human right to the wilderness? The amount of wildlands around the world is drastically declining in the wake of human development and climate change. Outdoor recreation is a principal way we engage with these wild places. This recreation is important for many on personal, social, and economic levels. Recreation management is the primary avenue used to reconcile this use of land with the impacts it has on both the environment and on users. I began my Keystone with an empirical impact assessment looking at trail effects on plants. The results of this study have not yet clearly identified impacts, and this led me to ask what could actually inform management decisions. This resulted in what I will be the main focus of my talk, a review of the paradoxes that confront recreation management in the current environmental and socioeconomic world. I wish to make clear that the evidence provided by ecological research is only a small part of what results in the challenges of wilderness and land management. The use of wilderness areas and land by recreation activities will remain important into the foreseeable future. Understanding the uncertainties involved will only increase in importance as it continues to develop.



The Canadian Sealing Controversy

Catriana MacKinnon | Kaija Belfry Munroe

How does radical environmental activism influence society?

Canada's commercial seal hunt is the single largest annual slaughter of marine mammals in the world. It is also one of the most controversial. From the 1960's to the 1990's, anti-sealing protesters went head-to-head with the Canadian government as one side attempted to abolish the hunt and the other fought to save it. This talk explores the social impacts this conflict had on East Coast and Indigenous sealing communities. More specifically, I explore the economic and cultural losses suffered by sealing communities, and the ways in which these damages were exacerbated by the Canadian government. While accusing protesters of ignoring issues of class and culture, the Canadian government simultaneously accentuated class divides and cultural differences, and created policies that negatively impacted the communities they claimed to protect. By framing the conflict as a black and white issue, erasing nuanced opinions, and ignoring the differences between commercial and Indigenous sealing, the Canadian government prolonged the sealing controversy and exacerbated its negative impacts on marginalized communities. Throughout this presentation I hope to unravel some of the complexities surrounding the Canadian sealing controversy and provide the audience with a new perspective on an old but ongoing conflict.

Under What Conditions Do Firms Adopt CSR?



A Keystone Presentation By Mccoy Irving Lum
MAY 2, 2019
FROM 9-10AM
AC 322

Under What Conditions do Firms Adopt CSR

Mccoy Lum | Kaija Belfry Munroe

The question that my keystone seeks to answer is "Under what conditions do firms adopt Corporate Social Responsibility?". To answer this question, I have grounded my research in literature from the fields of business strategy, decision making theory, and Corporate Social Responsibility (CSR).

In a competitive landscape, firms are constantly trying to gain an edge in their respective industry and economies. This burden often falls on management groups as they employ strategic approaches in order to create a competitive advantage for their firm. However, firms must operate within the ethical parameters of society as public protests and boycotts of firms have demonstrated that society will hold firms accountable for unethical behaviour. Therefore, changing social environments have become a variable that managers must consider when employing business strategies.

There are two hypotheses I have created that seek to answer my question. The first being that firms will adopt CSR policies as a reactionary measure when facing the loss of reputational capital. The second hypothesis is that firms will implement CSR policy as a proactive measure to gain a competitive advantage. Through a case study of the company Nike, I will test my two hypotheses by analyzing the conditions under which Nike has implemented CSR policies throughout the company's history.



Should Quest Go Public? Assessing the Implications of Regulation in B.C. Public Postsecondary Institutions

Sam Macdonald | Kaija Belfry-Munroe

How does government regulate business? The government is equipped with various regulatory sticks and carrots to incentivize or de-incentivize certain economic behaviour. These regulations serve to form the broader political economy, and determine the rules by which all businesses must adhere to. As a private institution, Quest University is subject to less regulation than its public counterparts. However, given the University's financial struggles, it may be in its best interest to become a public postsecondary institution. Although increased regulation is concerning, evidence gathered from budget letters, ministerial service plans, founding legislation, debates in Hansard, labour market forecasts, university governance policy, and academic works suggest that the benefits of going public, to ensure the longevity of the University, may outweigh the costs."



HALFTIME

The clothing capsule

Keystone by Carl Lovestrand

May 2nd, 10am, AC 208

Halftime: The Clothing Capsule

Carl Lovestrand | Jamie Kemp

How can we effectively design and sell aesthetically pleasing merchandise?

This question can be most thoroughly analyzed through the fields of product design, psychology and sociology, business administration and marketing, pertaining to topics such as brand identity and development, aesthetics, marketing, etc. My Keystone addresses this question through a creative approach, in which I designed a four piece, graphic-based clothing capsule titled 'Halftime', with stylistic roots in contemporary menswear and skateboarding. The motive behind my project lies in my passionate pursuit to create dynamic, bold, aesthetically pleasing clothing for people to enjoy wearing. The different graphics depicted on each piece of clothing were based on 16th and 17th century Caravaggio paintings, which I chose to use as the subject of each graphic due to their visual vibrancy, as well as in attempt to depict an intriguing visual dichotomy between historic and contemporary imagery. Through a pop-up in Vancouver where I sold my clothes and locally based photoshoots, I deliberately brought in individuals around me to contribute to my brand. 'Halftime' has grown, and will continue to grow through community engagement, driven by the notion that, first and foremost, in a setting free of superficialities, gender-based stigma, and other forms of judgement, clothing has the potential to be a pure and powerful form of self-expression.

Don't Blame the Victims

Canada's Predatory Lending Problem



Presentation by Katie Verigin | May 2019

Don't Blame The Victims: Canada's Predatory Lending Problem

Katie Verigin | Tamara Trafton

Our modern economy relies on credit to operate. Items like the credit card have become staples in everyday North American society, but not all credit is made equal. Not everyone has access to affordable credit, and when paychecks come up short, many Canadians turn to payday lenders. These lenders charge exorbitant interest rates and have been known to trap users in debt driven cycles of poverty. In my presentation, I undertake a feminist political economy analysis to explore how narratives surrounding payday lending distort this issue and turn it into a problem of regulation and financial literacy. Existing narratives position the state as the unsung hero, protecting citizens against exploitative payday lenders, rather than positioning the state as complicit in enabling an economic system that profits off of the financially vulnerable. I focus on the themes of neoliberalism and financialization to highlight how our market economy has shifted and evolved to fuel the payday lending industry.



Quest
University
Canada
Keystone
Symposium
May 2019
Liliana Weimer

Unknown
photographer.
*Some of the Santa
Fe Men In Service
With the Central
Administration*
(detail), Santa Fe
Magazine vol. 14
Unknown
photographer.
*Portrait of Ernest
Ingersoll* (detail).
Wikimedia
Commons

**The Great Granary & the Great Basin:
California and Nevada in Contrast**

Liliana Weimer | James Byrne

My Question is: "What is the Relationship Between Historic Figures and their Mythologies?" If we expand the definition of "figures" to include places and regions, my Keystone fits perfectly. My focus was on the environmental history of the American West and its relationship to nineteenth-century travel writing. For this project, I followed parts of the routes of two late nineteenth-century travel books on a road trip through the American West, using the trip as a lens to analyze the environmental history of the West. The books were Ernest Ingersoll's 1885 travelogue *The Crest of the Continent* and Stanley Wood's 1889 travel guide *Over the Range to the Golden Gate*. The books are fascinating in their own right, as part of a major effort by railroads to bring people out West to settle and sightsee. Investigating the books themselves was a minor part of the project. My guiding question for the project was: how did we get here?

During the trip, an area that stuck out to me particularly was the area between California and Nevada—the sharp contrast between the endless farmland of the Central Valley and the endless desert of the Great Basin. They appeared to be mirrors of each other, with generally similar settlement patterns altered by time, water availability, and our own perceptions of them. For this talk, I want go through my own thought process while writing that section of my Keystone. I began by exploring why the two areas differ, and then thought about what that might mean not just for humans in the area, but for the land itself. I ended, as with the rest of my Keystone, wondering how to understand these places and their history in the context of climate change.

Anna Carlson-Ziegler
Quest University Canada
May 2, 2019

*CRITICAL
PERSPECTIVES
ON DIVERSITY
& EQUITY*

**why
transform
the
university?**

*In an era of crisis,
feminist policy interventions are
necessary to transform the university
into a crucial space for innovation and
resistance.*

**Critical Perspectives on
Diversity & Equity**

Anna Carlson-Ziegler | Ahalya Satkunaratnam

Feminist policy interventions function to disrupt and restructure value systems. In the university, as in many areas of society, values are reproduced without challenge and embedded in institutional structures and methods. Policy reform provides a unique opportunity to investigate these values and create a stronger university. In pursuit of a university which upholds equity rather than reproducing oppression, I ask: what is the university, and how might it change?

First, I use the methods of cultural studies, gender studies, and critical political economy to understand the university. The university originated in the Western episteme and continues to reflect primarily Western values. In the Canadian context, I focus on indigenous epistemes as a component of reconciliation and necessary university reformation.

This exploration led me to faculty hiring policy. I apply feminist theory in organizational studies to analyze the details and impacts of policy changes. Diversity-conscious recruitment requires a thorough organizational commitment to diversity, including the integration of non-Western epistemes. When these goals are achieved, it becomes clear that diversity is a prerequisite to excellence. A diverse faculty strengthens student experience, addresses social inequities, and subsequently begins to transform the university.

In this crisis-ridden era of late capitalism, climate change, and the resurgence of white supremacy, the university becomes an increasingly important space for innovation and resistance. Small pockets of the university currently serve as sites of critical thought; these reflect a larger cultural demand for revolutionary work and serve as an example of institutional potential. Only through critical self-examination and reformation can the university rethink its policies, culture, and place in the world.



Fostering Development Through Art Practice

Kelsey Green | Ahalya Satkunaratnam

How can we teach through art? Waldorf and Montessori education systems are progressive models, established in Europe in the 19th century, with the goal of shifting the perspectives of children toward inclusive learning. Unique goals underlie each approach to learning, which influences the teacher-child interactions, curricula, and the documentation of development. Through education studies, art studies and feminist theory, this presentation will examine the question: How can art practices, within alternative education models, change the way children learn? Montessori uses storytelling to help children recall information within the classroom, and the practices of Waldorf through embodied movement to teach speech and sound. Through an analysis of two different art practices, we can infer that creative learning is an integral building block to the strong development of a child. Storytelling within Montessori helps children recall information throughout the year and to bring a broader lens to self-constructive lessons. Eurythmy through the Waldorf curriculum teaches children to embody language and acknowledge how bodies move through space. Through these two art practices, Waldorf and Montessori foster distinct forms of development, which both enable students to learn using hands-on activities.

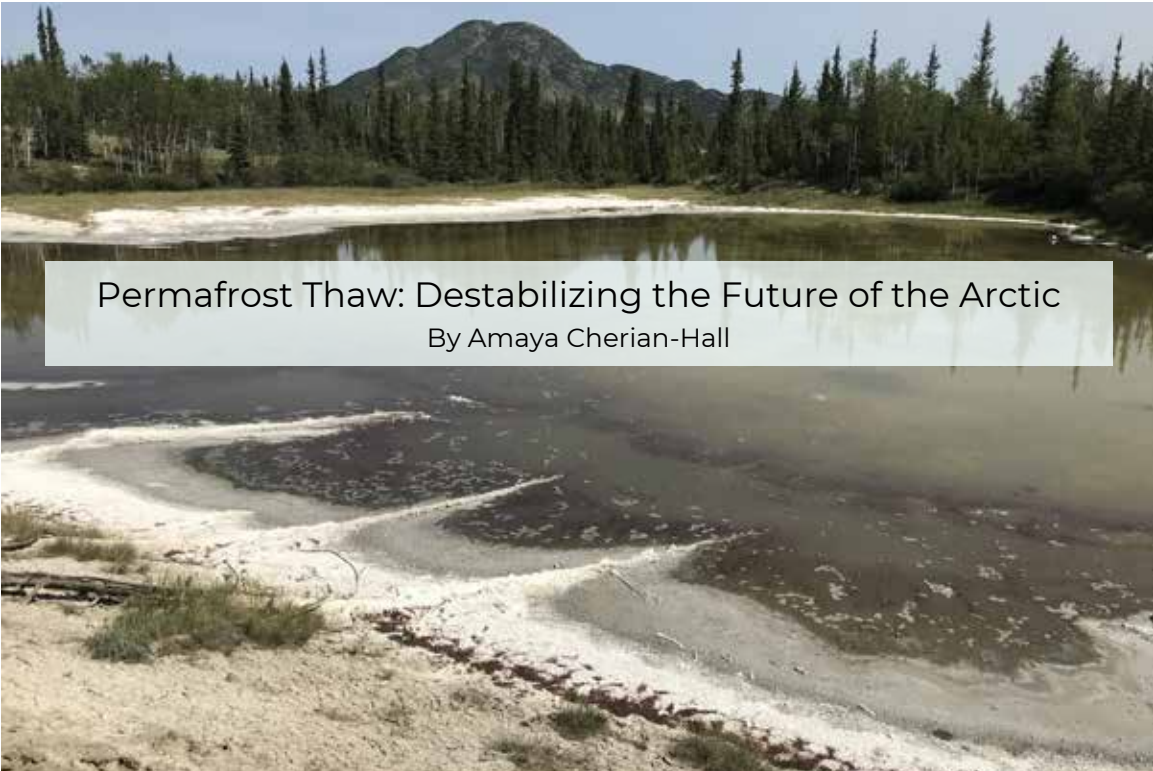


**#BodyPositivity:
Social Media and Political Activism**

Maya Treuheit | Ahalya Satkunaratnam

What are the implications of using social media and technology to engage in politics and/or activism? Technology is massively prominent in our daily lives. Social media follows us to bed, mediates our interactions with one another, influences moral values and aids in upholding power hierarchies. While technology and social media has – understandably – garnered a bad reputation, my interaction with such platforms has been more complex. Political movements – the Women’s March, Black Lives Matter, and #metoo, just to name a few – have been using social media to organize community and spread their message on their own terms.

About two years ago whilst browsing through my Instagram feed, I stumbled upon one such movement – Body Positivity. Thus began a quite unexpected educational experience. Watching members of this online community disrupt hegemonic body ideals and narratives through self-crafted (re)presentation prompted me to think about why these platforms were being used in such a way, and how they may be either helpful or detrimental. I began to wonder, is social media truly the villain it is often made out to be? Body Positive activists have been able to utilize the online platform of Instagram – a primarily image-based application – to visually present themselves on their own terms and push back against dominant stigmatizing narratives. However, despite its radical intentions of large-scale systemic change, Body Positivity is now more of a co-opted buzz-term. My keystone sought to understand the role Instagram in particular had played in this co-optation. Through the case study, my keystone sought to complicate online spaces of (re)presentation and understand how can they simultaneously help and hinder political movements.

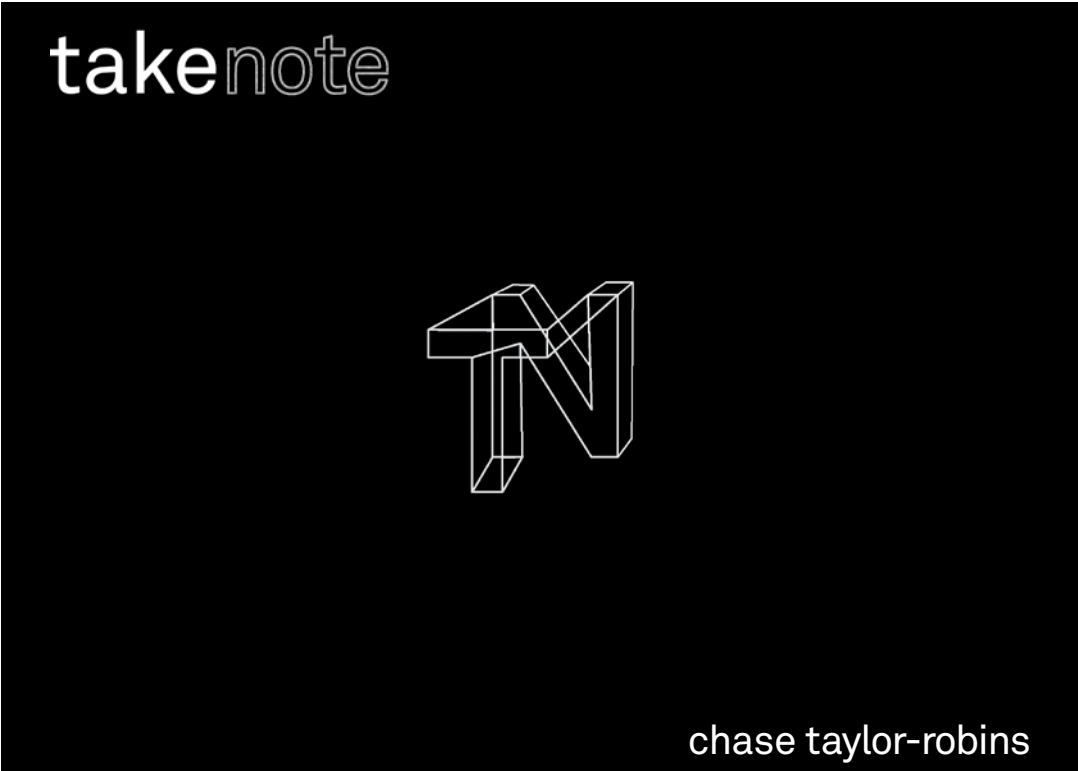


Permafrost Thaw: Destabilizing the Future of the Arctic
By Amaya Cherian-Hall

Permafrost Thaw: Destabilizing the Future of the Arctic

Amaya Cherian-Hall | Ian Picketts

What are the impacts of climate change in polar regions? If you have been to the Arctic then you know, roads can feel like roller coasters, houses sometimes sink, and black spruce look like they're on a bender, drunkenly leaning this way and that. All this is the result of permafrost thaw which is exacerbated by increasing air temperatures as climate change warms the north two times faster than the global average. In order to mitigate human and environmental impacts of permafrost degradation, permafrost location and melting behaviour should be better understood. The challenge is that permafrost is an almost invisible phenomenon so how do we know where it is? Surface formations such as thermokarst lakes, which are by-products of permafrost thaw, can be used to indicate cryptic below ground patterns of permafrost distribution and melting. For my keystone, I investigated thermokarst lake erosion in an agricultural area along the Alaska highway near my home town of Whitehorse, Yukon. In this presentation I will use my keystone research as a case study to help explain the broader implications of permafrost thaw on infrastructure in the Arctic.



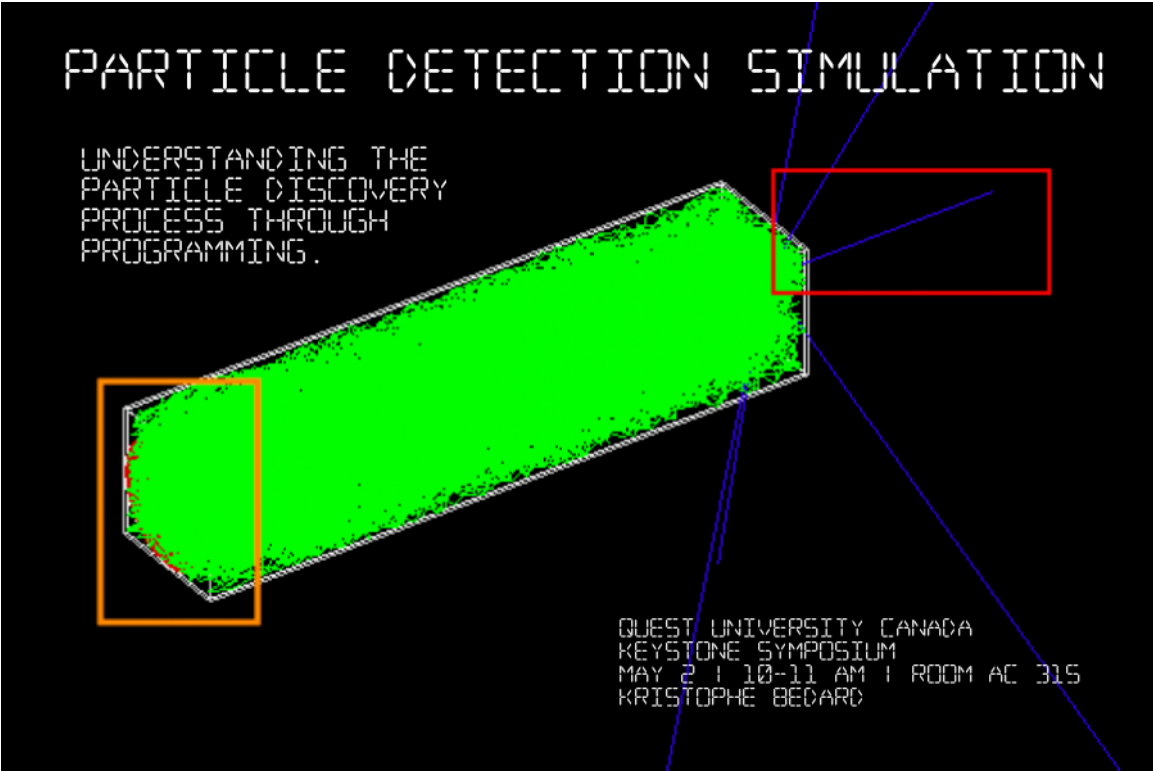
TAKE NOTE: Identifying the Problems with Modern Note-taking and Developing a Holistic Solution

Chase Taylor-Robins | Andrew Hamilton

How do we improve tech development? This keystone project draws upon the fields of economics, business, and computer science to address real world issues with university note-taking and to propose a holistic solution. The act of note-taking is a fundamental skill for students in all areas of study. Educational environments are evolving, but the way in which we take notes has not kept pace. This talk discusses problems and strategies associated with note-taking and offers an application, Take Note, which provides the user with creative freedom and effortless organizational functions.

This talk grounds itself within academic discourse regarding the effectiveness of digital note-taking for university students with and without learning differences. Literature on digital note-taking stresses support for concept based note-taking that allows users to visualize course material and understand broader themes. A commonality within the literature is that students' ability to record and review course material is limited by both their note-taking ability and the quality of the applications available to them. Drawing upon key issues and proposed solutions within relevant literature this talk proposes an application design which offers a multifaceted approach to student note-taking.

Take Note, the application proposed in this paper, is analyzed and contextualized within its relevant market. Strategies for bringing this application to market are discussed, as well as a break down of the application's design. Take Note modernizes note-taking by allowing for seamless interaction between course material and notes. Take Note aims to reduce the cognitive strain of note taking and promote conceptual learning, note revision and support for learning differences.

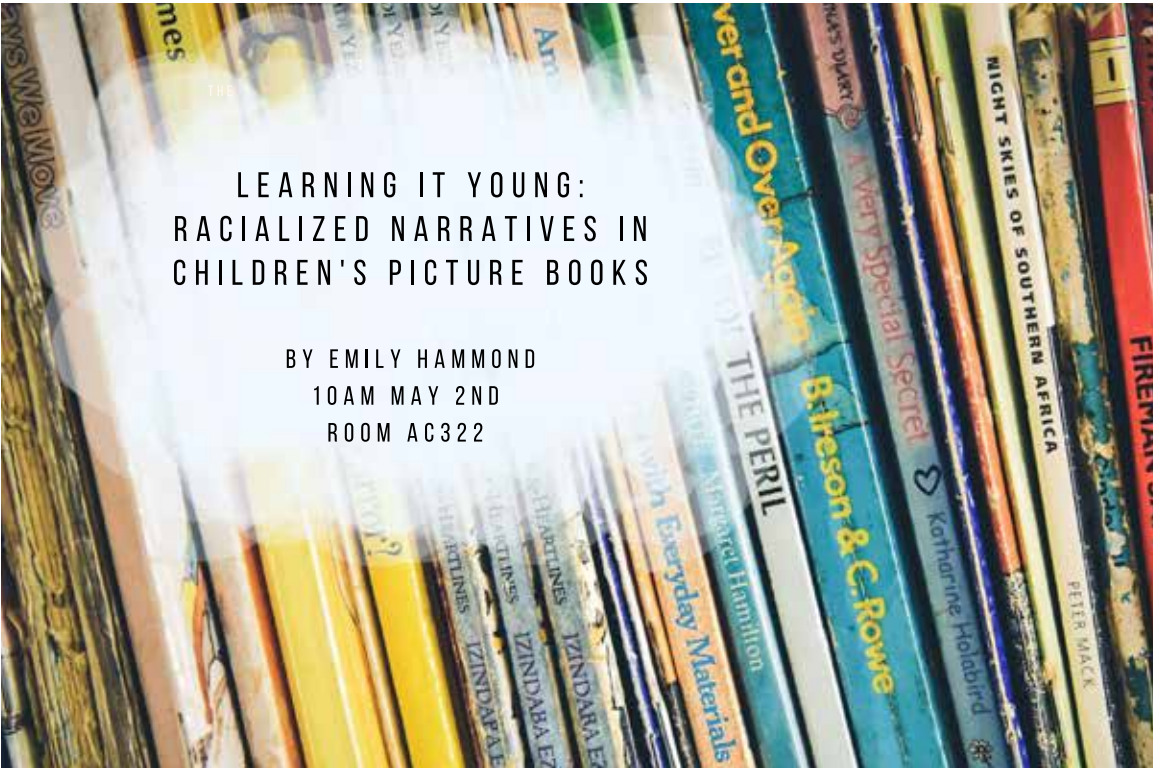


Particle Detection Simulation Kristophe Bédard | Andrew Hamilton

“What is Mass?”

The concept of mass is essential to the field of physics since it virtually appears everywhere within it. The Question at hand enables the exploration of the depths of particle physics and the physical properties related to each particles, seeing as mass is of those fundamental properties. More specifically, my Keystone focuses on inquiring about a specific type of particle entitled milli-charge particle, a particle that has not been experimentally observed yet and which is theorized to have 1/1000th of the charge of the electron. The mathematical formalism of charge is fundamentally similar to the one of mass, making it a valuable area of inquiry.

My Keystone presentation focuses on explaining the simulation process of particle detection using the Geant4 programming toolkit. Within the bigger process of particle discovery, simulation is essential because it enables the verification of the utility of experimental contraptions without having to invest millions of dollars on building them, only for them not to achieve what you built them to do. The simulated detector was modeled after the MoEdal project’s design for milli-charge particle detection. I was able to simulate the detection of a muon, confirming the utility of my program. Further work on the program could lead to the proper simulation of a milli-charge particle interacting with the designed detector, confirming that they could in fact be observed with the MoEdal’s detector. More broadly, it would enable the expansion of our knowledge about the fundamental particles making up our universe and confirm the existence of particles not theorized with the Standard Model.



Learning It Young: Racialized Narratives in Children’s Picture Books Emily Hammond | Mai Yasue

How can we cultivate compassionate connection? This question relies on the disciplines of sociology and early childhood education, both of which inform how inherent messaging in children’s books impact their perceptions of race. This is seen through the ways that power structures and hierarchies are enforced through exposure to media at an early age. For example, when racialized people are shown to be subordinate, exotic, or dying out, this enforces false histories and can impact present-day perceptions of who should be or needs to be allocated resources. In my Keystone Presentation, I will discuss a model I created to analyze common tropes of racialized children’s book characters. Stories in children’s books may validate the lived experiences of minoritized groups to help them resist oppressive attitudes and environments or subtly imply racial hierarchies or tendencies. I will also discuss how books are a formative point of intervention in children’s racial understandings. To examine these topics, I completed a qualitative content analysis which revealed the importance of proliferating culturally relevant, accurate, and diverse depictions of racialized characters to ensure that no single story becomes the standard for thinking about a varied and unique group of people. These findings are important because they forward the idea that children easily internalize unrecognized racist messaging, which has the potential to continue into adulthood. Consequently, it is all the more important to ensure that people in our society are educated early about racial bias and discrimination so that they can continue to work towards unlearning prejudices taught early.

Education for Biodiversity Conservation

How do conservation education programs empower communities to conserve local biodiversity?

Kaela Evenchick
Thursday May 2
Room 322
10:30AM



Education for Biodiversity Conservation: A Meta-Analysis

Kaela Evenchick | Mai Yasue

In the 1980's, community-based conservation (CBC) was developed in response to critiques of colonial and protectionist biodiversity conservation projects. CBC initiatives seek to meet conservation goals while empowering communities and alleviating poverty. As a key component of CBC, conservation education (CE) aims to promote conservation behaviours by implementing environmental education curricula, facilitating awareness campaigns or providing technical trainings. Within a context of past (and current) colonial educational programs, it is critical that conservation education programs not only meet conservation objectives, but do so in a socially just manner that empowers local communities. Furthermore, programs that support the autonomy of their participants are more likely to foster long-lasting motivation to conserve. In my Keystone presentation, I will discuss the meta-analysis that I conducted to address the following two questions: First, what are the components of autonomy-supportive CE? Second, how autonomy-supportive are current CE programs? I will discuss the findings of my project, which showed that most CE programs and their evaluations were premised on inaccurate assumptions about how and why people behave environmentally. Most strikingly, CE programs often failed to consider how psychological impacts of the educational intervention may alter the students' sense of autonomy and motivation. My findings demonstrate that while CE program designers and researchers recognize that behaviour change is necessary to support conservation goals, they often fail to consider the psychological impacts of interventions on the community. Without considering these impacts, educational programs are 'shooting in the dark' with their design. Poorly designed educational programs run the risk of including autonomy-thwarting elements that may disempower the communities they seek to help.

Using Your Mind to Combat Fatigue: A Research Proposal to Identify how Ultra-Runners Maintain Motivation

Kysa Redmond Johnson



Sports psychology, ultra-runners, physical fatigue, self-determination theory, central-governor model, motivation

Using Your Mind to Combat Fatigue: A Research Proposal to Identify how Ultra-Runners Maintain Motivation

Kysa Johnson | Mai Yasue

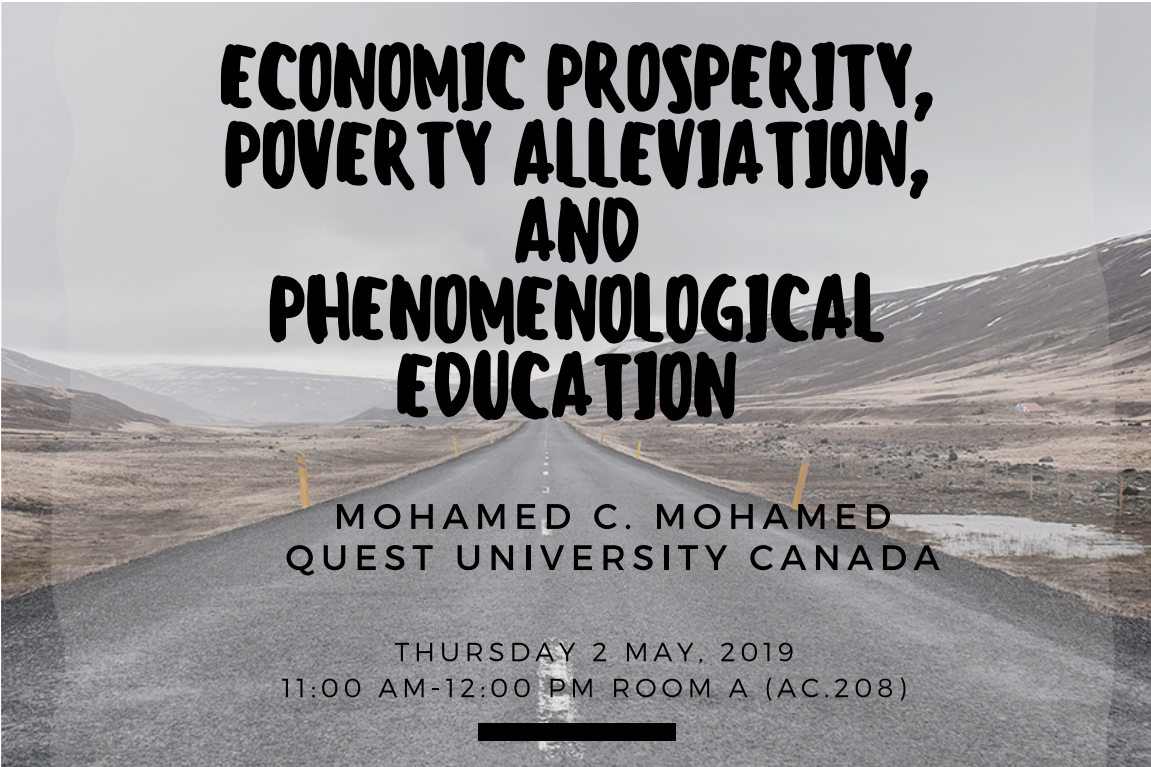
How do we maintain motivation? This question was explored primarily through the lens of Sports Psychology, which is the study of how psychological factors in conjunction with physiological limitations affect performance in sports, exercise, and general physical activity. A large amount of research has examined and identified the upper limits of physiological performance, such as physical fatigue. Yet, there is much less literature exploring the motivational psychological factors to reach those limitations, especially in elite ultra-runners. In this Keystone presentation, I will be proposing research in order to understand what motivates ultra-runners to tackle, as some may say, "insane" events of physical exertion. These insane events require runners to not only develop physical stamina, but also develop strong psychological motivation to maintain high-levels of physiological performance to complete such extreme, lengthy events. I will do this by breaking down how physical fatigue occurs through the Central Governor Model. The primary theoretical framework addressing the psychological factors is Self-Determination Theory (SDT), which specifically explores how intrinsic motivation is fostered, altered, and maintained. Through the application of SDT, the aim is to understand how ultra-runners' motivation relates to fatigue. The proposed qualitative findings will ideally demonstrate specific ways in which ultra-runners foster and maintain their motivation to train for and compete in ultras. This knowledge can be used to expand the current understanding of how individuals, elite and non-elite athletes maintain motivation.



Culture: An overlooked constraint in food security

Ahmed Faarah | Tamara Trafton

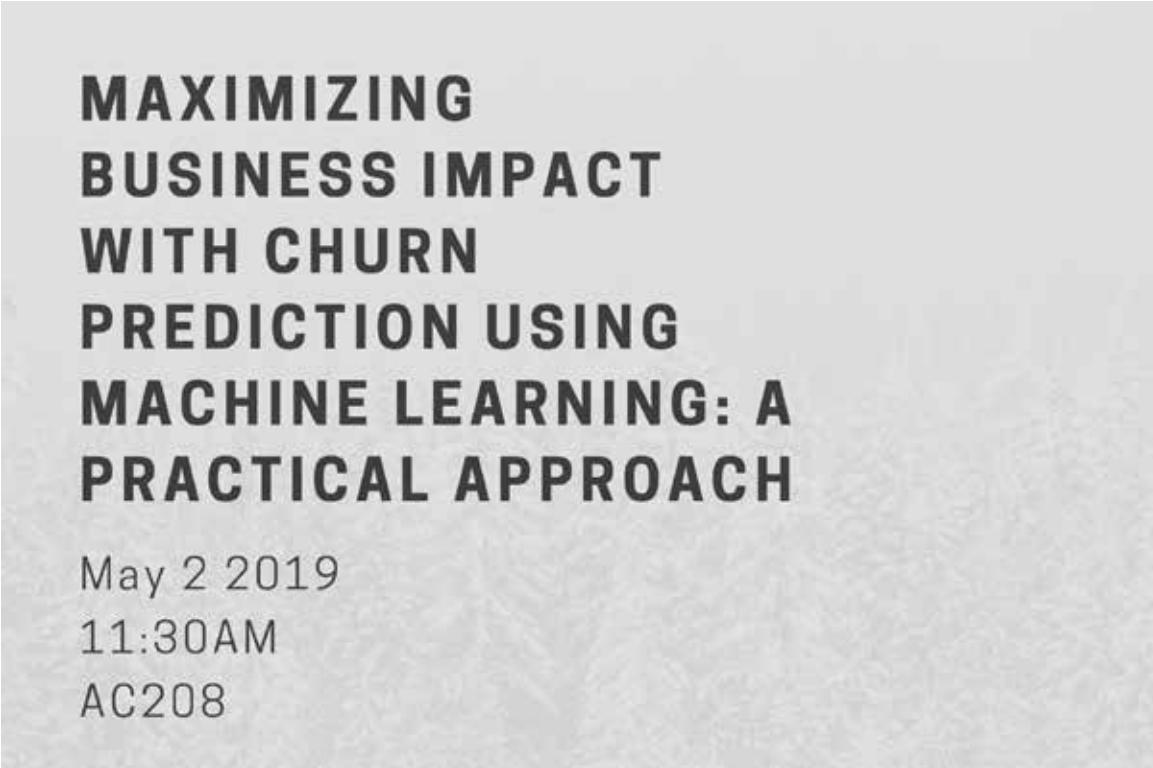
How does aid influence the economy in developing countries? My question encompasses a range of different disciplines including economics, political science, and philosophy. However, my keystone project took a slightly different turn with a focus on food security. Food security describes a number of related yet distinct phenomena, including the availability of food but also the ability to access and reliably utilise food. Moreover, food security faces a number of challenges across both production and consumption which research will be necessary to solve. Many countries are experiencing the burden of hunger and undernutrition alongside obesity. Some of the major causes of food insecurity include gradual climate change which alters what can be grown and where. Although increasing food production has been seen as the main factor in ensuring food security, I argue for increased emphasis on culture, which is a strong determinant of food security through its influence on what society considers acceptable for consumption.



Economic Prosperity, Poverty Alleviation, and Phenomenological Education: A Critical Review of How We Approach Poverty Alleviation and Economic Prosperity in the Developing World.

Mohamed Mohamed | Tamara Trafton

How can we get rich? This question is a critical outlook on the process of poverty alleviation and economic prosperity in the developing world. It encompasses fields of economic development, behavioral economics, and philosophy of education. Though the question is broad, this Keystone project focuses on the different orientations that have guided our responses to those who experience suffering as a consequence of poverty; these orientations include Peter Singer's moral outlook on how we respond to suffering. By arguing against Singerianism due to its limiting moral vision, this project explores a pedagogical model based on a phenomenological understanding of human experiences. The goal is to explore a more comprehensive and reflective outlook on how we approach poverty alleviation and economic prosperity in the developing world.



Maximizing Business Impact with Churn Prediction Using Machine Learning: A Practical Approach

Tam Nguyen | Tamara Trafton

What makes a good decision? It's not always easy to build a theoretical foundation of decision making. One way to answer is to address a specific problem and solve them. In my Keystone, I address one of the common problems that every business faces, which is customer churn.

One of the most critical metrics that can measure a company's sustainability or profitability is customer churn, which is the rate of customers discontinuing service in a given time period. Churn is even more important in saturated industries such as the telecommunication industry, which have fierce competition and provide the same services and products. Firms want to manage and predict churn because they can detect who is about to churn and why customers churn. This allows companies to either improve their services or give personalized offers to customers who have a high probability to churn, thus maximizing their return on investment (ROI).

This Keystone aims to predict customer churn using Automated Machine Learning (Auto ML) to maximize business value (or ROI) using a public dataset. The project uses the R programming language to conduct data preparation, modeling, and evaluation. It also aims to communicate results effectively using data visualization and interpretable machine learning principles to gain insights.



Poles of Contention: Polar Governance as a Path Towards Peace

Nicole Zanesco | André Lambelet

How can we build peace? Although peace, war, and power have been struggled over for as long as humans have persisted on Earth, efforts at international cooperation and governance are a new phenomenon. Two revolutionary and enduring instances of international governance in the name of conservation, scientific research, and peace are the Antarctic Treaty System, ratified in 1961, and the Arctic Council, ratified in 1994. Although poles apart, these agreements represent effective efforts at cooperation that emerged in a time of political conflict, environmental degradation, and social turmoil.

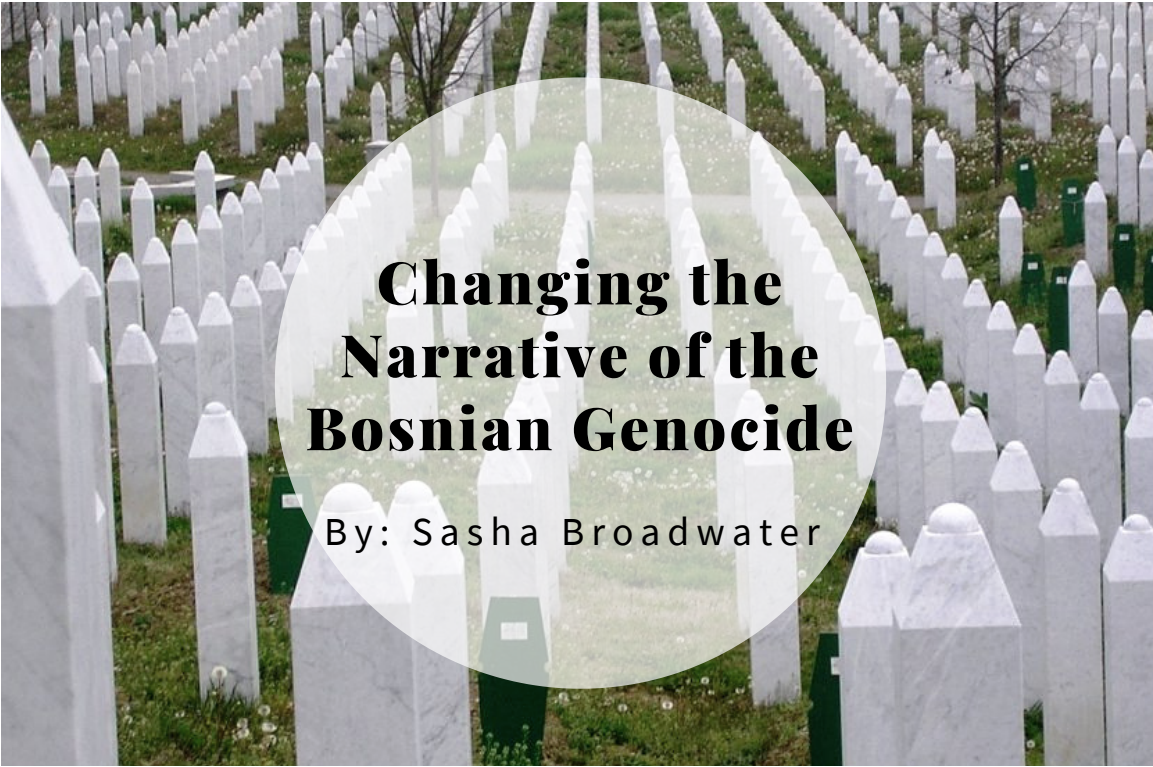
My keystone talk challenges classical notions of peace and war by arguing that peaceful cooperation is not only possible, but enduring, and found in the Antarctic Treaty System. Furthermore, I argue that the Antarctic Treaty System can be used as a framework for peace elsewhere in the world, specifically in the Arctic. By connecting issues of state sovereignty, indigenous rights, resource management, and climate change, I create an interdisciplinary analysis of the role polar governance ought to play as we battle the political and environmental challenges of the 21st century. Thus, my keystone situates us in a place that forces us to confront the the crucial tension between human and state security.



From the Slopes to the Splits: A Cross-Training approach using Gymnastics to improve Freestyle Skiing performance

Ryan Malone | Molly Welsh

How can an athlete optimize their performance? This question situates itself in the field of exercise physiology, with focuses on human anatomy as well as sport psychology. This presentation will dive into the theory of cross-training and how it can be used to improve an athlete’s skill and performance. Specifically, this presentation will be using the framework of gymnastics and how gymnasts train, then implement those techniques for a sport with a number of similar attributes, namely freestyle skiing. The goal of this keystone project was to determine if cross training could be used as an effective way to train freestyle skiers through an alternative development framework. This presentation will talk about the different demands of gymnastics, and how they can be translated to improving athletic performance in skiers. Due to freestyle skiing being a relatively new sport, there isn’t an existing body of literature to embed this project within. Therefore, this keystone aims to provide some information about freestyle skiing, as well as provide evidence that gymnastics could be used as an effective cross training framework for this branch of skiing.



Changing the Narrative of the Bosnian Genocide

Sasha Broadwater | Andre Lambelet

How does conflict shape a nation? An understanding of conflict and the history in which it is rooted is instrumental in both the prevention of and healing from traumatic events that occur during war time. In the early 1990s, the young country of Yugoslavia began to fall apart, resulting in the largest genocide that Europe had seen since the Holocaust. One of the driving factors of the Yugoslav wars were nationalistic leaders. An understanding of the circumstances that allowed nationalistic sentiments to take root is key to understanding the devastation that occurred in Yugoslavia. In order to illustrate this, my Keystone presentation will explore some of the rhetorical tools and historical memories that were used to justify Serbian expansionist policies at this time. Nationalistic leaders were able to manipulate the past in order to play on the fears of their people, which resulted in genocide. Nationalistic leaders come to power in times of great uncertainty. The investigation of the events that transpired in Yugoslavia is only one example of a leader’s ability to turn people against one another. In our current political climate, it is extremely important to understand the warning signs and possible outcomes of succumbing to such divisions.



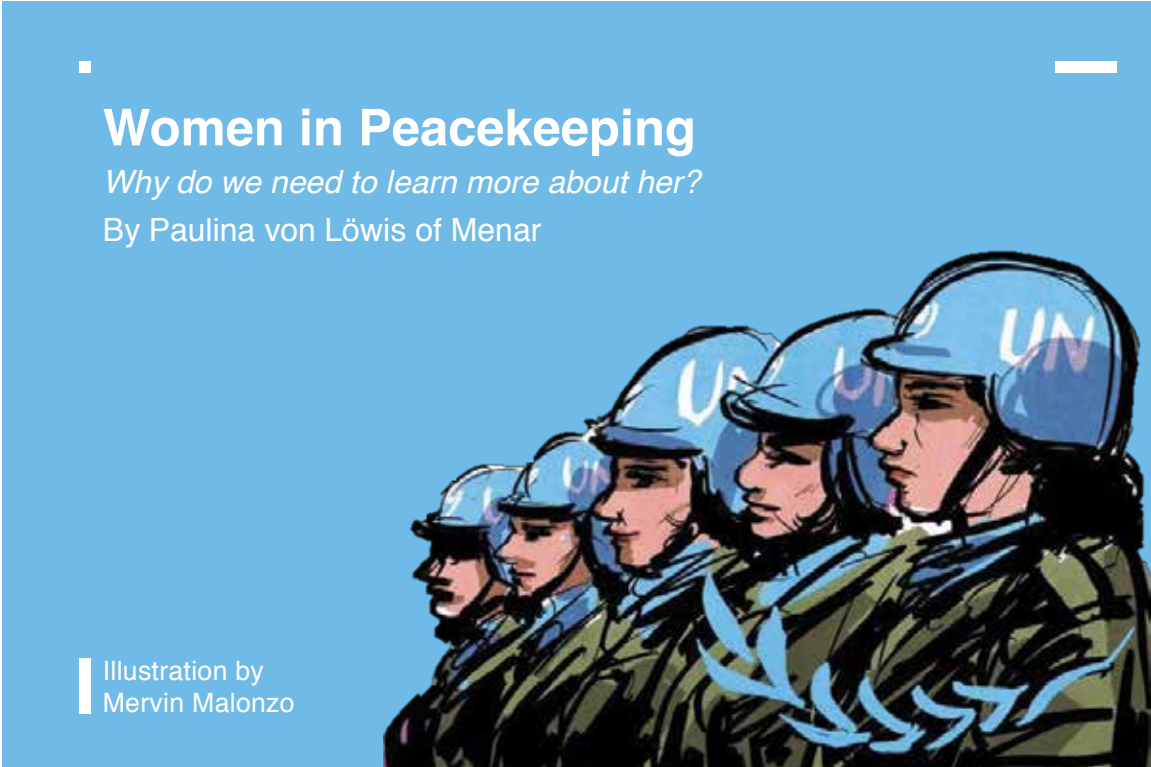
Grievance Mechanisms: Operational-Level Grievance Mechanisms Employed at Mine Sites in Developing Nations

Maya Andersen | Ian Picketts

What is ethical resource extraction? This question is designed to inform further inquiry into the understanding of behaviors that are exhibited by firms when conducting resource extraction projects. My studies have thus drawn from the disciplines of environmental science, political science, and other social sciences. I have further focused on the ethics related to mining projects in developing areas and the implementation of Corporate Social Responsibility (CSR), leading to my keystone project titled Grievance Mechanisms: Operational Grievance Mechanisms Employed at Mine Sites in Developing Nations.

In this talk, I discuss two mine sites owned and operated by Barrick Gold Corporation, located in Tanzania and Papua New Guinea. The purpose of this review is to understand the local ways that firms deal with issues related to individual persons, which are referred to as Operational-Level Grievance Mechanisms (OGMs). By analyzing the utilization of OGMs we can better understand the best ways to support individuals who utilize these mechanisms. In order to offer suggestions towards bettering this process, I referred to the guidelines given in the United Nations Guidelines on Business and Human Rights and other recommendations offered by Non-governmental Organizations to create key takeaway points that focus on improving this tool.

Often OGMs are not enough to ensure the correct remedy is given to persons who have experienced any type of anguish from the mining team, security or other mine employed personnel. This is especially true where a clear power imbalance exists, as seen in the case studies described in this paper. It is important to address this reoccurring issue found in the mining communities operating in areas of instability. Moving forward, there must be a larger emphasis on employing the values of CSR within the business model in order to prevent these issues from occurring in the first place.



Women in Peacekeeping: Why do we need to learn more about them?

Paulina von Löwis of Menar | Doug Munroe

How do women shape armed conflicts? The United Nations (UN) argue that the recruitment of women is necessary and beneficial to the UN as a governing body, peacekeeping operations in zones of conflict, and the communities of the host nations. In their advertising and recruitment material, the UN make numerous claims about the abilities, skills, and impacts that women have on peacekeeping operations. In my Keystone presentation, I give an overview of the literature on the topic and argue that there is a lack of evidence given by the UN regarding its claims about the gender-specific impact of women peacekeeping personnel. This is coupled with a general lack of research as well as a contested existing academic literature on the topic of the experience and impact of women peacekeeping personnel. To address these issues and limitations, I will also share in this presentation a research study I developed to examine how women experience and influence peacekeeping operations.

COMPETING HISTORIES, CONTINUED CONFLICT



Divisive Educational Discourse on the Israeli-Palestinian Conflict

Mahalia Reiner | Doug Munroe

Competing Histories, Continued Conflict: Divisive Educational Discourse and a Call for Multi-Perspective Teaching of the Israeli-Palestinian Conflict

What are people learning about the Israeli-Palestinian conflict, and how might that content in itself be contributing to the trajectory of the conflict? Notoriously convoluted and volatile, much discourse related to the Israeli-Palestinian conflict focuses on its physical battlefields and how its violent eruptions prolong the possibility of peace. What is less explicitly discussed is the facet of this conflict fought in the minds both of those both directly and indirectly involved in the conflict. Storytelling – and more specifically, the way we frame our stories to be told – is an act of conflict that can be immensely influential, especially when delivered from authoritative sources.

For my Keystone project, I analyzed contemporary Palestinian, Israeli, and Canadian Jewish Diaspora high school history texts in order to make explicit some of the frames currently being used to tell the history of the conflict. In my talk, I present the key findings of this project, and, based on Galtung’s notions of negative and positive peace, explore the potential impacts of these frames on the future of the conflict. My findings call for multi-perspective history teaching, and highlight the need to reflect upon how we frame not only this conflict, but a plethora of other protracted social conflicts.

IMPLEMENTING A SOCIAL AND EMOTIONAL LEARNING PROGRAM AT QUEST UNIVERSITY CANADA

WHAT WOULD IT LOOK LIKE, AND WHY IS IT IMPORTANT TO CONSIDER?

IAN FISCHER BALDWIN

MAY 3 & 4 | 2019 | KEYSTONE SYMPOSIUM

Implementing a Social and Emotional Learning Program at Quest University Canada

Ian Fischer Baldwin | Jeff Warren

What would a Social and Emotional Learning (SEL) program look like at Quest University, and why is it important to consider? Drawing from current SEL scholarship and evidence-based practices, I created an implementation plan that attempted to explore these questions. In this Keystone presentation, I outline a basic model for understanding SEL developed by the Collaborative for Academic, Social, and Emotional Learning (CASEL) organization. This model includes competencies such as self-awareness, self-management, social awareness, relationship skills, and responsible-decision making, as well as the importance of creating positive learning environments. Through this model, I examine results from various studies demonstrating the relationship between SEL, improved academic outcomes, and overall well-being. The majority of SEL research, policy, and programming is aimed at K-12 education; I provide rationale for adapting these initiatives to post-secondary education contexts in order to provide adolescents and young adults with tools to succeed in academic and non-academic contexts.



Mix Engineering in the New Music Industry
Jason Ames

Mix Engineering in the New Music Industry

Jason Ames | Jeff Warren

How can we engineer great mixes? The advent of digital audio workstations (DAWs) have turned the music industry on its head. The production of commercially viable records, a process that once required hundreds of thousands of dollars in capital, is experiencing a revolution in accessibility as a result of the infinitesimally lower costs of digital productions. Mix engineering—the artistic practice of combining various audio recordings into a single stereo pair for commercial distribution—has historically been accessible only to individuals with access to a commercial studio. Today, in essence, all one needs to get started is a computer and a DAW.

In this talk, I will walk listeners through the music production process and how technology is changing the way we make music. I will discuss the mixing guide I’ve created that specifically targets new, self-educating mixers, one that anticipates many of the problems they will face in their ventures. I will outline some of the premises on which it is based, how it addresses current industry trends, and why this work is a relevant contribution to the current literature. I will also showcase the work I have completed as a new mixer entering the field with accompanying audio.

The Control of Platforms

Competition critics say that large digital platforms are preventing smaller firms from entering key digital markets. In my keystone presentation, I discuss the case for why antitrust law can play a bigger role in protecting small businesses and innovation in the United States

A keystone by Simon Digby

The Control of Platforms

Simon Digby | Jeff Warren

The Gilded Age was a period in United States history (roughly 1870-1900) characterized by rapid industrialization, technological change, economic growth, as well as extreme poverty, two depressions, and powerful Trusts—big businesses in banking, oil, steel production and railroads. Following on the heels of the Gilded Age, the Progressive Era (roughly 1890-1914) was a time of reformation, in which social, economic, and political issues of the previous decades were targeted with new preventative government policies. In my keystone presentation I argue that we are living in a new Gilded Age, in which the U.S. is again faced with similar issues as in the late-nineteenth century. One particular issue is that large platforms can systematically chill competition by absorbing, eliminating, or excluding competitors. Despite the shift 100 years ago towards protecting small businesses through antitrust law, I argue that these protections are insufficient for curbing anticompetitive tactics in new digital sectors—especially those dominated by Facebook and Google. Focusing on the industrial layer of society, I describe parallels between 1900 and 2019. I conclude that antitrust law is extremely important, but that reforming antitrust law alone—without addressing other important social and economic issues—would provide only part of a solution to the broader concerns we may face in a hypothetical new Gilded Age.

An experiential exploration for mutualism between two disparate ways of knowing.

A presentation by Byron Essert, brought to you in part by the Question:
How can Traditional Knowledge and Scientific Knowledge Influence Each Other?

Comic: <https://wagingnonviolence.org/feature/intersectionality-isnt-just-win-win-way/>; Background photo: Colin Bates

Connecting with the Great Out Doors via Science and Traditional Ecological Knowledge

Byron Essert | Steve Quane

Hi Reader! Treat yourself to a walk in the nearby woods and find some feather moss to touch with your nose and toes. Don't forget to ask their permission first

At Quest we learn and live on land that is part of the unceded territory of the Squamish First Nation people. Highly knowledgeable teachers of both Traditional Knowledge (TK) and Scientific Knowledge have fostered in me an increased respect, interest, and love for plants. One of my favorite activities is paddling my well-loved canoe, Walt, through the wind-sheltered tidal channels of the Squamish Estuary. Squamish is a very windy place, so windy in fact, that in a traditional Squamish language, Squamish translates to "mother of wind". When faced with the requirement to develop a Keystone, I decided to turn something I love, paddling around and learning with the Squamish Estuary, into a project that satisfied the requirements of a Keystone. During this project I conducted quantitative research on the plants inhabiting the Squamish Estuary's tidal channels. My Keystone can be a useful resource for future restoration projects in the Squamish Estuary and possibly other estuaries. It is challenging but possible for TK and Science to work together.

SHAKEN, NOT STIRRED

PRESENTED BY VALERIE FOWLES

Shaken, Not Stirred

Valerie Fowles | Steve Quane

What role will carbon removal technology play in effective anthropogenic climate change mitigation? If you are concerned that your greenhouse gas emissions are causing global harm, but you continue to eat foreign foods (8 tons CO2/household/year) and buy products from China (2,364,000 tons CO2/boat trip), you are one of many trapped in a contradiction of self and collective interest. We as carbon dioxide emitters have a decision to make. We can continue to emit carbon dioxide in our own interest for the sake of comforts like cheap imports and foreign foods, or we can sacrifice these comforts and curb our emissions in the interest of the health and safety of present and future populations. Carbon capture is a technology that helps alleviate the urgency of this decision by providing an additional dimension of the current climate dilemma that allows for gradual individual and institutional adaptation to meet the needs of the global population. My Keystone presentation breaks down this dilemma and outlines the relevance of my own carbon capture research, in which I design a novel protocol to assess the carbon sequestration potential of mine tailings. My research is part of a global effort to address the dilemma and negate the consequences of anthropogenic climate change by decreasing atmospheric carbon concentrations.



How Should We Communicate Sexuality?

Dayne Sabo | Ahalya Satkunararatnam

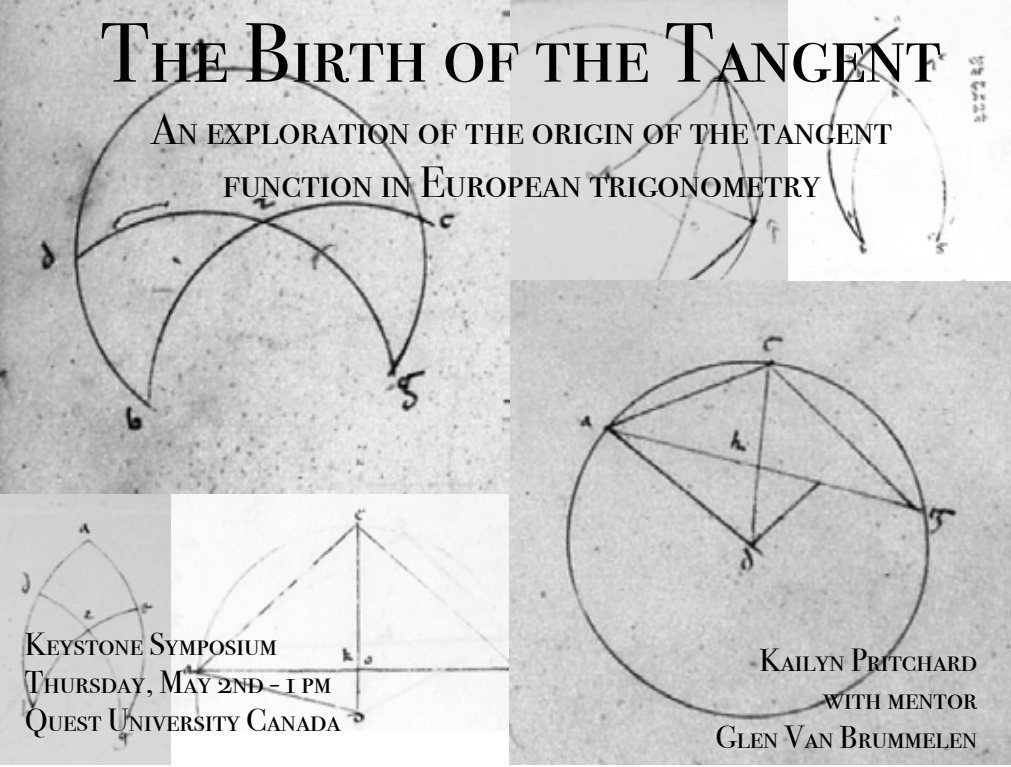
How should we communicate sexuality? This presentation explores and evaluates, through a feminist lens, both the criticism and the goals of a trans-centring and inclusive sex education. Proper and inclusive sex education encompasses a very extensive range of subjects, from STI safety to identity and exploration. I explored the ways in which sex education can become more inclusive and why this is important through the creation of my podcast. Supported by lived experiences and professional opinions my interviews aim to provide accessible information to anyone with a connection to the internet. While my paper and podcast lean away from my own lived experiences, my presentation works to fill the gap between me and the topics I've been focused on since I first came to Quest. I examine BC's fight to incorporate a more diverse education into our schools and seek answers from other passionate professionals about where we should be going. This presentation hopes to communicate the goals of the SOGI program while recognizing and correcting certain oppositions to it. As all of those voices on my podcast would agree, an education that allows the individual to learn about themselves and those around them through examples of lived experience will support the development of a accepting and understanding community.



Where Are The Children?: Reimagining diversity and inclusion in post-secondary education

Kynyn Doughty | Ahalya Satkunararatnam

"How might settler-Canadians and Indigenous peoples reconcile?" Through the study of this question I learned about the culturally and structurally dominant ideology of individualism which saturates settler-Canadian society. My study has only begun to make sense of this enormous and permeating concept. My talk then, focuses specifically on the fear and rejection of dependency constituted by individualism, and presents a contrasting idea, "The Logic of the Gift", from Indigenous Scholar Rauna Kuokkanen, as an example of Indigenous conceptions of relationality. I present the paradox that arises when Canadian institutions desire reconciliation with Indigenous peoples, using the language of diversity and inclusion, without interrogating the structural framework of individualism, and who such a structure neglects. My goal is advocate for a reimagining of our relationships to each other, and to the land, as essential to the stated goal of "reconciliation".



The Birth of the Tangent

Kailyn Pritchard | Glen Van Brummelen

Since the tangent function initially appeared in Europe in the 1400's, it has evolved from a useful auxiliary function into one of the central functions in trigonometry. Trigonometric tables, such as tangent tables, were used exclusively in the fields of astronomy and spherical geometry until late in the 16th century, when their functionality was extended to earthly pursuits such as surveying and architecture.

In order to understand how and why the tangent function arose in European trigonometry, this Keystone analyzes some of the earliest tangent tables known to have been produced in Europe, including works by historical actors such as Giovanni Bianchini (1410-1469), Regiomontanus (1436-1476), and Georg Rheticus (1514-1574). Using a novel technique, it determines the methods by which the tables were computed, identifies the radii of the underlying sine and cosine tables (as the unit circle was not yet conceived of), and reconstructs the underlying sine and cosine tables themselves. Surprisingly, the underlying tables aren't tables that have been seen before, or perhaps published at all. The discrepancies between the published tables and those the historical actors used to complete their computations demonstrate that the mathematicians and astronomers creating these tables continually sought to improve their work.






Hoot: Designing digital play

Kika MacFarlane | Glen Van Brummelen

How do we design play? For my Keystone, I designed and developed a game: Hoot. Hoot is a party game where players compete to create the most entertaining phrase from a string of letters. It employs basic game mechanics making it easy to learn, but the content of the game is always created by the players, making it unique and amusing each time it's played. Through the process of creating Hoot, I came to realize the power that design has to shape the human experience. This happens on both obvious and subconscious levels: from advertisements all around us, to the applications on our phones, design alters our actions. How do we design specific behaviors? And what is the responsibility that comes with this? As our society becomes increasingly digital, designed experiences only become more prominent. And these designed experiences now have the potential to reach millions of people through the internet. There must be intention behind design, and understanding the specific ways that designed elements can influence behavior is increasingly important. Using Hoot as a case study, I present the ways in which design can shape behavior into something positive for the user.

Reconstructing Climate Data

Tue 16 Apr	Wed 17 Apr	Thu 18 Apr	Fri 19 Apr
 12°C	 12°C	?	 14°C

A neural network model for replacement of missing data in BC climate records

Owen Scholes

Reconstructing climate records with neural networks

Owen Scholes | Ian Hoffman

How can we model environmental systems? As the impacts of anthropogenic climate change become more apparent by the day, it becomes increasingly necessary to develop a rigorous understanding of how our environment is changing. It is a fortunate coincidence that the compounding effects of climate change are occurring simultaneously with the rise of machine learning and a revolution in our capacity to process massive amounts of data. In climate science, weather stations are among the most useful data sources for new analytical techniques. However, these data present unique and frustrating challenges that limit our ability to analyze them. Any number of technical malfunctions can result in gaps in a station's data output. In order to perform more advanced analysis on these records, it is frequently necessary to make educated guesses about the data that would have been recorded in these gaps.

In this talk, I will describe my method of using neural networks to fill gaps in weather station records. For each station in a dataset, a unique neural network model predicts the measurement at a station based on its measurements on previous days and concurrent measurements at nearby stations. The model is trained using time periods where the station had complete data, and then used to predict what should have been measured on days where the station failed to record data. This method was able to produce qualitatively reasonable data for most records with gaps of less than a month or so, and for many records with longer gaps. These results suggest that the overall method is a reasonable tool for this problem, but a variety of factors make it difficult to benchmark its performance against existing methods.

OVERCOMING NIHILISM

A PRESENTATION BY
JOE SEIBERT

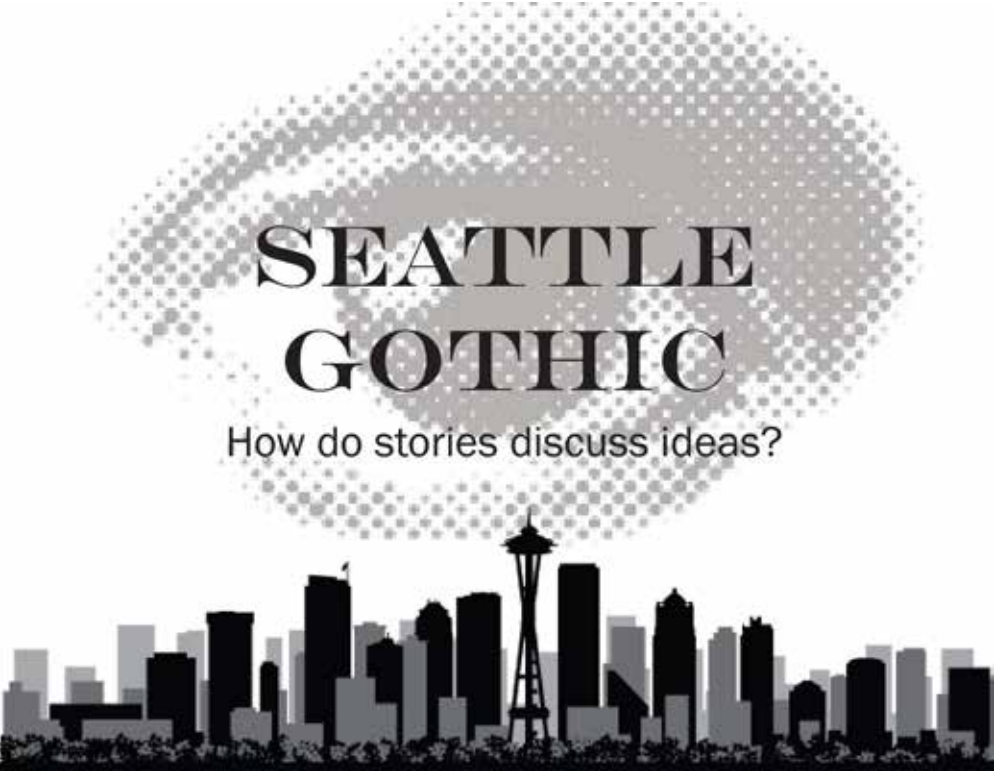
NIETZSCHE
ON NIHILISM
AND THE CONCEPT OF
OVERCOMING

QUEST UNIVERSITY
MAY 2ND & 3RD
9AM - 4PM

Overcoming Nihilism

Joe Seibert | Jeff Warren

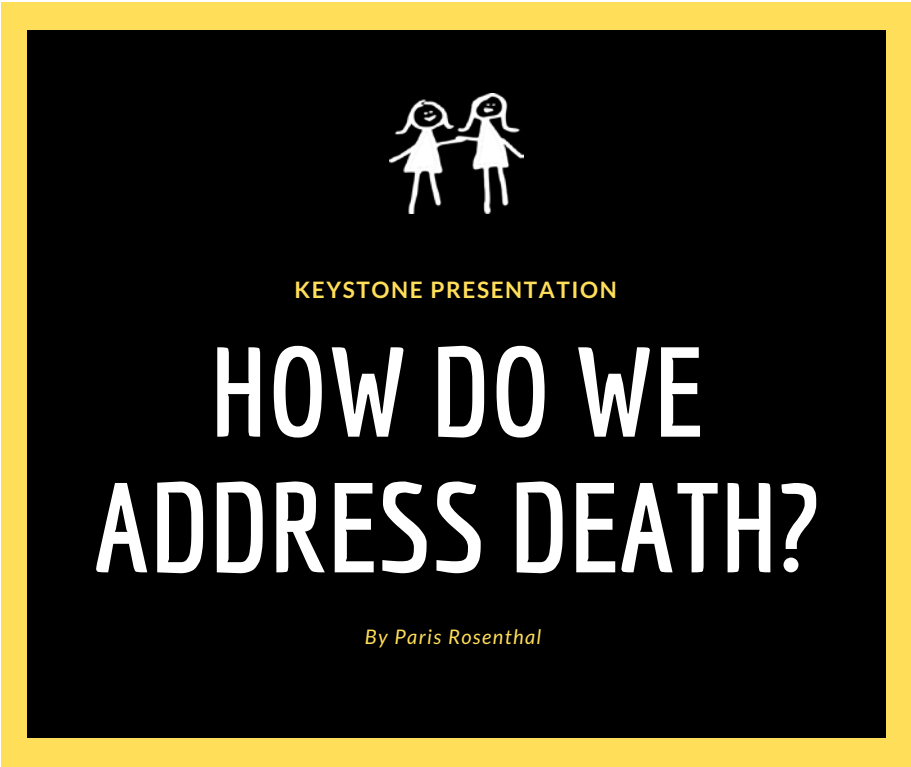
How do we experience thriving? To thrive is to progress toward a goal despite or because of circumstances. I have explored this concept through the lens of both psychology and philosophy, though my Keystone focuses primarily on philosophy. Existential philosophy, in particular, offers a unique answer to the question of thriving by emphasizing the human being as an essentially autonomous agent. What is suggested by some of these philosophers is that, as autonomous beings, it is the meaning that we ourselves create that ultimately provides answers to questions of thriving. Yet, as it is argued by existentialists, meaning, as essentially created, can open the possibility of collapse into meaninglessness, or nihilism. The main motivation for my Keystone was to focus on the work of Friedrich Nietzsche, in order to explore the possibility of achieving a state of thriving after an individual's personal meaning has collapsed into the condition of nihilism. In my presentation, I begin by recounting my academic journey, specifically my work in psychology and philosophy, with an emphasis on the malleability of thoughts and beliefs. I then discuss Nietzsche's work on nihilism as it relates to the constructed nature of beliefs, and finish by offering ideas on Nietzsche's concept of overcoming, especially as it relates to nihilism. I hope to convey to the audience how important Nietzsche's ideas are to anyone who is concerned with questions of truth and belief. More importantly, I attempt to offer hope that the condition of nihilism need not be considered a permanent psychological state, by suggesting there might be a way to overcome it provided in Nietzsche's work. This might be an unexpected result to many, considering Nietzsche's common association with being nihilistic. My Keystone presentation will hopefully challenge this narrative, and offer a new lens for audiences to approach the work of this important philosopher.



Seattle Gothic: How do stories discuss ideas?

Nathaniel Hanson | Shira Weidenbaum

How do stories discuss ideas? Literary theory seeks to understand how and why we read. By extension, it seeks to understand how to critique the works we read. Recently, literary theory has become concerned with the reconciliation of the readers' emotional response to a work, the works adherence [or its disregard] to genre and form, and our public perception of the author's intent. If the author never intended for their work to contain allegory, does this discount the readers perception of that allegory? If I state that tragic events in Frankenstein occur because of the titular character's rejection of his creation, yet someone else claims the tragedy is due to Dr. Frankenstein playing God in the first place – who is correct? By discussing the process of writing my Keystone, Seattle Gothic, in addition to popular interpretations of classic gothic horrors, this presentation will explore the relationship between the author and the reader. Furthermore, I attempt to reconcile different critiques on how and why we read. My talk depicts how the misreading of previously published works expands the discussions contained in those works. Seeking to understand how and why we read results in a more critical and self-reflective reader. There is an expectation that being a 'critical' reader will result in a false sense of supremacy or snobbery against art considered to be "low-brow", however, if the reading is truly critical then the distinction between high and low art becomes null. A bad author will search for a small audience that they deem to be their equal, a good author will make equals out of their readers.



**You're born, you live, and you die.
Let's talk about the death part.**

Paris Rosenthal | Shira Weidenbaum

How Do We Address Death? The two grand transitions of our humanity, birth and death, are treated very differently, at least in Western culture. Reasonably, talking more about death can inspire us to make the most of how we live. In this go-go-go society, people think they can go about their everyday lives and mourn a loss all at the same time. We need to carve out the space and time for people to grieve. Grief is almost inextricably intertwined to the discussions of death and dying. My studies at Quest allowed me to further explore why there are barriers in society that discourage us to grieve and why we seem so afraid to talk about death. For example, in a Journalism course, I was able to interview the local funeral director, a hospice worker, and a doctor here in Squamish about how they address death in their daily profession. I also created an Independent Study, where I was able to delve into some classic pieces of literature on death and dying. From the onset of my inquiry, I strongly believed, and still believe, that we as a society should destigmatize the subject of death. I wanted to take my own active step in doing so, and in sharing my story. For my final Keystone project, I wrote a memoir about my personal experience with death and grief. Not only is death inevitable for us all, but grief and loss are some of the most universal human experiences. With that, I invite you to join me in this conversation too.



FAST AND FEMALE

The battle for women in sport

Adrienne Gomes

Fast and Female: Addressing the disproportionate sports dropout rate of girls and the discourse surrounding women in sports

Physical activity is a crucial component of health, conferring benefits in physical, mental and psychological health that can increase both quality of life and longevity. Nevertheless, research shows a decline in physical activity during adolescence and young adulthood worldwide. Even more notable is that girls’ participation in sports declines significantly more than boys’, showing a participation drop-off of 22% during the transition to adolescence in Canada. This results in girls missing essential windows for developing bone mineral density, fundamental movement skills and confidence, all of which are important in promoting health and fitness as well as long-term physical activity participation. The historical and ongoing gender discrimination, exclusion and inequality of opportunity for women in sports are major factors in the decline in girls’ physical activity. Gendered expectations of how, and whether, girls can participate in sports influences their likelihood to make physical activity a part of their lives. Physical activity interventions for girls should aim to provide a positive and encouraging environment in which to promote long-term health, develop fundamental movement skills and build confidence. These interventions must be assessed through rigorous academic research to determine their effectiveness in increasing girls’ continued participation in physical activity. PA and sporting opportunities should reflect and support equality of opportunity so that girls stay active into adulthood. To do this, the discourse and action surrounding PA and sport must welcome and respect women and girls.

Adrienne Gomes | Molly Welsh



Electrical Stimulation for Spinal Cord Injury Rehabilitation

Elin Söber-Williams

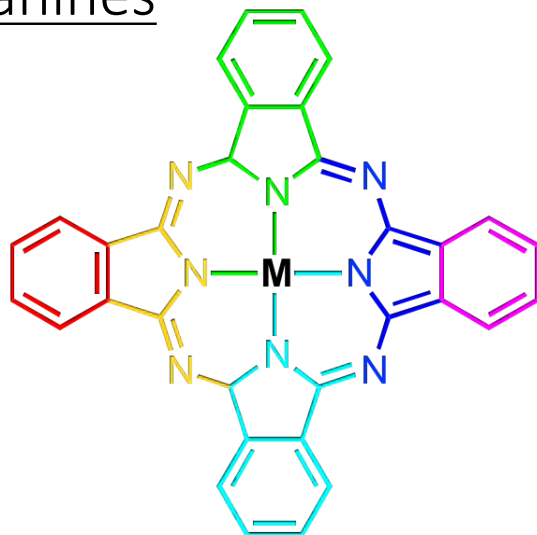
May 2nd, 2019 | 2pm in Room AC 214

Electrical stimulation for spinal cord injury rehabilitation

How can human physiology improve the design of medical implants? The human brain and body work together by transmitting electrical signals through the spinal cord. When the spinal cord is injured, a disruption to the communication between the brain and body occurs that often necessitates medical intervention. A common yet often overlooked outcome of a spinal cord injury is disrupted autonomic nervous system function. This can lead to difficulty maintaining a stable blood pressure as well as complications with bladder, bowel, and sexual function. To understand and investigate better interventions that could help these conditions, I conducted a literature review on the effects of spinal cord injury on autonomic nervous system function, then composed a research proposal for the use of electrical stimulation of the spinal cord. My research proposal outlines a way to directly measure specific outcomes that will quantify the effects of and further provide evidence for or against the use of electrical stimulation of the spinal cord for restoration of autonomic function in individuals with spinal cord injury. This presentation provides important information for individuals with spinal cord injury, the healthcare system, and contributes to the scholarship of spinal cord injury research.

Elin Sober-Williams | Molly Welsh

Phthalocyanines

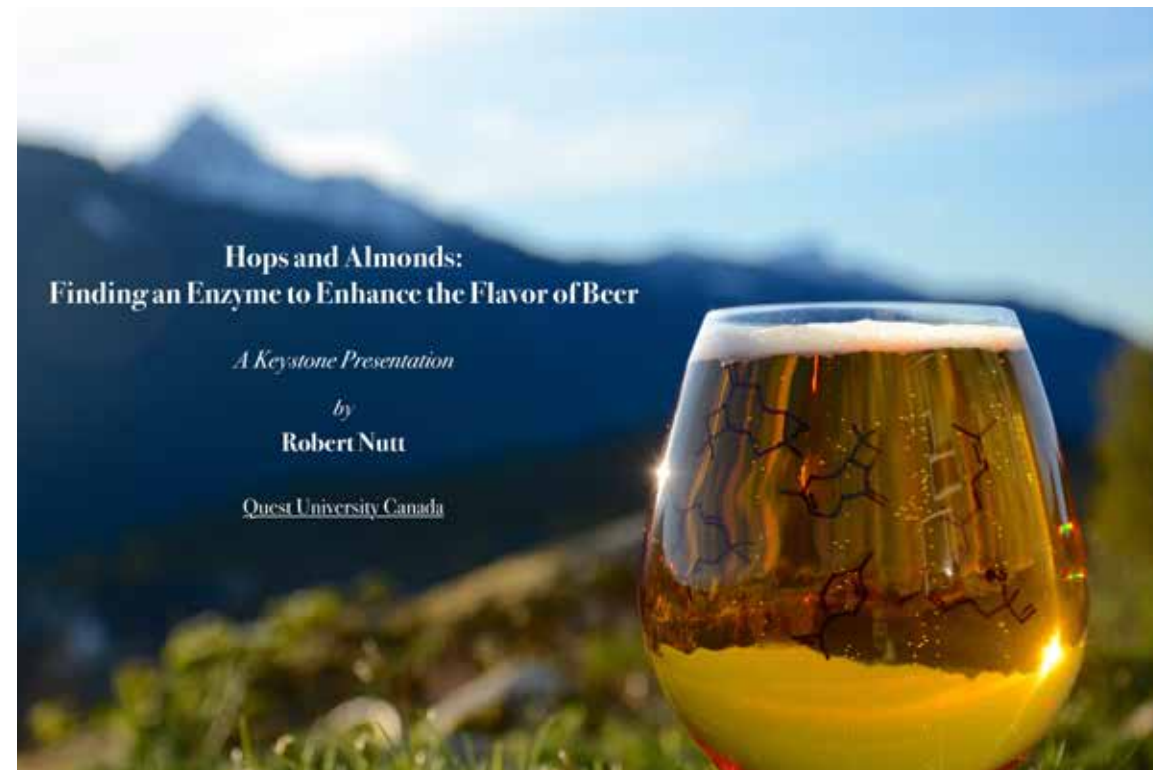


A Keystone By Devon Mitchell
AC 315 - May 2nd - 2pm

Phthalocyanine Synthesis: Bonding, Catalysis, and Experimental Protocols

Devon Mitchell | Emma Davy

My question is: "What Is Chemical Synthesis?". I'm exploring this question by researching the synthesis of phthalocyanines. Phthalocyanines are macrocyclic molecules that have industrial uses ranging from pigments and dyes to chemical sensors and catalysts. Macrocyclic molecules have complex electronic properties that lead to a wide range of colours and functions. Phthalocyanines can be substituted with a variety of functional groups to alter their electronics and therefore their colour/ function. The size, electronic properties, stability, and substitutability all contribute to phthalocyanines being extremely diverse and useful in industry and laboratory research. In this presentation, the synthesis of nBuOPcH₂ is discussed. It is air and moisture sensitive, but after cyclization occurs, the molecule is air and moisture stable. nBuOPcH₂ can be metallated to further alter the ring electronics. nBuOPcZn, nBuOPcCu, and nBuOPcCo are common metallated species and are all air and moisture stable. The novel UV-vis characterization done for this keystone show that nBuOPcZn was coordinating an axial chloride during synthesis, becoming nBuOPcZnCl. nBuOPcZn was the only one of three metallated molecules (Zn, Cu, Co) that coordinated an axial chloride during synthesis, even though the synthesis methods were identical. The coordination of the axial chloride resulted in a colour change of the molecule. The dark green nBuOPcZn turned to a dark brown nBuOPcZnCl. The colour change is an example of how changing the electronic arrangement of a molecule can change other chemical properties. Understanding how the chemical properties of a molecule change helps develop and refine industrial uses. Industry drives research through funding and allows for further study.



Hops and Almonds: Finding an Enzyme to Enhance the Flavor of Beer.

Robbie Nutt | Andrew Hamilton

After Quest I will be starting a brewery in Knowlton, Quebec, with a dear friend of mine, Nick Allan. I will be employed as the molecular biologist for the brewery with diverse jobs ranging from quality control to brewing related research. This project represents my preliminary steps on this future adventure. Hops, *Humulus Lupulus*, is the main flavour ingredient in beer and, while it is used in fairly small quantities in the brewing process, it is the most expensive ingredient, by weight. Finding a way of enhancing the flavor of hops, using less hops for the same flavor is, therefore, highly sought after by the brewing industry. For my Keystone project, I explore a cost-effective, enzymatic method using almond meal to enhance the flavor of hops. Enzymes found in almonds, *Prunus Dulcis*, have shown promise in releasing flavor precursors present in hops and many fruits. Additionally, a poorly studied hop variety called, Galaxy Hops, was analyzed to gain insight into the flavor characteristics this hop variety has to offer. This hop variety is regularly employed by my brew master at La Knowlton Co. Brewery for his most successful brews and presents an exciting opportunity for research. Gas chromatography – mass spectrometry (GC-MS) was used to quantify and characterize the essential oil (flavor) component of almond treated and water treated galaxy hops. Preliminary analysis of the GC-MS results of my experiments show an increase in the essential oil (flavor) component between almond treated and water treated hop samples. While the results look promising, the next steps would be to test this method in beer. In the coming months, I hope to develop this method further for use by brew masters and home brewers alike to enhance the taste of their favorite brews.

Photo Credit: Kelsey Green, April 20th, 2019, Horne Lake, BC



**BEYOND NAMING:
A TENDER COLLECTION OF BOTANICAL THOUGHTS**

Exploring the animate and distinctive characteristics of native plants,
and how learning their identities enables more meaningful relationships with nature.

Ethnobotany. Indigenous Studies. Poetry. Biology.

KEYSTONE SYMPOSIUM | ALIYA MILLSON | 2019

**Beyond Naming: A Tender Collection of
Botanical Thoughts**

Aliya Millson | Jamie Kemp

How can we heal using plants? Whilst the fields of ethnobotany, Indigenous studies, and biology lend perspective to this question; my keystone examines the role of creative writing in plant-based healing. Many people are unaware of specific native species; and instead, perceive a monotonous blanket of green; in my talk I hope to address the question: "How can I inspire others to care deeply for native plants?". It was an essential part of my project to use poetic language that enables the reader to see plants as animate characters – worthy of care and appreciation. Without recognising the significant individuals within complex ecosystems, we cannot hope to treat them with the gratitude necessary to learn about their medicines and care for them.

I will share a piece from my anthology of poems about native plants and elaborate on how language use can lend itself to a caring and attentive approach to plant-life. Partially inspired by Indigenous knowledge, I will give credit to the information and perspectives shared by Indigenous groups. By using animate language as a tool to plant the seeds of curiosity and care, I hope we can improve our relationships with nature.



Knitting as Knowledge

Andrea Denny-Jiles | Jamie Kemp

What maintains our will to live? There are many aspects of life which cannot be communicated or understood with only words. Fine arts, cultural studies, psychology and art history all contain bodies of knowledge which address the role of art in human experiences.

This keystone reveals, first, ideologies that have historically limited the legitimacy of non-written bodies of knowledge. Second, I explore ways in which contemporary feminist art practices can expose these ideologies and create activation in communities and culture. And finally, I discuss how the creative process can act as an emotional and mental support tool for the individual. These three concepts are embodied in "Knitting as Knowledge," an art piece in three parts: installation, performance and garment.

Knitting as knowledge teaches the viewer the importance of questioning what we consider as knowledge. The art praxis shows the necessity of combining theory and practice in pursuit of accessible knowledge communication. By presenting the piece as a scarf, I center the idea that art and creativity can inform how we can live more self-responsible lives that are filled with an abundance of meaning.

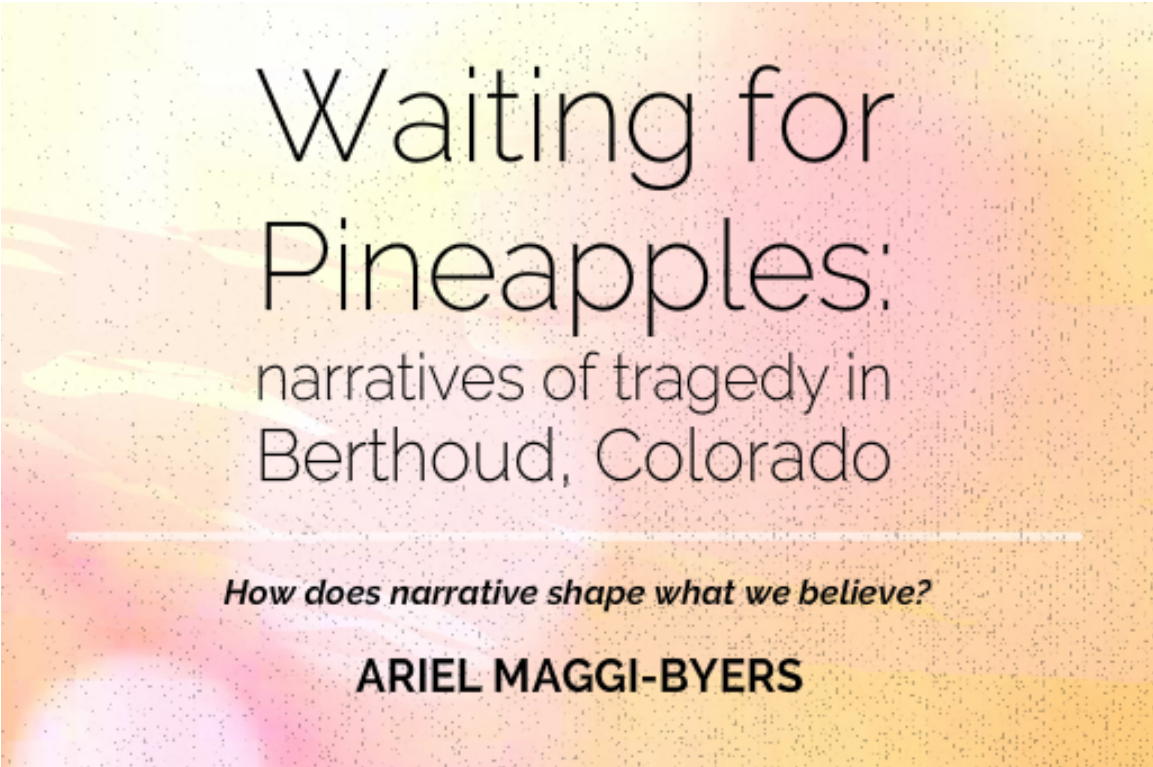
We all have to live. By unpacking modes of thoughts which limit our thinking, we become able to see the finer, more complex and beautiful things life has to offer. Ultimately, we can share these things with others and create necessarily radical shifts in our culture.



**Trauma Therapy Interventions for Children:
An Exploration of a Website and Short Films**

Lista Spensley-Tagornak | Jamie Kemp

As childhood mental health issues are becoming more prevalent it is crucial to explore effective care for children with these challenges. Acknowledging, supporting and finding professional help for these children can be very overwhelming for parents and caregivers. For this Keystone project, trauma specialists, therapists, teachers, and parents who care for children that experience various mental illness symptoms stemming from different forms of trauma were interviewed. From these interviews, 5 videos were produced and shared on both my website (www.tticrosources.com) and YouTube channel (Trauma Therapy Interventions for Children). They act as public vessels for introducing and providing perspectives on various expressive therapeutic resources. Once the information within these platforms are publicly available, the stigma around mental health being a bad thing and fear of asking for help will hopefully dissipate. Using technology to connect people reinforces the power in not feeling alone with these struggles, and shares practical information with those who are looking to help these kids be their best selves. From a perspective of multi-disciplinary appeal, these resources would give comfort to anyone working to prevent mental challenge and emotional chaos; individuals such as a range of therapists, educators, social workers, and corrections officers. When sharing knowledge about therapeutic solutions becomes commonplace, both individuals and families will be healthier and more productive as a direct result.



**Waiting for Pineapples: narratives of
tragedy in Berthoud, Colorado**

Ariel Maggi-Byers | John Reid-Hresko

How does narrative shape what we believe?

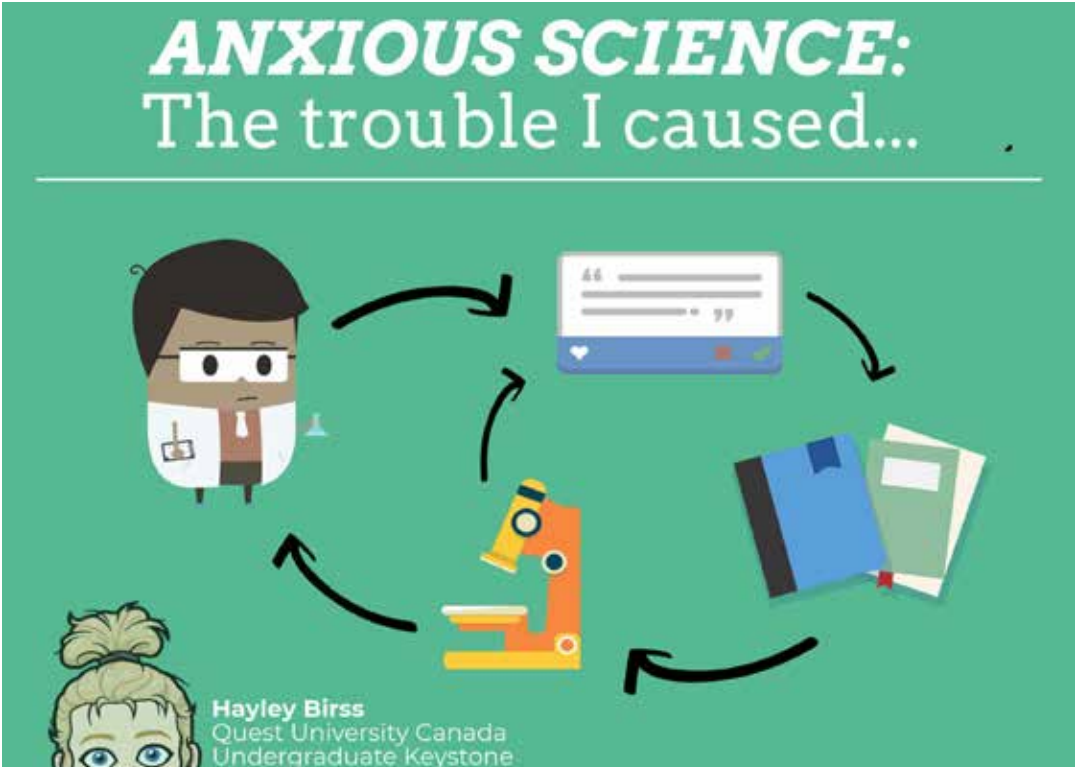
In my presentation, I tell a story of community trauma, resilience and response in my hometown, Berthoud, Colorado. In the past ten years, the teen death rate in the community has doubled. In 2016, the year that inspired this research, the community lost two teenagers to suicide and one to homicide. These losses are magnified by proximity to others, and by the tight-woven nature of the community. The social reality of death is further complicated by the influence of narratives which create complex webs of understanding and interconnection. I spent the summer of 2018 listening to the narratives that have circulated in response to death in the community, asking not what these stories are but why these stories are. My research reveals the ways in which narratives and experience of tragedy are co-constructed. Today I present my findings with regards to the cyclical and social impacts of narrative in the community, the ways that they differ, and why. In many ways, this has been a study of what is left behind when someone dies, and in the next few minutes I'm going to lead you through my research on the impacts of these traces on the community, and what Berthoud, Colorado, has to teach everyone about the stories we tell and the stories we hear.



Nature x Nurture: A Novel Proposal to Address Intimate Partner Violence

Hannah Petrillo | Emma Davy

As a survivor of Intimate Partner Violence, I often found myself asking what causes someone to become an abusive partner and whether such a person can change their ways. Drawing from various disciplines – sociology, psychology, neurobiology and genetics – I sought to find answers to these questions. In the process of doing so I had three major takeaways: 1) IPV, while influenced by social and psychological variables, also has a biological component, however not much is known about it, 2) Current intervention efforts, founded only on social and psychological theories, are largely unsuccessful, and 3) Studying the interaction of genes (nature) and the environment (nurture), as opposed to studying them in isolation, may help identify novel prevention and intervention strategies for conduct-related problems. These takeaways led to my keystone – a research proposal that aims to answer what gene-environment interactions are associated with IPV perpetration. The overarching goal of the study is to expand on what little is known regarding the biological etiology of IPV perpetration to ultimately aid in the development of more effective prevention and intervention strategies. During this talk, you will learn more about the background information that led to my study, what a gene-environment interaction is, and why the research I’ve proposed is important to address.

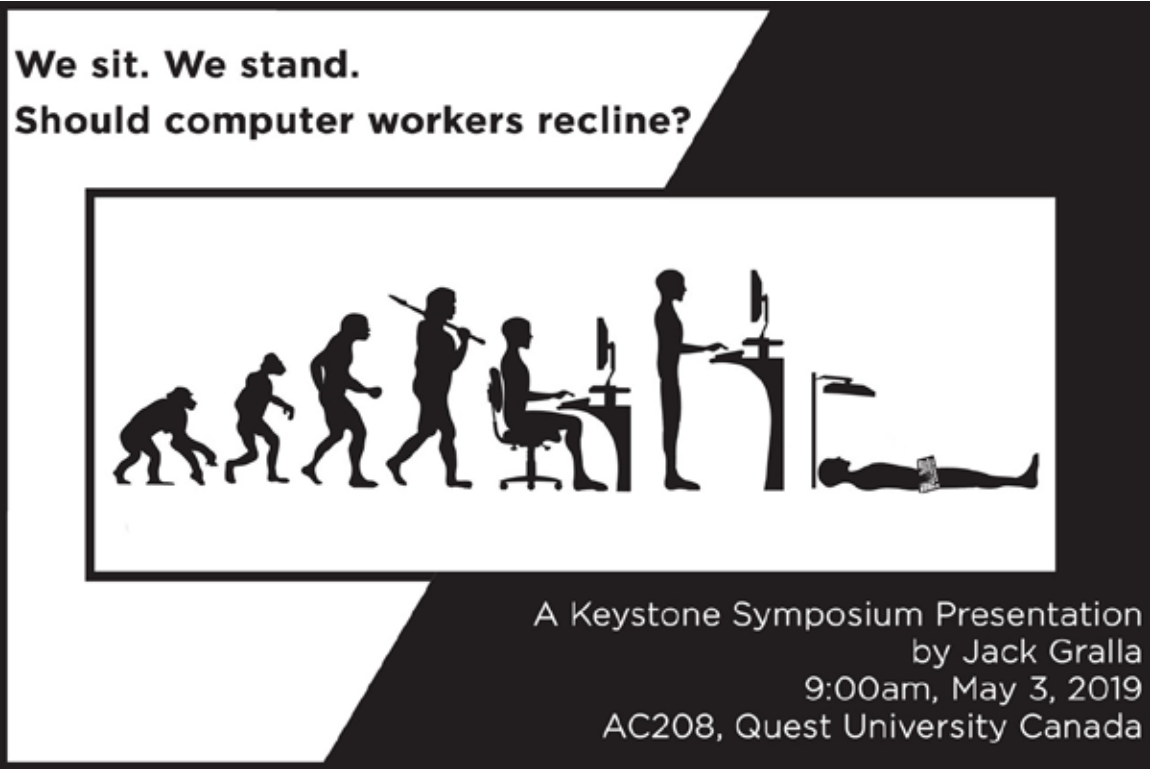


Anxious Science: The trouble I caused...

Hayley Birss | John Reid-Hresko

What is science? And how do biomedical research scientists understand fact creation? For my keystone I studied under the sociological discipline of Science & Technology Studies–the learning of how society affects scientific research and technological innovation, and how these, in turn, affect society. For my undergraduate research, I worked with, observed, and interviewed biomedical research scientists–but, what happens when you do qualitative research in a quantitative setting? In other words, what happens when a sociologist visits the laboratory? In this talk, I will be unpacking the “severe anxiety” that I caused biomedical researchers when I was conducting qualitative research in a laboratory facility.

My results show that researchers’ “anxiety”–and my subsequent labelling as deviant during my time in the laboratory–speaks to a fear that the meta-scientific story that scientists reiterate daily was being attacked. In other words, my questioning of science was taken as an affront to the discipline. This talk and the thesis it is based upon a re-framing of the origins of scientific fact. In sum, “facts” are not discovered: they are created, socially negotiated, and framed as impenetrable–I cause anxiety in biomedical researchers when I point to this. It must be remembered, however, that addressing science as a socially constructed practice does not debunk it, it undresses it to expose its inherent subjectivity.



We sit. We stand. Should computer workers recline?

Jack Gralla | Doug Munroe

Do you use a computer regularly? How frequently do you experience low back pain? Each year, low back pain costs the North American economy over \$100 billion and equally considerable unnecessary physical and mental pain. This presentation will critique and expose health risks within computer work and present a potential solution. The goals of ergonomic design are to reduce human error and increase productivity, safety, and comfort. Because ergonomists aim to change work to fit the worker and not the other way around, I focus on the design of productive spaces and computing equipment, but also discuss the various ways that modern work culture created and continues to perpetuate conditions for chronic low back pain.

In this Keystone presentation I will bring to light the contributing mechanisms, both cultural and physiological, of low back pain. I will then discuss why previous attempts to address this crisis have been unsuccessful. Because sedentariness in upright postures (sitting and standing) is one of the biggest contributors to this crisis, I introduce reclining workstations – an untapped alleviator for low back pain. I also shed light on what each of us can do to combat toxic cultures and promote ergonomic computer work habits. Finally, I share some practical tips and tricks for managing low back pain and other afflictions, and provide an update on recent and useful ergonomic discoveries about everyday computing equipment.



States and Armed Conflict: Assessing the Impact of Military Interventions on Conflict Intensity and Duration

Levi Kirkby | Doug Munroe

How do state actors impact conflict? In 2017, the Peace Research Institute Oslo (PRIO) found that 80% of deaths related to armed conflict occurred amidst the four largest armed conflicts in the world. The fact that Syria, Afghanistan, Iraq and Yemen have accounted for so many battle related deaths may not be a coincidence. These states are all examples of conflicts that involve military intervention by multiple state actors. These conflicts are not only much deadlier, but their frequency has been rising since 1947. My keystone focuses on how the size of international military interventions impact the intensity and duration of armed conflicts. I processed empirical data from the International Military Intervention (IMI) dataset from Pickering et al, 2009 and analyzed the relationship between troop levels, conflict intensity and conflict duration. The purpose of this research was to gain a better understanding of a state's potential impacts on armed conflict globally.

The Effects of Social Media on Marketing

By Sachi Swift



2019 | Quest University Canada | May 3rd

How does social media affect marketing

Sachi Swift | Tamara Trafton

How can we use social media marketing effectively? Over the past few decades, social media has become extremely popular. People all over the world and of all ages are using it daily. It has provided various platforms through which people can share and create content, read and write reviews, and research opinions and experiences for any product or service they wish to purchase. In light of this, social media has changed the marketing landscape drastically and has now become a prominent marketing method amidst marketers and firms to reach prospective consumers. As it's providing today's marketers with tremendous reach and influence over their target segments while providing valuable market insight into the wants and needs of their customers. In this paper, I present a literature review on how Social Media Affects Marketing focusing on the themes of consumer behaviour, online brand communities, and virtual advertising, and considering the positive and negative effects of social media marketing. It illustrates the power of social media to build and sustain strong relationships between firms and their consumers when used effectively. Eventually, these relationships can develop into a desired attribute that all firms and marketers long for- a loyal consumer. However, with the several advantages that social media exhibits, it also poses huge risks given certain circumstances. To avoid detrimental losses, marketers must successfully manage the interactions that happen on social media in order to capitalize on the advantages of inducing brand loyalty.

MAY I HAVE YOUR ATTENTION PLEASE

Eluti Danzig



May I Have Your Attention Please

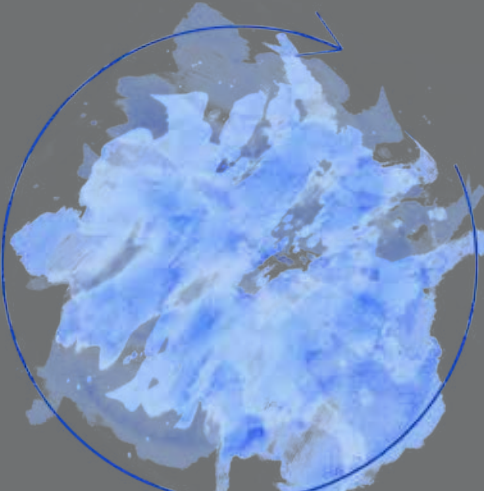
Eluti Danzig | Jacy Young

“What exactly is ADHD? How is it treated? Where do I start to learn more about ADHD?”

These are all valid and answerable questions, however, these answers are not always easy to find or understandable. I will be approaching these question from the perspectives of neurobiology and psychology. My main aim with this presentation is to make this information engaging and accessible regardless of your background. I will discuss how ADHD is categorized and diagnosed and how this disorder interacts with our neurochemistry. This will culminate in a balanced overview of the world of ADHD and provide a springboard for anyone who wants to do further research. This is a talk for those with ADHD, those with close ones with ADHD, or those just interested in learning about something new. All are welcome with their curiosity in hand. "

Mental Illness and Relationships:

How are we impacted by the mental illness of those around us?



Mental Illness
Relationships
Social Support
Caregiving

Franka Hentze

Mental Illness and Relationships: How are we impacted by the mental illness of those around us?

Franka Hentze | Jacy Young


How do relationships impact our mental health? This question is examined through the discipline of Social Psychology, which investigates how individual’s thoughts, behaviours and feelings are influenced by others. More specifically, this question sought to address mental health and how it influences people in relationships. In this Keystone talk, I will address a literature review I conducted that explored how factors such as mental health, gender, social relationships, and social support play a role in mental health contagion. My review of the research showed that an individual can experience mental illness contagion, which caretakers of people with mental illness are especially susceptible to. Furthermore, gender, and friend groups of the individual influence their behaviour and mental health in extension. This means that an individual is indeed impacted by the mental health of those around them and that mental illness has the capability to be ‘fluid’. Overall, individuals interacting with persons affected by mental illness seemed to experience increased mental health issues as those interactions continued. However, communication as well as receiving professional support for not only the individual with mental health issues but also the individual providing support can greatly influence the mental health of those involved in this kind of relationship.



MARISSA KINGZETT

TRAUMA, STORYTELLING, & RESISTANCE

EXPLORING THE POTENTIALS OF COMMUNITY MEDIA IN A NEOLIBERAL/COLONIAL WORLD



Trauma, Storytelling, & Resistance:

Marissa Kingzett | Jacy Young

How can storytelling create spaces that foster social change? Using this question as a guide, I have spent my years at Quest attempting to determine what makes community spaces less accessible, what barriers work against the raising of marginalized voices, and what I (as a white, privileged, settler) can do about it. While there are many answers to these questions, my Keystone specifically looks at the relationship between trauma as a bio-political apparatus, the ongoing perpetuation of negative neoliberal/colonial values, and the potential of witnessing as a collective-creating practise. And even more specifically, how can both sonic and physical spaces formed by community media organizations create an ideal space for resistance, resurgence, and unsettlement?

Reading my Keystone paper will take you on a journey through fairly dense theory, reflections of trauma as written by Toni Morrison, and case studies of different community media organizations. However, what I hope to communicate through my presentation is much simpler. I hope to share with you the key points of the framework for resistance argued for in my paper and make you think critically about how these ideas are at play in your day to day life. How can this be applied to community spaces you work, or live in? Why do we need to acknowledge the way trauma in a neoliberal world works to isolate and separate people when we think about social change? And why is it so important for you, regardless of who you are, to both witness the stories of others and have your own stories witnessed?

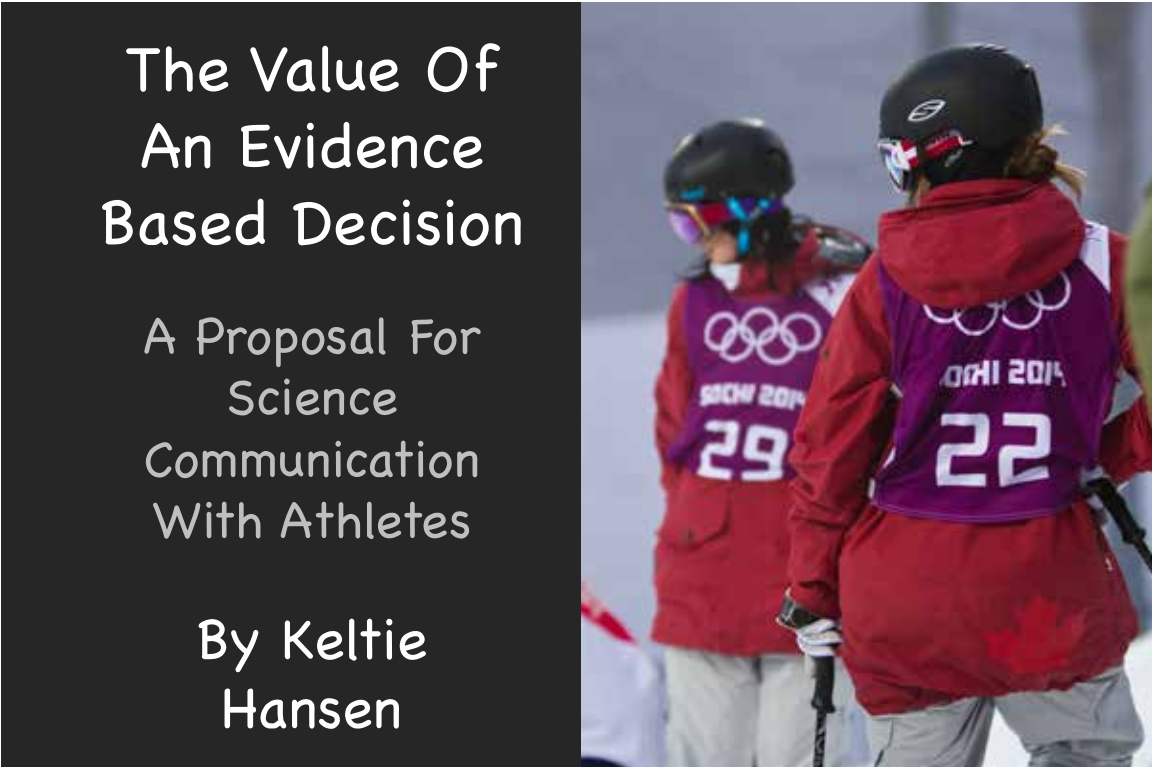


**Unexpected Lessons from Kiritimati Atoll:
A Case for Doris Magazine**

Ella Van Cleave | Colin Bates

“How can storytelling assist conservation efforts? Kiritimati is one of 33 islands that comprise the Republic of Kiribati, a country that is increasingly threatened by the impacts of climate change. As a low lying island nation with an average elevation of just two, rising sea-levels are a risk to the security of the nation, but is this all there is to the story? What perspectives does this narrative neglect? In this talk, I explore how a trip to one of the world’s most remote and isolated islands, Kiritimati, yielded unexpected lessons about journalism, science communication, and environmental justice. I describe how I took the lessons learned while attempting to conduct a documentary film project in the South Pacific and combined them with a survey of literature from within the field of journalism studies to build an interactive platform for environmental storytelling. The creation of Doris Magazine is an attempt to balance the integrity of journalistic research methods with framing that reflects the urgency, gravity, and importance of mobilization in response to environmental challenges from along and beyond the world’s coasts.

”



The Value Of An Evidence Based Decision

Keltie Hansen | Molly Welsh

How can we optimize performance? Using sport science has become a regular part of an athlete’s training regime to improve performance. Sport science research can be based on nutrition, exercise prescription, complementary/alternative medicine and psychology. However, in order for performance enhancing methods to be used safely and effectively, athletes need to receive reliable information about the research behind these methods. So where do athletes receive their information about sport science? In this talk I propose and showcase an educational blog as a viable option to improve science communication with athletes. The purpose of this educational platform is to teach athletes the skills to critically analyze the evidence behind sport science and encourage a personal evidence based practice. This model of science communication is an alternative to the numerous other platforms that simply translate scientific research into lay terms. Each blog post is meant to teach athletes the skills to interact with the scientific literature. This is not a new idea; in fact, there is an old saying “If you give a man a fish, he will eat for a day. If you teach a man to fish, he will never go hungry”. If you simply provide an athlete with translated information they will only know one answer. If you teach athletes to find the information for themselves, they will create their own solutions in the future.



What are those? How Biodiverse is Dabob Bay?

A Presentation by Ben Shanafelt
Friday @ 9 AM in AC 322

How Biodiverse is Dabob Bay?

Ben Shanafelt | Marjorie Wonham

How do species interact in coastal ecosystems? Biodiversity, “the infrastructure that supports all life on Earth,” is characterized by the number of species, and their concentrations within a specified area. Unfortunately, humanity is currently facing a global biodiversity decline that is leading to Earth’s sixth mass extinction. This problem has implications beyond that of an environmental scope. Biodiversity supports 1) human health, by providing natural resources for new medicines; 2) food security, by providing everything we naturally eat; 3) our global economy, by providing an estimated US \$125 trillion per year; and 4) our society by providing many of the luxuries in our daily lives. Through this presentation, I will introduce how I have tackled this problem on a local scale through an All Taxa Biodiversity Inventory of a small bay in Washington State. I will then share how this initial project extended into a larger solution through a biodiversity monitoring program proposal. These two projects make up a large portion of my keystone, which was oriented around the question, “How Biodiverse is Dabob Bay?”.

Brianne Michelle Swanson

Friday, May 3, 2019



Who decides what I learn and how I learn it?

A Talk on the United States’
Public-School State Standards;
Common Core

Bree Swanson | Marjorie Wonham

Who decides what I learn and how I learn it? I want you to place yourself back in high school. For some of you this might feel like forever ago and for others it might feel like just yesterday. Think back to that class you could barely keep your eyes open for, the one where you don’t know if you really learned anything. The class that you asked yourself, why do I need to know this? For my Keystone I expanded this question to, “Who decides what I learn and how I learn it?”. I examined the United States’ Education System and discovered that for the last couple decades the United States has not been able to compete academically with other high performing education systems globally. That is why in 2008 the U.S. created a set of standardized education standards, also referred to as the Common Core Standards (CCS). These standards ensure that all American students graduate from high school with the skills and knowledge necessary to succeed in college, careers, and life, regardless of where they live. Although CCS was created with positive intentions, there has been no transparency in the creation process. In my talk I will define the transparencies lacking in current literature surrounding CCS. Additionally, now that it has been 10 years since the implementation of CCS, I will end my talk with the question, what should the U.S. do if there continues to be no national academic improvement?



“We Are”: Humanizing the Immigrant Body Through Hip Hop Appropriation

Aina Yasue | Ahalya Satkunaratnam

How can arts promote inclusion? Dance is a site of knowledge and culture. Critical Dance Studies and Performance Studies are examples of academic disciplines which have critiqued the hierarchy of knowledges based on Western value systems of objectivity and truth. Dance and other embodied knowledges fall under the umbrella of what Michel Foucault has termed “subjugated knowledges” (Power and Knowledge 1980, 81-84). Critical examination into the hierarchies of knowledges within the academy, and perhaps into the society at large, may lead to validating certain knowledges that have been silenced. It is with the intention of illuminating the depth and meaning within subjugated knowledges that I have attempted to deconstruct, analyze, and critically engage with “We Are”, an Urban Dance performance choreographed by Mari and Keone Madrid. In my presentation, I lead the listeners with a step-by-step analysis of how the choreography of “We Are”, including the movements, camera-work, audio, and visual projections produce meaning. Locating the choreography analysis in historical and sociopolitical context, I argue that the meaning produced through “We Are” has the ability to perpetuate the continued appropriation of hip hop and the invisibilization of the structural inequalities faced by African American and Latino peoples in working-class neighborhoods in 1970s, New York. The main aim of my talk will be to explore the process of commodification and globalization of hip hop, illuminate patterns of whitewashing within the entertainment industry, and provide a case-study to demonstrate the complexity of critically analyzing dance. I hope that my presentation can be added to the existing body of critical dance analyses which all work to legitimize the presence of Critical Dance Studies and Cultural Studies as a valid and meaningful way of knowing in the Western Academy.



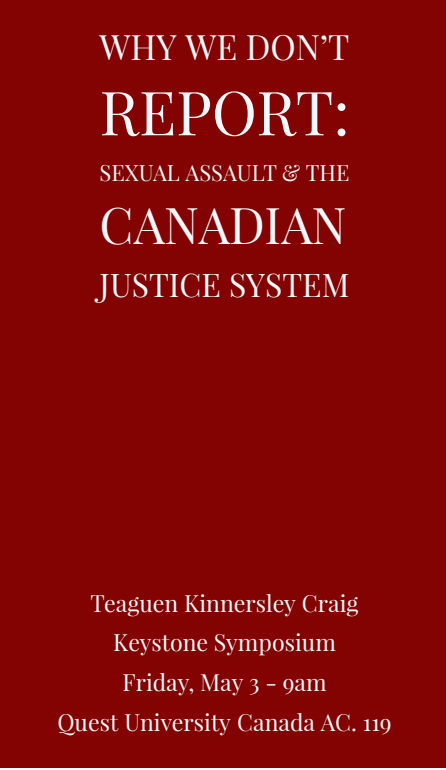
“Strange Fruit”: A Space for Retelling

Ava Swanson | Ahalya Satkunaratnam

How is performance embodied? Performance scholarship seeks to scrutinize and contextualize performance pieces while avoiding creating static representations of the subject. Contrarily, western musicology has historically leveraged white, Eurocentric methodologies to canonize jazz performance, effectively reproducing the types of white supremacist control that jazz seeks to disrupt. In my Keystone, I seek to broaden musicological inquiry using performance studies methodologies to examine a jazz performance subject with as much critical contextualization and reflection as possible.

My presentation calls you, the listener, to engage with Billie Holiday’s performance of “Strange Fruit” as a locus for reflection on racial violence. I begin by examining epistemologies and reiterations of white supremacist violence in the United States. I then explain the development of “Strange Fruit” from poem to performance, situating the piece within the anti-lynching movements of the early 20th century. Next, I analyze the song, discussing how its score, lyrics, and Holiday’s performance contribute to its affect. Finally, I trace the legacy of “Strange Fruit”, asking how we may continue to engage with this powerful song today.

I ultimately suggest that “Strange Fruit” serves as a space for reflection and transformation of white supremacist violence in the United States. Many scholars and activists argue that it is only through collective recognition and reflection that violent histories can be revealed and reconciled. My presentation connects to contemporary dialogues on race and power in the United States by offering a musical site for grappling with white supremacist violence. I contend that meaningful engagement with “Strange Fruit” has and will continue to contribute to anti-racist efforts and dialogues in the United States.



Why We Don't Report: Sexual Assault & the Canadian Justice System Teaguen Kinnersley Craig | Ahalya Satkunararatnam

How does rape culture influence the Canadian criminal justice system?

Sexual assault is one of the most prevalent yet under-reported crimes in the country. Although Canada purports to be under the rule of law, Canadian women continue to live in fear of both sexualized violence, and the justice system which is meant to protect them from it. One in three Canadian women is sexually assaulted in their lifetime, and 90% of them will not report to police. One of the main reasons victims cite for not reporting, is fear or distrust of the legal system. Through analysis of trial transcripts, journalism, and the work of legal scholars, I found that this fear is well-founded. From the first report to police officers, all the way through to the end of the trial process, victims are subject to shocking levels of discrimination and scrutiny, resulting in an unjust legal process which devalues, dehumanizes, and discredits victims of sexualized violence.

Using acrylic paint and hand embroidery, I conveyed my research in an art piece centered on the individual actors who make up the criminal justice system; specifically, police officers and trial judges. The stereotypical thinking and sexism that inform our society's view of sexualized violence continue to have a deep impact on the way laws are interpreted and applied by actors within the system. This is evident in the actions and words of those showcased in my piece. If our criminal justice system aims to be "objective" and "unbiased", we must interrogate the sexist, racist, and classist biases which continue to influence those who uphold the rule of law.



Squamish CAN Community Farm: A Project Proposal Emily Frame | Negar Elmieh

Our food system is far from sustainable. Over the past fifty years, global agricultural production has undergone extensive changes to support industrial-capitalist food production, leading to concentration in all areas of the food system. Although these changes have led to higher crop and livestock yields, they have also brought ecological degradation, social injustices, and food insecurity.

Community farms respond to existing food systems facing extraordinary challenges, by addressing barriers to local food production. In BC for example, community farms conserve farmland and produce sufficient, healthy, local, sustainable food. Community farms also provide farmers with affordable land access options. High land costs prevent new farmers from entering the field, which adds additional barriers to local food production, including: increased average age of farmers (55 years old), and disappearance of farmer knowledge. Strengthening regional food systems presents a substantial opportunity to improve community, and environmental health and well-being.

This Keystone is a project proposal for the Squamish Climate Action Network (Squamish CAN) to implement a community farm (CAN Farm) in Squamish. The Squamish CAN is a community action group that operates many environmental and socio-economic enhancement projects. The CAN Farm model reflects and supports Squamish CAN's mission to educate, support, and strengthen the community of Squamish by developing, promoting, and implementing sustainable strategies to mitigate and adapt to climate change. The CAN Farm model draws from various existing community farm models in Southwestern BC: Tsawwassen Farm School, Loutet Farm, and Haliburton Farm, just to name a few. These models include themes of: increased public access to and education about food production, support to emerging and young farmers with limited resources, preservation of farmlands, and use of local-resilient agricultural production practices. The CAN Farm project tackles both social and ecological justice issues by implementing place-based agriculture, to cultivate sustainable food systems.



Why the Black Sheep Smiles:
Wisdom in *Thus Spoke Zarathustra*,
Steppenwolf, and “The Country of the Blind”

Wisdom and the Mountain

Rachael Sandri | Darcy Otto

What is wisdom? This Question is viewed through the lens of philosophical fiction, a love child of the philosophical and literary fields. Elements of story bring philosophical questions into the world but withhold answers, opting instead to invite the reader to personal interpretation and critical thought. In the case of the texts implemented in this Keystone, they confront the reader with questions of ethics and existentialism. To further my inquiry into wisdom, this Keystone focuses on three texts, Friedrich Nietzsche’s *Thus Spoke Zarathustra*, Hermann Hesse’s *Steppenwolf*, and both versions of H.G. Wells’ “The Country of the Blind”. Nietzsche, Hesse, and Wells differ in their visions of the good and of the future, yet they share common threads of how one might move wisely through our world. It concludes that wisdom is overcoming the folly of humanity with a view to achieving a better future, and the way to overcome is through humor, a form of detachment which allows one to respond to violations of one’s beliefs without being controlled by them. My Keystone presentation provides an overview of my Keystone paper and situates it in the bigger picture of my experience studying wisdom at Quest. It may leave you with new perspectives on humor, folly, and progress.



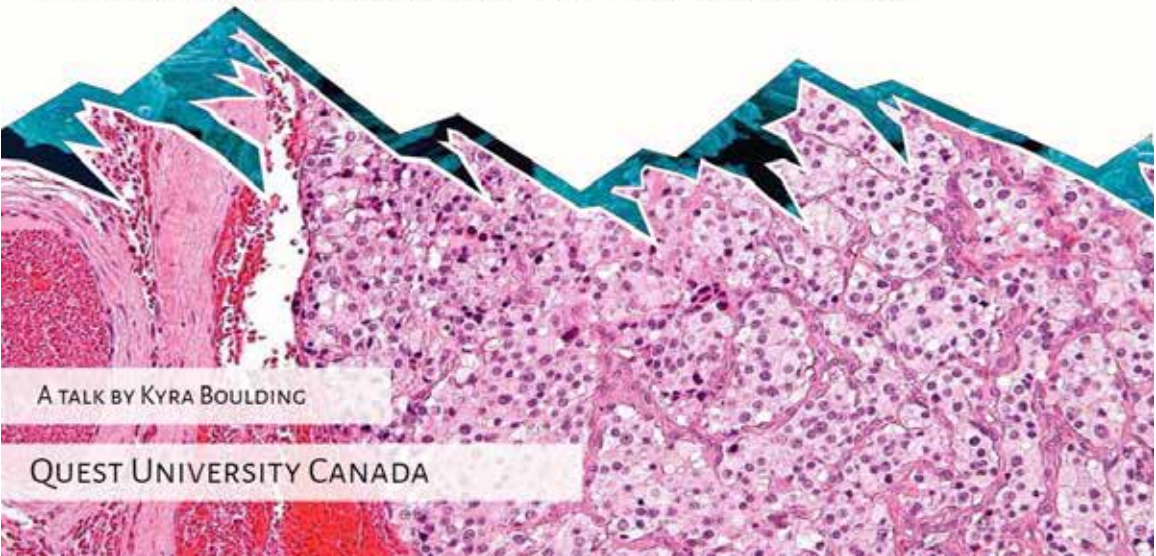
Making The Future Work: Neoliberalism,
Welfare, and Automation

Bonnie Warburton | Kaija Belfry Munroe

This talk asks how the past persists in the present and what that means to the pursuit of a socially just future. Its focus is on automation and the inadequacies of current neoliberal welfare policy for work conditions of the future. The legacy of neoliberal influence on welfare policy is a punitive welfare net that moralizes and punishes the poor, actively undermining labour-market re-entry and feeding the growth of precarious work. This policy isn’t suited to our needs today, and, in the face of automation, actively threatens a prosperous future. Is this the future we need to accept? Based on the literature of work and the good life, and automation projections, I argue that automation has the potential to support a future of quality, fulfilling work, but that rejecting a neoliberal welfare net and embracing modern policies that decommodify labour are necessary to achieving this.

ECOLOGY, EVOLUTION AND CANCER

HOW ECOLOGICAL AND EVOLUTIONARY BIOLOGY CAN HELP US UNDERSTAND CANCER.



A TALK BY KYRA BOULDING

QUEST UNIVERSITY CANADA

Ecology, Evolution and Cancer

Kyra Boulding | Thor Veen

What is the nature of rationality? The field of decision theory has a proposed answer, split into two parts. First, a rational agent should have beliefs that can be represented by probabilities (for instance, an agent might believe that there is a 30% chance it will rain in Squamish tomorrow), which change in response to new evidence according to the rules of probability theory. Second, a rational agent should have preferences among states of the world, called utilities, that obey some simple criteria (for instance, if I prefer state A to state B, and state B to state C, I must prefer state A to state C). Given such beliefs and preferences, a rational agent simply takes the action that maximizes their expected utility.

Unfortunately, assigning probabilities to beliefs in a coherent fashion requires an agent to be logically omniscient; in other words, they must know all facts about logic and mathematics. This is not a realistic constraint, which motivates the following question: how ought an agent that is logically uncertain (that does not know all logical and mathematical facts) produce good beliefs about such statements, and refine them over time? In my Keystone talk, I describe this problem, and talk about an analogue of a solution for logically omniscient agents called the no-Dutch-book criterion. I then touch on the logical induction criterion, developed by Garrabrant et al. (2016), which applies to logically uncertain agents.

The logical induction criterion satisfies many of the proposed desiderata for reasoning under logical uncertainty. Thus, the logical induction criterion is a good definition of rationality for logically uncertain agents. It is also a good framework for mathematicians reasoning quantitatively about unproven conjectures, as well as a standard to compare faster-running algorithms that reason under logical uncertainty.”

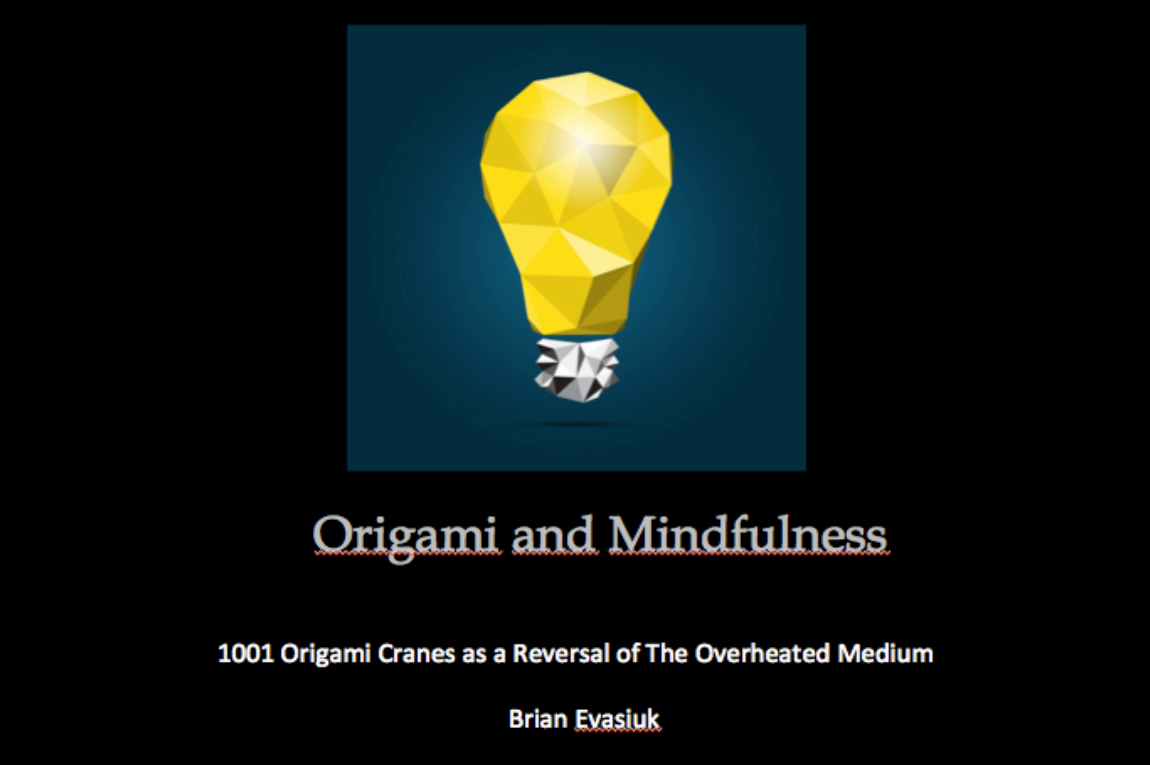
Spanish Policy and the Guatemalan Civil War

Alec Phillips
Quest University Canada
May 3rd, 2019

Spanish policy and the Guatemalan civil war

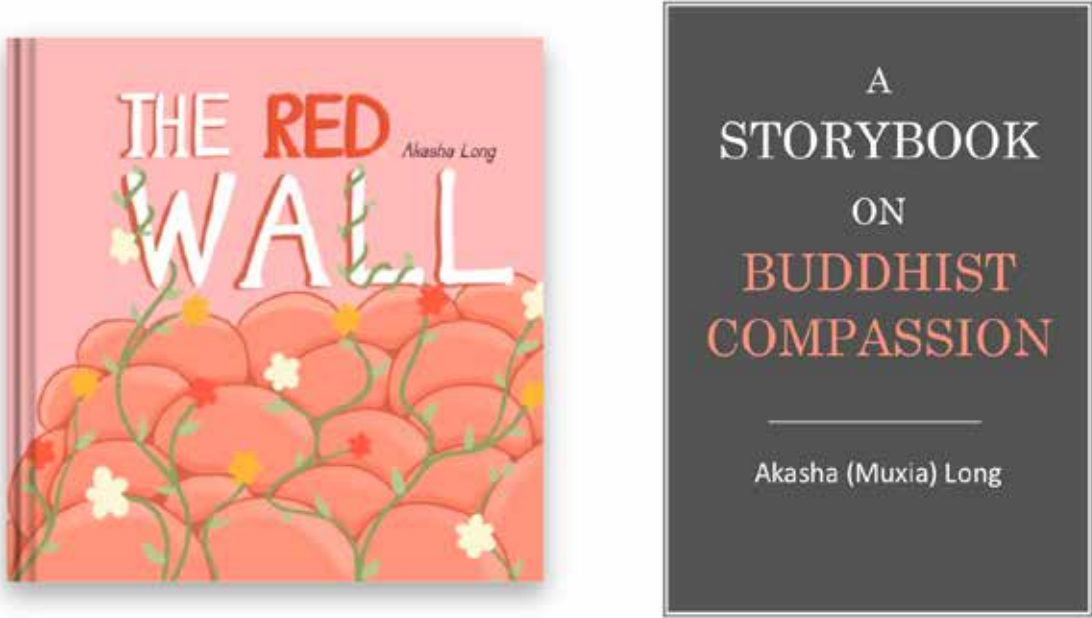
Alec Phillips | James Byrne

What happens when cultures collide? The Guatemalan civil war took place in the latter half of the 20th century. The history of racism underpinning that brutal conflict deserves far more attention, as Indigenous people made up 83% of the roughly 200,000 civilian deaths which occurred. My presentation delves into the history of Latin America to seek out what past events may have primed Guatemala for the brutal events of civil war. This presentation highlights that I studied history, linguistics, and political science to approach the historic mixing and clashing of cultures in Latin America. In my talk, I show how colonial Spanish policy set the stage for the massacres which occurred towards the end of the Guatemalan civil war. I look to the religious and racial policy implemented by the Spanish Crown and I identify the legacy of racial stratification left behind by Spanish colonialism in Guatemala. The Spanish policies of limpieza de sangre (purity of blood), and the sistema de castas (the caste system), aided in the evangelization of indigenous populations and helped the Spanish crown maintain control over its subjects. The caste system created long-lasting socioeconomic classes based around skin colour. In Guatemala, this stratification was still very visible in the 1900's as the wealthy Criollo population owned the fertile land; the Ladino population formed the middle working class; and the Mayan population occupied the lower class. Understanding these foundations of Guatemalan social society, it is easy to see why the right-wing political party wanted to crush the leftist uprising and to silence cries for land reform with prejudice. Tragically, for the local Mayan population, the socioeconomic legacy of Spanish policy primed the Guatemalan government to lash out in brutal ways against the rural communities in order to shut down the uprisings and maintain the status quo.



Origami and Mindfulness: Reversal of the Overheated Medium Brian Evasiuk | James Byrne

To be an autonomous individual is to think and contemplate for ourselves, something our digital culture lends us at the mercy of losing by merit of hotter and more mediated, mindless experiences. For the past month, I have been making 1001 origami cranes in the silence of my kitchen table. If the senses are dulled and fogged from high long periods of letting media extend, and simulate our own senses, origami works as a form of guided meditation, but not in one where the mind is left to its own devices. As a structured repetitive, and productive process I had the idea that no matter how distorted your idea of self awareness is there is always a meditative work that can be done to make active accomplishments then being a stagnant, passive observer to the fanfare of digital content. Without reminding oneself of their own aspirations, the moment when the commodity attains total occupation of social life is one where human experience becomes automated. Without an empty space and a conscientious mind, one cannot distinguish one thing from the other and existence becomes a paralyzing spell all while remaining inconspicuous. Each digital medium you use has its own properties and outcomes, not only on your attention, but on your entire conscious assemblage.



The Red Wall: A Storybook on Buddhist Compassion Akasha (Muxia) Long | Fei Shi

What is compassion and how can one learn it? A core idea of Buddhist philosophy is “shared sufferings” which suggests that sufferings are universal in every life. In this context, Buddhist philosophy sees compassion as “an acceptance of suffering”. One can only sympathize with others when they have accepted their pain. My two years of research into Buddhist philosophy on “Compassion” has inspired me to share my view on this interesting subject. I found visual storytelling an effective tool to communicate ideas while leaving room for individual interpretations. Therefore, I illustrated a storybook in which the main character went on a journey and found his true compassionate self. I used digital drawing as the art medium. In this talk, I will present my process of transforming a complicated philosophical idea into a simple illustrative artwork.



Wareniki: Performance and Cooking as Relationship

Maya Cook | Fei Shi

How can the interplay between performance, culture, and identity affect social change? Power is in part enacted by cultural beliefs that there is one story, one truth, one way of being in the world. People who do not conform to these truths go unheard, their voices silenced. Performance and cultural studies posit that performance grounds our understanding of the world in context and in our own specific histories. This destabilizes claims of universal truth, instead asking us to consider how each of our stories are in relationship with one another. Through the creation and performance of Wareniki – a contemporary circus and dance performance – I attempt to share stories in context and explore relationships. These relationships include the relationships between narratives, performers, performers and audience, and narrative and medium of expression. Wareniki is a performance about making wareniki -- a type of Mennonite cottage cheese pierogi. It represents the potential that cooking has to be a site of community and knowledge sharing, particularly in women's spaces, and how these spaces are complicated by processes of immigration, assimilation, and settlerism. The processes of co-creating Wareniki, performing it, and writing critically about, it have all served as a form of research. Through the mediums of dance and circus we artistically re-examine and recreate relationships among cooking, community, family, body, time, immigration, and performance site in conversation with the audience, destabilizing preconceived notions of universal truth. Wareniki has helped me to explore stories of cooking, to place value on my own embodied knowledge, and to question the way in which I inhabit Quest here and now with the people around me.



Welcome to ZNDRLND

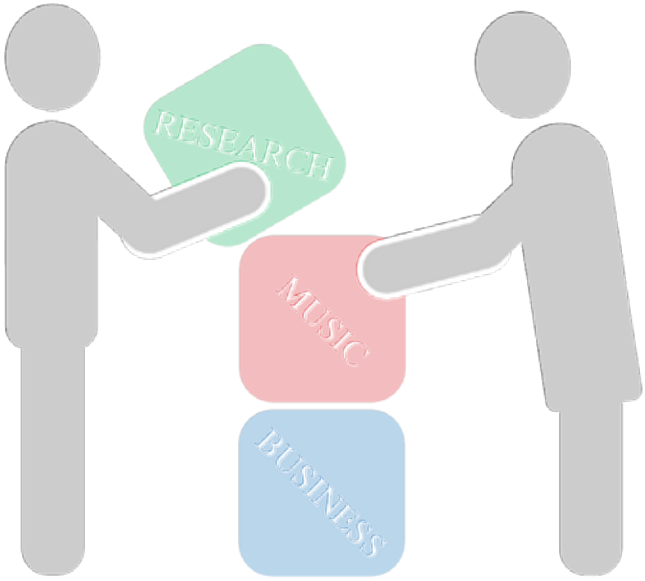
Zander Webster | Colin Bates

How can Dress Influence Identity? Our identities are intrinsically tied to the clothing we choose to wear over our bodies, yet clothing remains under studied in an interdisciplinary academic context. Research and experimentation led me to start my company, ZNDRLND Design House LLC — The mixture of all my artistic mediums and research, housed in one place. A platform for me to actively/physically/digitally influence my own identity, but also a platform and space for others to build, influence, and tear down their own identities. The intention of my keystone is to unveil ZNDRLND — a dimension that has been altered, exposed to this world for the first time, from which I house the fragmented layers of my artistic identity. When clothing is exposed to ZNDRLND, the result is PNTD—a collection of garments that showcases texture, the hidden identity within clothes, and the use of sustainably-repurposed vintage garments. Often clothes are made for a specific identity, through size, cut, and colour. Just as how we must do with ourselves, ZNDRLND tries to remove these previous conceptions sewn into the garment and transform them into revived, refinished, reskinned clothes. PNTD aims to reclaim the identity of the garment, and the wearer. New life, New seams, New skin. Every one being fully unique and one of a kind.

Collaboration Transcends Business, Music, and Research

**How do Makerspaces
Enhance Creativity
through Collaboration?**

Casper Clausen
Keystone Symposium
Friday, May 3rd 9AM
AC 214



Casper Clausen | Colin Bates

Collaboration Transcends Disciplinary Boundaries

This question grew to include fields spanning from Neurochemistry to Music Sociology. The talk includes five disciplines: Sociology, Music Sociology, Neurochemistry, Business, Collaboration, Business. These academic fields provide evidence for collaboration’s role in professional activity. The basic problem was that individual people are recognized for their success without any mention of how they leveraged social support from collaborators. I was motivated to study collaboration because it seemed like a more effective strategy to learning and designing products that would eventually help people than trying to learn or design alone. Peer reviewed literature published in reputable and accredited academic journals, personal communications with academics, and phone interviews were used to collect information for this paper.

Collaboration is a method for working together that successful people have utilized in the past. It is necessary to say that people who did not successfully leverage collaboration were not able to continue work that advanced society. My research suggests that three people: Ludwig van Beethoven, Nobel Prize winner Dr. Martin Chaflië, and CEO of Danfoss Mr. Kim Fausing, are successful and relatively famous because they collaborated well, and not because of their determination or gifts.

Results from the research show that collaboration is a social phenomenon that that transcends disciplinary boundaries. The research also revealed that collaboration is becoming an ever increasing necessity as people become more socially and digitally connected. Collaboration, when possible, is a tool we can use for enhancing our own abilities as well. It is a method for people to benefit from other people’s skills, knowledge, and social connections. The outcomes of successful collaborative efforts provide greater means to a society and the individuals within it



Marijn Kuizenga | Colin Bates

What Is Addictive?: The Brain, Addiction, and Its Association With Risk-Taking Behavior In Extreme Outdoor Sports

What is addictive? You have probably heard the idiom “You have to risk it for the biscuit”. Indeed, whether it is in your job, in investing, gambling, or even many of the outdoor sports that you can do in Squamish, the greater reward often comes with a greater risk. The sensation of experiencing such a reward following risk-taking behavior is -like all behavior and response- generated by the brain. It is now becoming increasingly well established that repeated exposure to certain types of behavior can ultimately lead to the onset of an addictive disorder. Addictive disorders, then, are a dysfunction of appetitive and motivational control characterized by compulsive behavior and chronic relapsing induced by an addictive agent. Although addictive agents can be either substances or behaviors, behavioral addictions, in particular, beg the question: “How to distinguish addiction from passion?”.

Because of the extreme risks extreme outdoor sports athletes willfully expose themselves too, various academic disciplines have discussed their motives for participation and whether this form of risk-taking behavior is potentially addictive. By looking at the neurological mechanisms of the different types of addiction my Keystone presentation highlights a couple of the many factors that influence the onset of addiction. Using the example of extreme outdoor sports, I will discuss some of the initial findings and considerations associated with one of the many suggested novel types of addictions in this nascent field. For instance, some initial findings indicated addiction-like symptoms such as withdrawal states in elite rock climbers. However, does this really mean that extreme outdoor sports are comparable to, for instance, cocaine addiction? In order to answer these kind of questions and improve the diagnostics and management of substance use disorders and other addictions further neurobiological research will be needed.



Truth in Every Joke: An Autoethnographic exploration in behavioral metapragmatics through animated discourse

Tala Schlossberg | Colin Bates

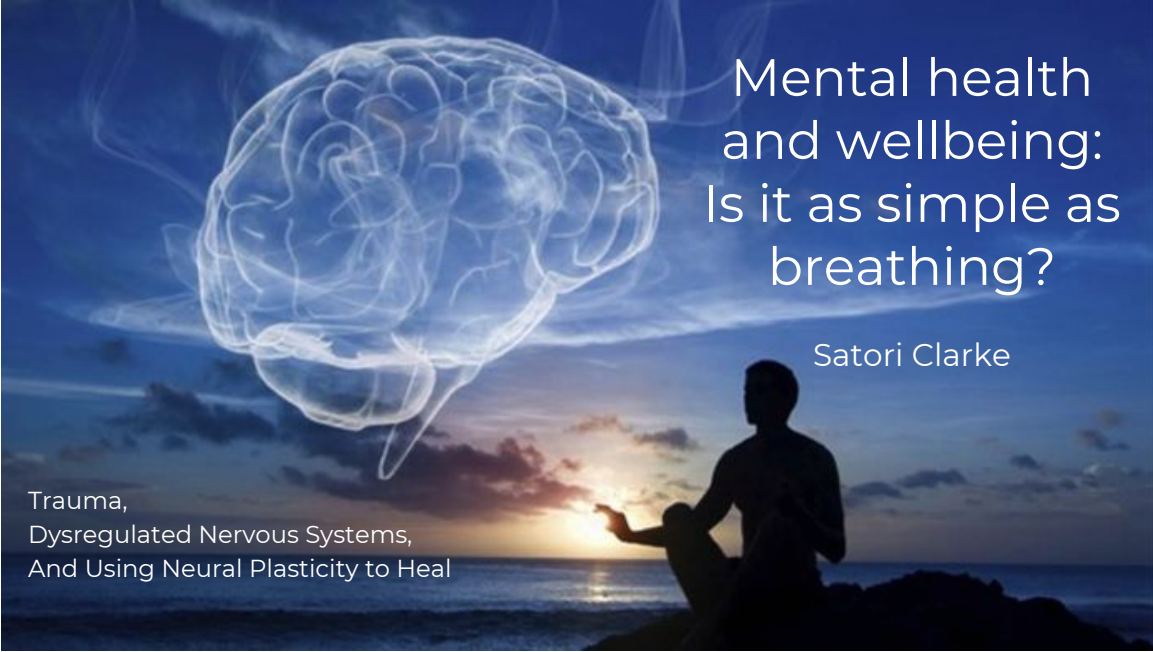
How can humor help us communicate? We all make jokes, and we all laugh, so I believe it is our responsibility to understand the impact our laughter has, in order to use it more intentionally. I have investigated the varied role of humor in the form of a 3 part animated mini series, which follows a fictional set of characters. Through humor, wordplay, music and illustration, the series critiques an array of social dynamics. From gender stereotypes, to diet culture, to Ikea's notoriously complicated furniture instructions, the animated episodes aim to present a critical cultural reflection wrapped in a visually appealing piece of entertainment media. In this talk, I dive deeper into the choices I made when constructing my pieces and connect it to the broader role of humor in our society.



How Can We Avoid Misdiagnosis Within Primary Care?

Jordin Wilkinson | Negar Elmieh

Effective communication is an essential component of patient care and attaining an accurate medical diagnosis. This pertains to both the doctor and patient being able to accurately explain and convey their needs to the other. However, many patients often leave appointments feeling unsatisfied with the exchange of information. This is often due to poor patient understanding of medical jargon, as well as time constraints placed on the physician. For these reasons, I have created an information intake form that includes patient medical history and an agenda for the current appointment. The goal of this form is to be accessible, simple, thorough, and is completed and presented to the physician ahead of the appointment to reduce ambiguity, improve communication and make the appointment as efficient as possible. This form is not meant to replace conversation, but rather serve as a conversation starter. The intake form was created through patient focus groups and by reviewing existing research regarding agenda setting, health literacy and current diagnostic strategies. At the conclusion of the study, it was determined that patients found the forms to be useful in prioritizing their health concerns and that the visit felt more efficient. This suggests that introducing information intake forms as a regular practice in walk-in clinics could be highly beneficial. This study serves as a baseline to understanding how to improve doctor-patient communication and make visit more efficient. For patients, intake forms have the potential to organize their symptoms and needs into a single document without the need for strong health literacy. To reduce events of misdiagnosis, we must not only analyze what physicians and healthcare professionals can do but also how patients can contribute. Shifting to patient-centred care allows patients and their families to move from being passive participants to active team members and can reduce feelings of anxiety or stress.



Mental health and wellbeing: is it as simple as breathing?

Satori Clarke | Negar Elmieh

What are the mechanisms and consequences of our conscious and subconscious mind? The nervous system and neural connectivity are critical to our phenomenological experience. Our conscious experience is thought to be uniquely human, and we rely on subconscious processes, both innate (heart rate) and learned (walking), to maintain certain actions so that we can focus our attention on conscious processes (learning, thinking, conversing, etc.). At the mechanistic level, psychological disorders, like depression, anxiety and PTSD, may be dysregulated nervous system. We do not have universally effective therapies, nor do we have curative-type therapies for these conditions. Popular interventions include top-down therapies that require significant cognitive effort, like talk-therapy and cognitive behavioural therapy (CBT), or are externally mediated through pharmaceuticals. Is there a way we can work from the bottom-up, causing change from the inside out to initiate drastic and long-lasting change in the way our nervous systems function? An extensive literature review support the results from my pilot study on Conscious Connected Breathwork (CCB), indicating that this breath-based therapy facilitates healing through biological processes, returning the nervous system to a regulated state. Through breath, we may be able to prevent, ease and treat symptoms of nervous system imbalance that affect millions of people globally.



**The Ebola outbreak in Sierra Leone :
What went wrong & what we learned from the
healthcare response**

Sophie van Baar de Knegt | Negar Elmieh

The largest ever Ebola virus disease (EVD) outbreak occurred in West Africa from 2013-2016. It was unprecedented in scale, located in a geographical region it had never been seen before, and led to multicountry spread. The world watched, waited, and finally responded as tens of thousands of people in the area became infected by the highly infectious and often fatal haemorrhagic fever. Sierra Leone was at the centre of the outbreak, facing unique difficulties as it experienced particularly late detection, the highest number of cases, and the most healthcare worker cases and deaths. This talk will focus on the challenges and failures in the healthcare response in Sierra Leone, and reflect on the lessons learned. Some major factors affecting the propagation of the outbreak and failure to control will be discussed, such as the dysfunctional existing healthcare systems, the lack of resources and expertise, the cultural incompetency of responders, and a lack of effective coordination by implementing partners. These contributed to a fractured healthcare response. The outbreak has highlighted the need for early community engagement, an approach combining active leadership and decentralized response, improved prevention and control strategies, social service support, and the need for better epidemic preparedness on local, national and international scales. Ebola not only exposed the weaknesses in the national healthcare system and capacity to respond to a health emergency, but also the ill-prepared and hesitant nature of the global health community to respond. Analysis of the healthcare response can contribute to strengthening healthcare systems in Sierra Leone against future infectious disease epidemics, be part of a constructive lesson for other Ebola prone countries, and push for alterations in the global health response structures.



Is Your Makeup Toxic?

Emily Bison | Emma Davy

How do I Synthesize Safe Products? Through the study of chemistry and toxicology, I sought to study the cosmetic industry and the relative toxicity of common ingredients and contaminants in personal care products (PCP). Instead of understanding the ingredients and synthesis methods that ensure safe to use PCPs, I discovered significant gaps in the literature and stigma towards the field of cosmetic chemistry. In this Keystone presentation, I challenge the audience to view chemicals and cosmetics in a new light. I introduce them to their own sentiments of chemenoia and how it plays in their mindsets surrounding PCP toxicity and “safe” ingredients. By introducing the relative toxicity of metals and the general lack of data surrounding botanical toxicity, I hope to trigger the audience into questioning their preconceived notion that natural is analogous with safe. With this, I introduce the audience to the damage caused by these assumptions, made out of privilege. I present the audience with the issues of skin lightening products and their extreme toxicity. Chemenoia and the ability to access organic, plant-based products is a privilege reserved for those who present themselves closely to the white phenotype of beauty; in contrast, those pressured by colourism are left vulnerable and ill due to the high toxicity of the products they use to access this phenotype. We then take a step back to analyze the general consumer base of PCP and draw a second connection: the gross underrepresentation of regulation and protection for products marketed to and used by women. I leave the audience with the notion that underregulated, understudied and grossly misunderstood toxicities of PCP is another symptom of health inequity where women, especially women of colour, are not being protected.

Keystone Presentation by Emily Lachenmayer
Friday May 3rd, 2019
Quest University Canada

Fungal Spore Concentrations in the Middle East

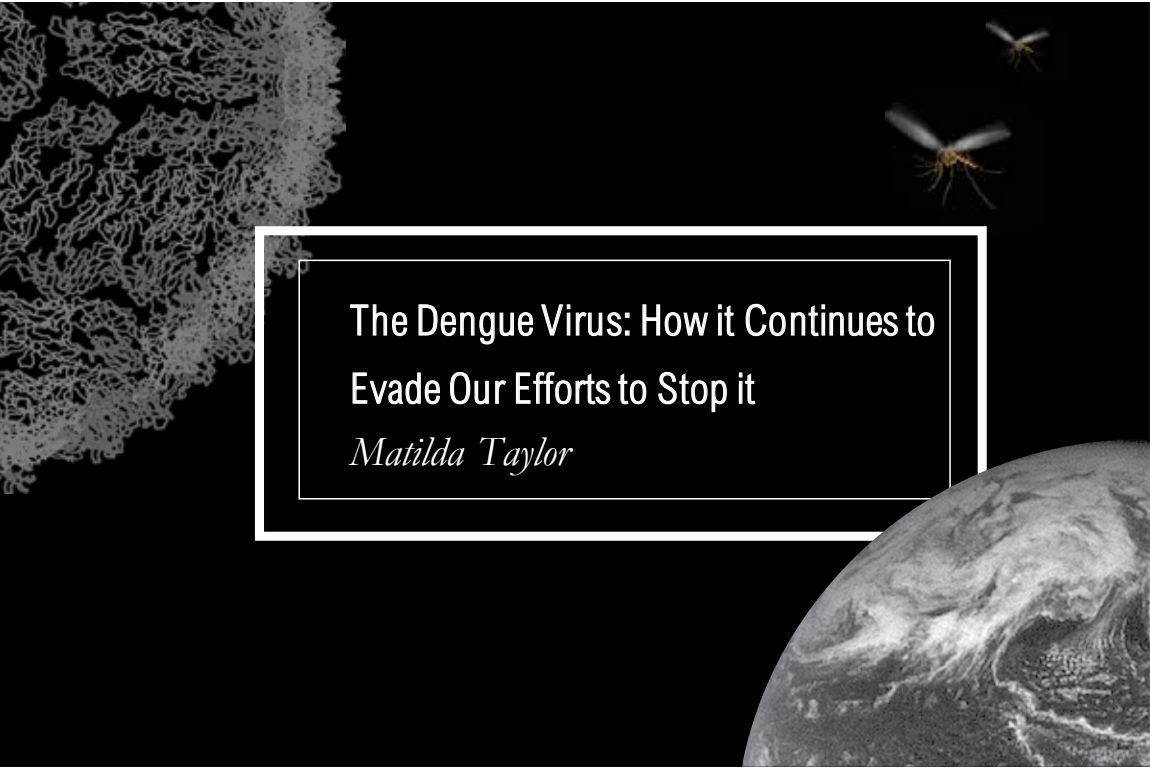
The classification of bioaerosols that affect cloud formation around the Arabian Peninsula

<https://www.trek10.com/blog/cloudformation>

Fungal Spore Concentrations in the Middle East

Emily Lachenmayer | Emma Davy

Can chemistry make fossil fuels obsolete? Identifying atmospheric constituents has become increasingly important to predict weather patterns, cloud formations, and to learn more about how aerosols are transported and affect public health. Biological aerosols are effective cloud condensation nuclei and ice nuclei, which facilitate cloud growth faster than many other types of aerosols. Fungal spores are common bioaerosols because of active fungal spore release mechanisms. These mechanisms have been shown to also release specific carbohydrates, such as arabitol and mannitol, which are used for energy during transportation. These carbohydrates, named fungal spore tracers, can be quantified and back-calculated to atmospheric concentrations of fungal spores. This data can help to better inform predictive weather modeling to create more accurate models. In order to better understand fungal spore concentrations over maritime environments and speculate about methods of transportation, ten fungal spore tracers were quantified over a 3-month period around the Middle East and the Mediterranean Sea. Samples were analyzed using a high-performance ion chromatography instrument and results were back-calculated into atmospheric concentrations. Fungal spore tracers are not well understood and although carbohydrates like arabitol and mannitol originate from well-known sources, others like trehalose and glucose are less understood, especially in marine environments. Positive correlations were found between arabitol and mannitol which supports previous literature. Glucose/xylose and trehalose were also found to have concentrations that were positively correlated; however, trehalose concentrations had a negative correlation with wind speed while glucose/xylose showed no significant trend. These results may support previous findings that glucose and trehalose have similar origins. High concentrations of trehalose may be caused by marine environments or by biologically active dust particles. More data is needed to better understand the exact sources of these tracers. Once better understood, these tracers will help to better inform weather models for the Middle East.

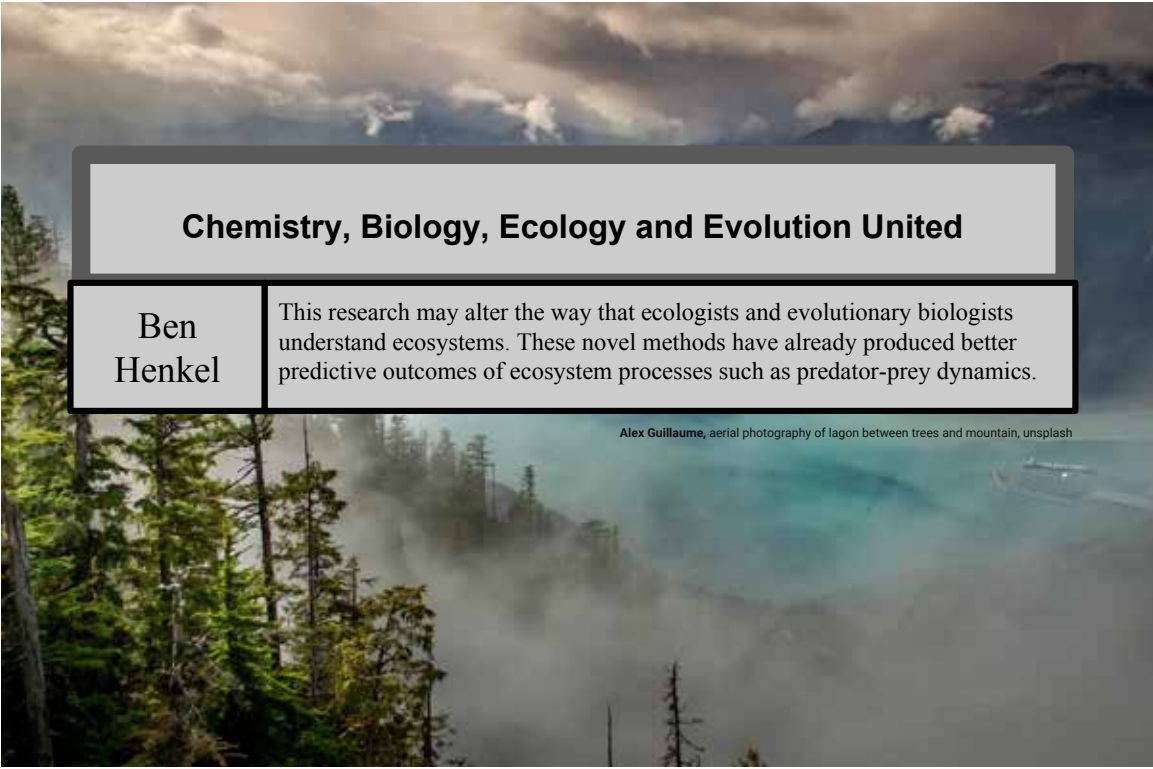


The Dengue Virus: How it Continues to Evade Our Efforts to Stop it
Matilda Taylor

The Dengue Virus: How it Continues to Evade Our Efforts to Stop it

Pertaining to the question, how can an interdisciplinary understanding of biochemical processes inform evidence-based medicine? I draw on the fields of virology, immunology, and pharmacology to investigate the processes of designing an antiviral medication for the Dengue Virus. This virus is one of 17 neglected tropical diseases that causes approximately 390 million infections a year worldwide. To understand this process, I ask three questions: how does drug design work? how does the virus interact with our body? and what is the current state of anti-dengue drug design? There are no antiviral medications on the market targeting the virus and I wanted to investigate why this is. Biological systems are complex and to be able to design a chemical that can move through the body to react with its intended target is a very difficult, expensive, and time-consuming. In this presentation, I will outline some of the difficulties surrounding drug design itself and the characteristics unique to the dengue virus. The process of drug design is difficult; however, this is an exciting time for dengue virus drug discovery as we move closer and closer towards creating an effective and much needed treatment.

Matilda Taylor | Emma Davy



Chemistry, Biology, Ecology and Evolution United

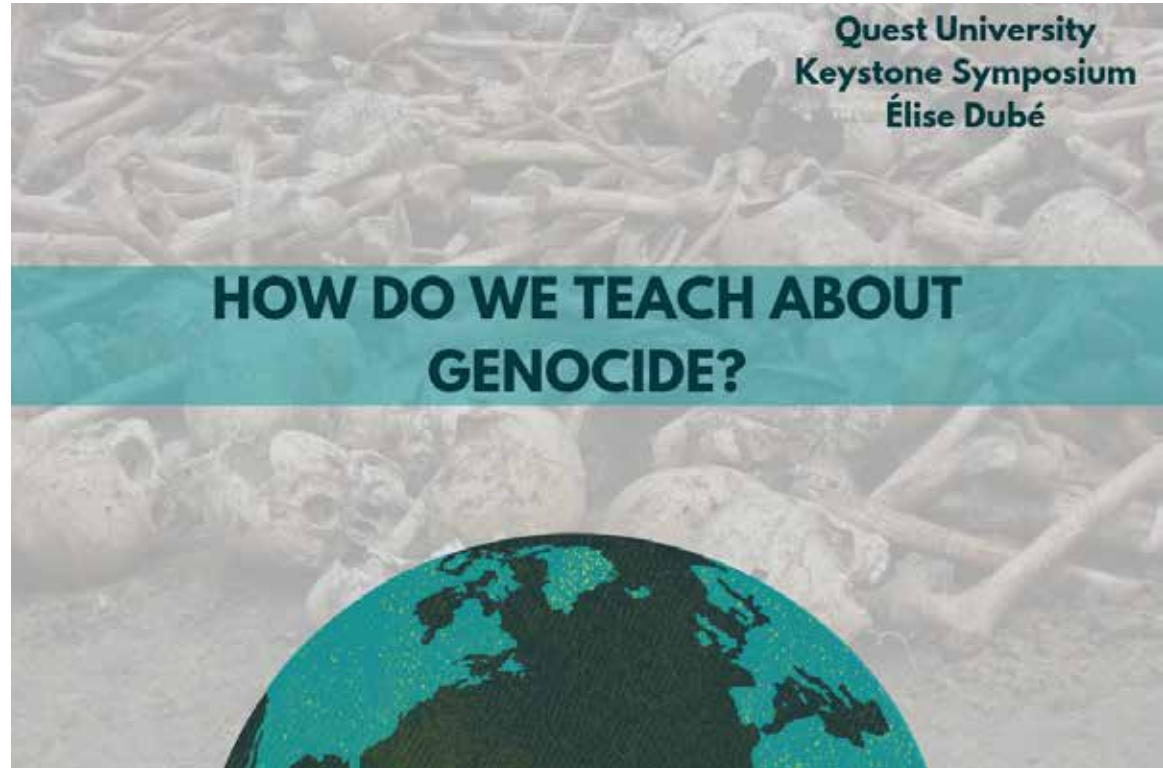
Ben Henkel	This research may alter the way that ecologists and evolutionary biologists understand ecosystems. These novel methods have already produced better predictive outcomes of ecosystem processes such as predator-prey dynamics.
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Alex Guillaume, aerial photography of lagoon between trees and mountain, unsplash

Chemistry, Biology, Ecology and Evolution United

Ben Henkel | Kim Dawe

Can we design ecosystems? This talk draws together insights from the fields of evolutionary chemistry, biology, ecology and evolution into a multidisciplinary understanding of how ecosystems function. Novel ideas such as rapid evolution and quantifying organismal fitness with elemental ratios can be unified under one lens. This keystone was motivated by my desire to understand the inner workings of ecosystems. The problem I attempt to address is both our collective lack of knowledge and our inability to apply ecological knowledge in many cases to effectively predict ecosystem outcomes. I performed a literature review to attempt to address these problems. The main point of my talk is that through a combined chemical, evolutionary and ecological approach, scientists may better represent and make predictive outcomes surrounding ecosystem processes. Previously, evolution was thought to occur sluggishly over many generations. Currently, there is evidence for rapid evolution that occurs over ecological timeframes. The synthesis of these insights of rapid evolution in combination with literature quantifying fitness with chemical ratios is a connection that had not been fully reviewed before. The ramifications of this work might help scientists better understand how ecosystems function. Ecosystem functioning is important to understand because ecosystems provide humans with ecosystem services such as provisioning services (eg. food), regulating services (eg. climate), cultural services (eg. recreational) and supporting services (eg. primary productivity).



How do we teach about genocide?

Elise Dube | James Byrne

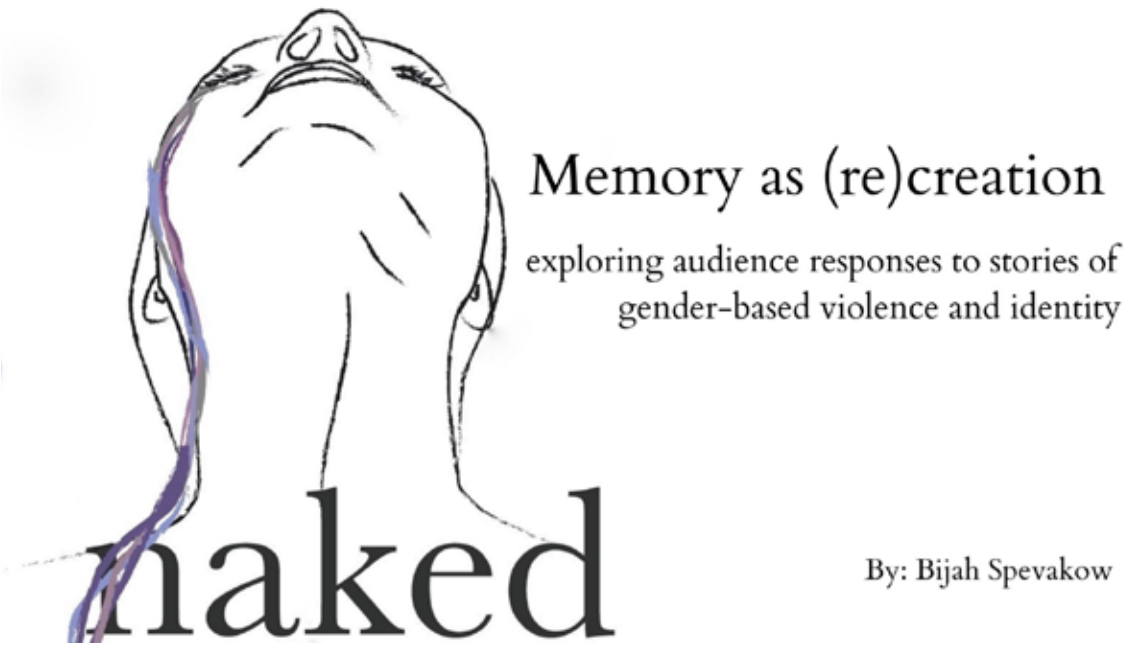
My keystone was an attempt to look at how we should teach genocide. I created a genocide syllabus and lesson plan for an upper-year high school course. When people think of genocide, often their first thought is the Holocaust. No one can argue the importance of memory and education of the Holocaust. However, genocide education is often limited to the Holocaust, or at least it is disproportionally featured over the four other genocides officially recognised in Canada. This narrow view of genocide promotes the belief that the Holocaust is the template against which all other genocides are measured. In comparison to the widespread education and pedagogy surrounding the Holocaust, there has been a significant lack of education about “other genocides” in curriculum, which is what spurred my interest in creating a genocide syllabus. A lack of genocide education is often paired with genocide denial, which is both the most common and extreme example of historical amnesia. In order to understand how denial, or minimizing of genocide occurs, we must first look at the legal definition of genocide. Understanding the legal definition of genocide is relevant for the ongoing Canadian debate about applying the term ‘genocide’ or ‘cultural genocide’ to the atrocities committed against the Canadian indigenous population. The Genocide Convention does not look at cultural genocide, and thus legally excludes colonial ventures from being deemed genocidal. Genocide is often perceived as being either inexplicable or the result of unique hatred, and yet it continues to occur around the world. This presentation looks at how genocide education needs to be expanded within high-school settings, the benefits genocide education provides, the limits of the legal definition of ‘genocide’, and how it relates to Canada’s colonial past.



Interrogating Whiteness Through Toni Morrison’s Beloved

Rachel Giacomodonato | James Byrne

How can I, as a white person within scholarship, bear witness to art contributing to a political imagining of the experience of enslavement by those who live its contemporary legacy? Using history and postmodern theory as combined lenses to read Toni Morrison’s *Beloved* I try to expose and avoid insidious forms of oppression within literary response scholarship. My talk will more specifically involve the types of questions I needed to ask myself in order to approach this project as a form of anti-racism work. For instance, how can I hold myself accountable to past instances of anti-black racism I have enacted and racism that I may not yet recognize within myself? How can I de-center myself in the work that I do, and instead, center my continued discomfort and deconstruction? I will bring out some of the important work that needed to happen to approach Toni Morrison’s *Beloved*, much of which did not become explicit in my Keystone paper itself but was nonetheless a large part of it. I will also perform a small piece of analysis on the various appearances of humming in *Beloved*. Tracing the theme of humming allows me to build a meaningful connection between stories which we have a great deal of access to in the narrative and those which we circle in silence. Through textual analysis, I will demonstrate how a personal interrogation of whiteness combined with academic theory to form my particular understanding of Toni Morrison’s novel.



Memory as (re)creation: exploring audience responses to stories of gender-based violence and identity Bijah Spevakow | John Reid-Hresko

naked is a production that showcases untold stories from women and women-aligned trans individuals within the Quest University communities, to provide a platform for the exploration of identity and visibilize gendered violence against bodies. Specifically, the themes in the show highlight the complexity of living in a society that privileges patriarchal, cis and white stories. The space that naked offers at Quest allows the performances to be considered, contested, acknowledged and re-scripted on their own terms.

Theatre involves a relationship between the performers, audience members, and the space itself. As the director of the 2018 iteration of naked I experienced the production of the show and was interested in learning more about its reception. My interests in how audience members witnessed, received, and remembered the show instigated this study. I conducted qualitative research during March 2018 to analyze how 15 Quest University Canada student audience members engaged with the production of naked.

My research draws on social theory, feminist theory, queer theory and performance theory to understand how naked- as a form of theatre and art focused on highlighting non-dominant narratives - fits into a community (Quest University) that is influenced by dominant narratives of white cis normativity.

By applying a critical lens to my interviews, I found that what was lacking from the discussion were the identities of the three women-aligned trans performers and a lack of discussion around more light-hearted performances and themes. This makes it so that the narratives that then form around naked are actively still perpetuating dominant narratives – that only women experience violence, reifying simplistic binaries of men as violent oppressor/women as subordinate victim, self-victimization, and continues to erase marginalized identities that fall between the binaries.



Space, theatre, story: the situation of Naked on Quests' campus Jordan Kaltenbruner | Fei Shi

What can we gain by listening the women aligned folk in our communities? An evolution of the Vagina Monologues, Naked is an annual theatrical production that features personal narratives and performances by women aligned folk on Quest campus. This presentation culturally situates its process while iterating the necessity for bodies to gather in space.



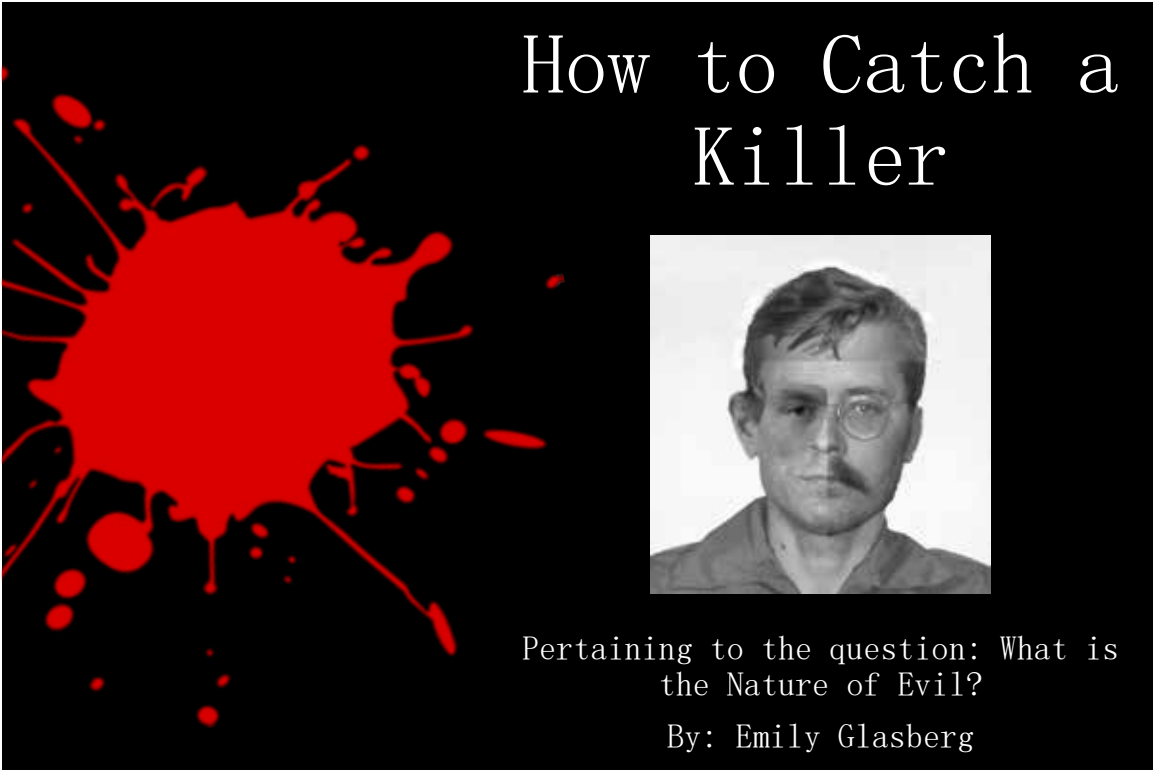
Finding Good in Charity: How can we do charity well in the neoliberal era?

Riann Lognon | John Reid-Hresko

How do our understandings of poverty shape our attempts to address it?

Charity occupies a tenuous place in Canadian and American societies. There are some who believe that charity represents all that is good in our society. These are the cosmopolitans among us, willing to challenge misanthropy and share what they can to help those in need. But there are others who caution against such unbridled optimism, pointing to the ways charity might be implicated in the maintenance of the same systems that create inequality.

In this talk, I seek to shed light on both of these perspectives while also presenting an alternative, a middle-ground. Much of the anti-neoliberal scholarship of the 2000s has theorized resistance to damaging neoliberal narratives of class from outside of organizations seemingly entrenched in neoliberal logic. But more recent work suggests that such perspectives ignore moments of resistance that may occur within the ambiguous political spaces of charitable organizations. In line with this work, I hope to complicate popular notions that charity is the hallmark of North American society but also refuse the suggestion that charity is simply a neoliberal institution. I suggest instead that we should pay attention to these minute spaces of everyday life that constitute a progressive politics, asking ourselves how we might participate in creating beneficial charitable activity.



How to Catch a Killer

Emily Glasberg | Jamie Kemp

What is the nature of Evil? Evil is an ancient concept, one that is explored in almost every major religious text and is deeply ingrained within the fabric of society. This question lies at the intersection of several essential disciplines: philosophy, criminology, psychology and neuroscience. The goal of understanding the relationship between these fields is to gain a greater and more comprehensive understanding of human behavior (more specifically, 'bad' behavior) in the hopes of being able to apply the knowledge to the criminal justice and judicial systems, as well as our own interpersonal relationships. To this end, my Keystone is a review of the relevant psychological, criminological, and neurological literature relating to the topic of evil, with the larger goal of understanding the ways in which the study of these disciplines can best be integrated to gain a more comprehensive understanding of criminal behavior. This presentation will further explore how this knowledge can affect us personally. From my research, there is a fundamental disconnect between the kinds of knowledge that can be gained from 'hard' and 'soft' sciences. For example, neuroscience has a tendency to be inaccessible to criminologists while criminology is often to considered to be of little interest to neuroscientists. It is this disconnect that prevents us from integrating these varying types of knowledge to understand why humanity seems to be so prone to violence and evil. Only by combining and integrating the knowledge from multiple perspectives can we begin to answer the ancient questions which have plagued us about the state of human nature.



A Comedy Show (In Theory...and Practice)

Kate Luebke | James McKinnon

(Content warning: I occasionally use adult language)

I wrote my first joke on a road trip with my mother in December of 2017. A month later, I performed my first three-minute set, experiencing an addictive and unique feeling of radical healing through the cathartic release of laughter. After reading hundreds of horrendously sexist comments on a YouTube video of a female comedian, and feeling visceral dread imagining a future wherein I would have to muster courage to pursue comedy despite rampant online abuse, I found my academic calling; I changed my Quest question to “Who’s laughing now?” and studied representation and diversity in comedy, and the social and cultural importance of stand-up. Most academic work on gender in comedy focuses on famous women in large, established scenes, and is rarely spearheaded by female comedians who potentially have a more nuanced understanding of their participants’ experiences. In an attempt to address these gaps in scholarship, I moved to rural Southern Oregon last May to conduct three months of qualitative research. I completed seven semi-structured interviews with local female comics, and three months of participant-observation, attending and performing comedy in the area. Through an in-depth analysis of my participants’ experiences, and my own, I identified barriers to success for women pursuing comedy in small-town Southern Oregon, as well as benefits my participants experience in performing comedy, and possible interventions for addressing gender parity in the future of their scenes. This presentation is in the form of a stand-up comedy show that focuses on main takeaways I wish to relay to an audience about my original work, and more generally, women in comedy. Scholarship shows stand-up comedy to be an important, effective, and accessible way of relaying serious content to audiences. I have tried to put theory to practice by creating this presentation.



Detroit & Neoliberalism
Relationship Status: It’s Complicated

Morgan Baskin | Jamie Kemp

A former Toronto Mayoral candidate and professional public speaker Morgan has a knack for engaging presentations that are perhaps a little outside the box. This presentation guarantees great outfits, bad jokes, and a confusing mixture of optimism and nihilism.

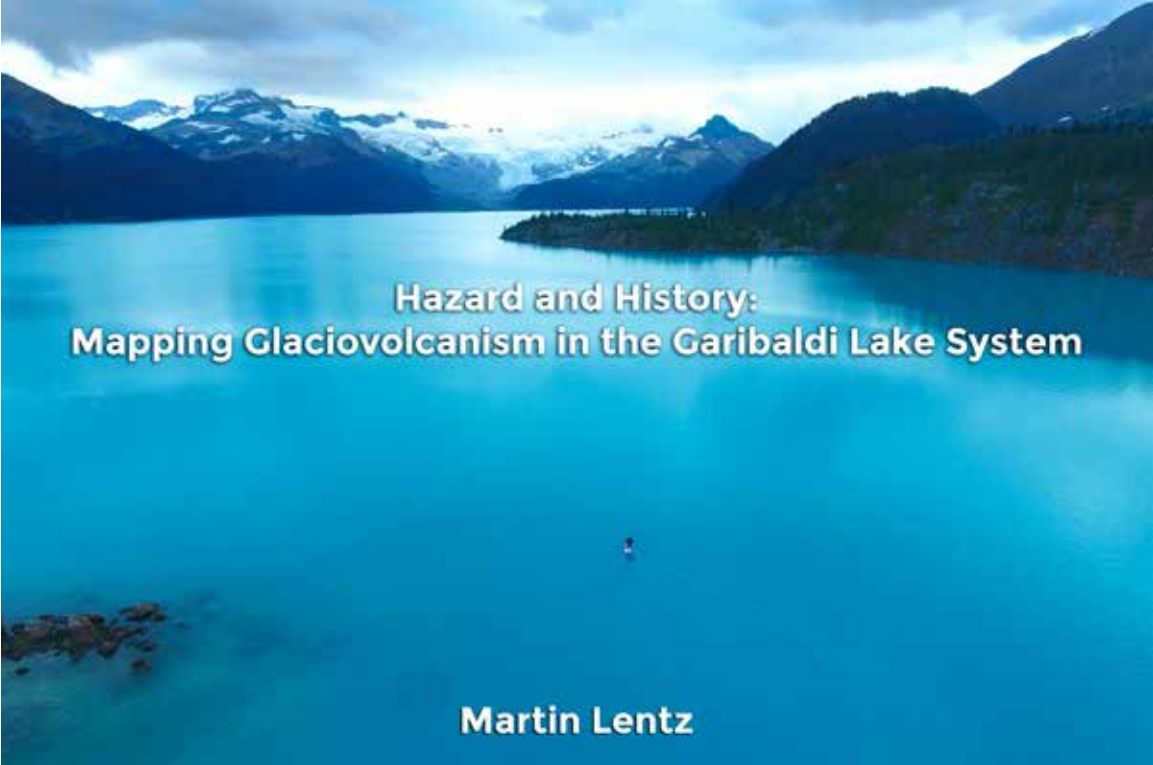
Find out how a born and bred Torontonion ended up in Squamish, how a girl who thought economics was a waste of time ended up writing her keystone about how neoliberal economic policy caused Detroit’s bankruptcy, and how she managed to study cities while not being in one.



What can a worm tell us about autism?

Lexis Kepler | Molly Welsh

Autism Spectrum Disorder (ASD) is one of the most common neurodevelopmental disorders, affecting roughly 1 in every 160 children worldwide. While we can identify mutations in individuals with ASD, it is difficult to determine whether these mutations are the cause of behavioural symptoms. To overcome the obstacles associated with human research, researchers often turn to animal models to investigate the relationship between mutations and behaviour. One of these animal models is a worm.. yes, a worm. In this presentation, I address questions such as “Why is autism considered to be a spectrum?”, “Why do we need to understand the genetic origin of ASD?”, and “Why can we use *C. elegans* to study human genes?”. To end, I present the neurogenetics research I helped conduct at the University of British Columbia to show what a worm can tell us about ASD.



Hazard and History: Mapping Glaciovolcanism in the Garibaldi Lakes System

Martin Lentz | Steve Quane

What does the formational history of the Garibaldi Lake system tell us about its hazard? Garibaldi Lake is known for its stunning blue water and picturesque surroundings, but also for the serious hazard associated with it. The Barrier, the natural dam that impounds the lake is the source of large landslides that can potentially to destroy infrastructure. In this presentation, we explore the lava dynamics involved in the formation of the Barrier and the Garibaldi Lakes system. Using a paddleboard mounted with a sonar system, I mapped the bathymetry or underwater topography of the lake bottoms. This allows us to visualize the underwater extent of the lava flow and discuss the unique lava-ice interactions that have formed this lake system, including a new kind of glaciovolcanic kettle lake. My results also inform us about the hazard of the system. The lakes drain along the edges of the lava flow and underneath the Barrier, compromising the stability of the natural dam. By mapping the extent of the lava flow, we can quantify the area where water drains from the lakes, allowing for future modeling of the hydrodynamics of the system. With a refined understanding of how water moves beneath the Barrier and impacts potential landslides, we are better equipped to manage this hazard to protect lives and infrastructure in the uncertain face of climate change.



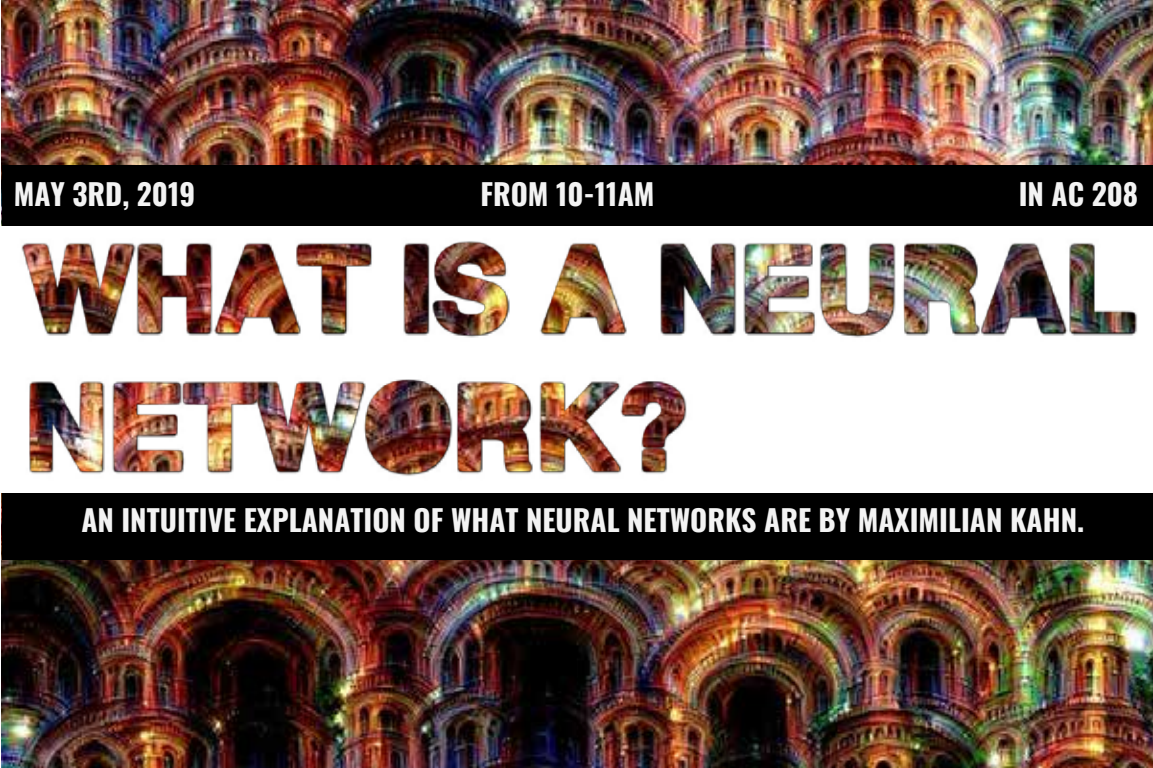
Human Nature

Mathias Horne | Jamie Kemp

How can we tell stories through visual art?

Is it human nature to revel in the environment while also participating in its destruction?
Every day vast areas of the natural world fall to bulldozers and chainsaws in the name of progress, or corporate greed. What will we pass to our future generations and how can we educate them on what has happened to our natural systems?

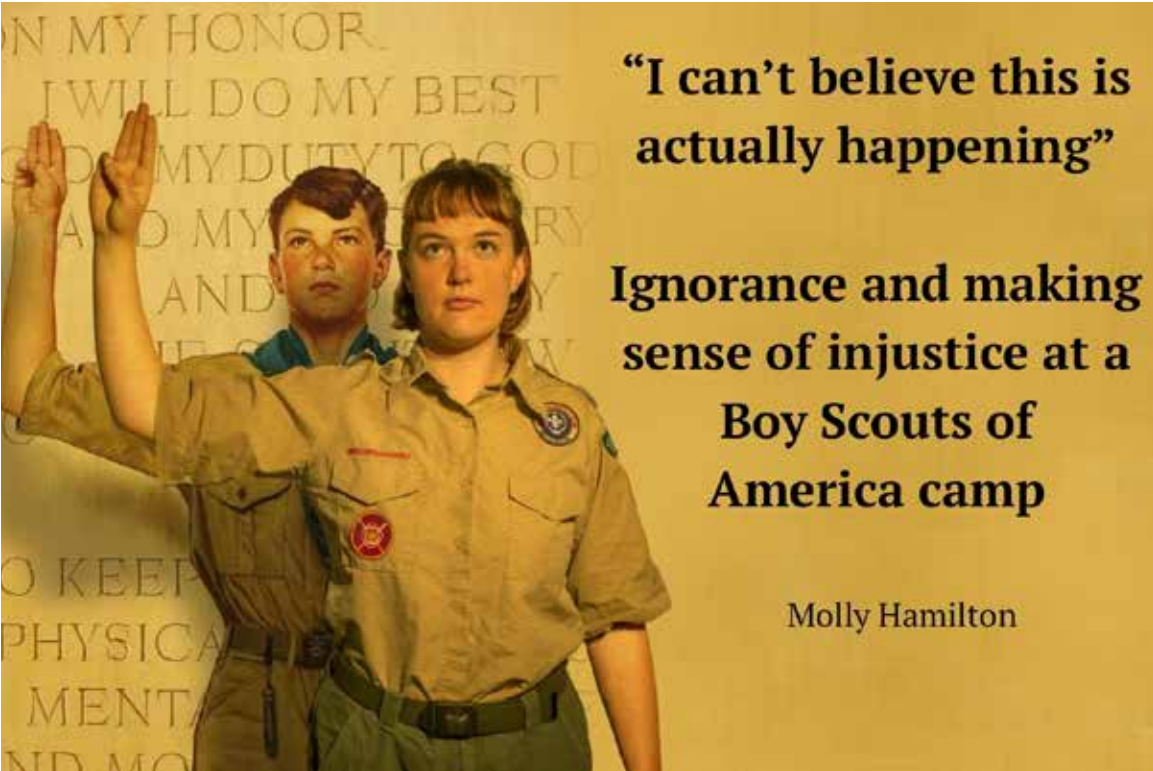
It wasn't until working in a museum setting that I realized how impactful artworks are at conveying stories and emotions. Through contemporary Illustrations, in a realist style, my Keystone captures a dichotomy of contrasting landscapes in Canada: both the natural and the industrial. By juxtaposing these two elements in a monochromatic colour scheme I aim to leave the viewer questioning classical notions of beauty and destruction. I see my artwork and Keystone as a critique of our current industrialized society; thus creating necessary dialogue around how our development is changing both our surroundings and ourselves.



What is a neural network?

Maximilian Kahn | Darcy Otto

What is intelligence? Machine learning is a subfield of artificial intelligence that can be summarized as “machines learning patterns from large amounts of data.” In particular, neural networks, a specific kind of machine learning algorithm, have achieved remarkable results on image recognition tasks. For example, given a collection of cat and dog images, neural networks can learn to identify cats from dogs based on the unique characteristics of both animals with a high degree of accuracy. But what exactly is a neural network? The goal of this Keystone presentation is to answer that question using simple examples. We will look at how neural networks are constructed: from the broad structure (e.g. input layer, hidden layers, and output layers) to the little details (i.e. the weights and biases) of the neural network. Through the use of simple examples, I hope to show that neural networks can be intuitively understood. Neural networks show great promise in terms of applicability. This technology is actively being applied to problems such as autonomous driving, cancer detection, and facial recognition. However, we must take this all with a grain of salt. Neural networks are not infallible; for example, MIT researchers have recently shown that Amazon’s facial recognition neural network software is biased against women and darker-skinned people. Neural networks have the potential to be used to great effect, but we as a society need to be aware of what they are and what they are not. Understanding how neural networks are structured and how they are trained is the first step in that process.



**I can’t believe this is actually happening:
Ignorance and making sense of injustice at a
Boy Scouts of America camp**

Molly Hamilton | John Reid-Hresko

What are we teaching our boys? During the summer of 2018, I went out to explore this question at a remote Boy Scouts of America camp, where I then lived, worked, and conducted original research for nine weeks. My research contributes to a surprisingly small body of ethnographic work on the Boy Scouts of America (BSA). To make sense of how the environment of Camp Sitka reproduced normative narratives about masculinity and whiteness in the western United States, I conducted interviews with adult leaders at camp. My results suggest that ignorance, or “forgetting,” plays a key role in constructing and reproducing racist narratives about American history and identity. My presentation today opens with a song that camp staff performed during our weekly “American Heritage” ceremonies, a show about American history that excluded information about slavery and colonization in favor of preserving a selective, nostalgic story of American goodness, superiority, and ingenuity. This song, “Dixie Land,” is a productive way into my discussion of how the romanticism and nostalgia of several of Camp Sitka’s traditional practices is only made possible if histories of white violence are strategically and collectively “forgotten.” Finally, I explore one of the most common responses I receive when detailing the results of my research: “Were you surprised by what you found?” I draw on my own surprise, as well as other more progressive staff members’ shock or disbelief towards oppressive, discriminatory, or unjust practices at camp to argue that these responses actually helped to insulate systems of domination from critique. My analysis draws attention to how ignorance is (re)produced in multiple ways and by multiple groups, in both acts of injustice and our responses to them.



Watching People Throw Out Garbage

Samantha Leigh | Eric Gorham

How do people use public spaces? Waste management is a growing interdisciplinary field that incorporates economics and behavioural sciences to reduce waste and contamination. Current waste management research primarily focuses on either waste composition analysis through modeling or auditing, or consumer attitudes and intentions about recycling practices. However, no previous research has investigated disposal choices and behaviours as they occur to understand waste management practices. Given this gap, I conducted a field study to explore which customer disposal choices lead to contamination at food service institutions in Squamish. Food services were selected because they have a large amount of waste disposed by customers in publicly visible areas, and most of that waste is compostable. I observed 910 customers for three, hour-long periods at 29 food service institutions over two months, and their disposals were recorded by item, stream, and given a binary variable based on whether the choice was correct or incorrect. In total, I observed 2146 waste item disposals. Then, I conducted a composition analysis which revealed that most waste items (80%) were being sent to landfill, and the highest components were organic and paper waste, both of which are compostable. This result reinforces the critical need for effective compost collection in food service institutions. A logistic regression suggested that the presence of comprehensive signage ($p \leftarrow 0.001$) and multiple streams ($p = 0.05$) significantly contributes to correct waste disposals. These results provide clear direction for food services, which can drastically reduce contamination by implementing multiple streams and signage. Overall, I recommend two first steps for food services in Squamish: begin collecting compostable organic and paper waste, and ensure multiple streams with signage are installed that encourage customers to sort their waste properly.

