



RESEARCH AND CREATIVITY SYMPOSIUM FRIDAY, AUGUST 28, 2020



Trinity Western University
OFFICE OF RESEARCH AND GRADUATE STUDIES

Table of Contents and Schedule Overview

ALL DAY	ALL-ROOM DETAILED SCHEDULE	4
9:30-9:45 am	PRESENTATIONS.....	7
Zoom Room 1		7
Zoom Room 2		7
Zoom Room 3		7
9:45-10:00 am	PRESENTATIONS.....	8
Zoom Room 1		8
Zoom Room 2		8
Zoom Room 3		8
10:00-10:15 am	PRESENTATIONS.....	9
Zoom Room 1		9
Zoom Room 2		9
Zoom Room 3		9
10:15-10:30 am	PANEL Q&A	10
10:30-10:45 am	BREAK.....	10
10:45-11:00 am	PRESENTATIONS.....	10
Zoom Room 1		10
Zoom Room 2		10
Zoom Room 3		10
11:00-11:15 am	PRESENTATIONS.....	11
Zoom Room 1		11
Zoom Room 2		11
Zoom Room 3		11
11:15-11:30 am	PRESENTATIONS.....	12
Zoom Room 1		12
Zoom Room 2		12
Zoom Room 3		12

11:30-11:45 am	PANEL Q&A	13
11:45 am-12:00 pm	BREAK	13
12:00-12:15 pm	PRESENTATIONS.....	13
Zoom Room 1		13
Zoom Room 2		13
Zoom Room 3		13
12:15-12:30 pm	PRESENTATIONS.....	14
Zoom Room 1		14
Zoom Room 2		14
Zoom Room 3		14
12:30-12:45 pm	PRESENTATIONS.....	15
Zoom Room 1		15
Zoom Room 2		15
Zoom Room 3		15
12:45-1:00 pm	PANEL Q&A	16
1:00-1:45 pm	LUNCH	16
1:45-2:00 pm	PRESENTATIONS.....	17
Zoom Room 1		17
Zoom Room 2 [two talks]		17
Zoom Room 3 [three talks].....		18
2:00-2:15 pm	PRESENTATIONS.....	19
Zoom Room 1		19
Zoom Room 2		19
2:15-2:35 pm	PRESENTATIONS.....	20
Zoom Room 1		20
Zoom Room 2 [two talks]		20
Zoom Room 3 [four talks].....		21
2:35-3:00 pm	PANEL Q&A	22
3:00-3:15 pm	BREAK.....	22

3:15-3:25 pm PRESENTATIONS..... 22
Zoom Room 1 22
Zoom Room 2 [two talks] 22
Zoom Room 3 [two talks] 23
3:25-3:35 pm PRESENTATIONS..... 24
Zoom Room 1 24
Zoom Room 2 [two talks] 24
Zoom Room 3 [two talks] 24
3:35-3:55 pm PRESENTATIONS..... 25
Zoom Room 1 [two talks] 25
Zoom Rooms 2 and 3 Panel Q&A 25
3:55-4:15 pm PANEL Q&A 25

9:00-9:30 am	Land Acknowledgement and Opening Remarks, Zoom Room 1		
9:00 am	Patti Victor, University Siya:m; Bob Wood, Provost; Richard Chandra, Director of Research Services: "Unprecedented Research during Unprecedented times"		
9:30 am	Breakout sessions		
	Zoom room 1: Moderator: Richard Chandra	Zoom room 2: Moderator: Elizabeth Kreiter	Zoom room 3: Moderator: Adam Bielka
9:30-9:45 am	Grimm/Hale : "Being Stopped: Uncertainty and Hope in Precarious Times"	Clements : "Surprisingly rapid evolution of invasive weed species under climate change"	Grypma : "Profiles in Leadership: Two Women in Wartime China"
9:45-10:00 am	Creighton/Leng : "Trade Off: Difference and (mis)interpretation in artistic collaboration"	Mills : "Mitotic Centrosomes – A Promising Therapeutic Target for Glioblastomas"	Martin : "Family Structures and Measurements for Studying Families: A Project"
10:00-10:15 am	Sawatzky : "Re/generation: What photography as contemporary art has to offer inhabitants of the photographic universe"	Onyango : "Wastewater based epidemiology: Using municipal wastewater as a tool in the detection of COVID-19 infections in a community"	Strom : "Weathering Well: Predictors of Resilient Pluck during COVID Isolation"
10:15-10:30 am	Panel Questions	Panel Questions	Panel Questions
10:30-10:45 am	Break		
10:45-11:00 am	Wolff : "Healthcare Providers' Experience of Incorporating the Voice of Patients: How to Conduct a Mixed Method Systematic Review of Non-experimental Research"	Van Brummelen : "Who invented the decimal point?"	Weatherhead : "Massive Global Loss of Languages by the Year 2100 – Myth, Fact, or Something Else?"
11:00-11:15 am	Rieger : "Digital Storytelling as a Patient Engagement Method with First Nations Women: A Debwewin Journey"	Torres-Giese : "Symmetries in nature"	Trick : "Does EVERYBODY think that 'literal meaning' is a real thing?"
11:15-11:30 am	Jantzen : "Why, what, and how to educate for human flourishing"	Friesen : "Making Things the Easy Way: Advancement in HFES"	Lim : "The pitch synthesis model of Lhasa Tibetan"
11:30-11:45 am	Panel Questions	Panel Questions	Panel Questions
11:45-12:00 pm	Break		
12:00-12:15 pm	Arbeau : "Shall we Fortnite this fortnight? A multilevel motivational model of video gaming behaviour across 14 days."	Jule and Castellon : "What's good about Christian Schools: Environmental Pedagogy and Indigenization in Christian K – 12 Schools in Canada"	Mathew : "From Hero to Zero: Older Men's Transition to Retirement"
12:15-12:30 pm	Schut : "The meaning of virtual virtue: The role of frames in video game players' moral and ethical decision-making"	Moulden : "Planning for Learning"	Nicolle : "Conditionals in the Greek New Testament: A guide for Bible translators"
12:30-12:45 pm	Stein : "It Can't Be For Nothing: Communicating Intentions for Play Through Trophy Design in The Last of Us and The Last of Us Part II"	Li : "Chinese international students' engagement with democratic discourses and practices in Canada and the United States"	Wiebe : "How 'the tone of your voice' could change the Bible"
12:45-1:00 pm	Panel Questions	Panel Questions	Panel Questions
1:00-1:45 pm	Break		

	Zoom room 1:	Zoom room 2:	Zoom room 3:
1:45-2:00 pm	Russell: "Taking the 'complex' out of complex statistical methods: Plain language knowledge translation resources about Patient-Reported Outcome Measure"	1:45-1:55 Birkenstock: "The Dao of Humility - How cognitive psychology and Daoist philosophy give us a more practical understanding of this controversial virtue."	1:45-1:50 Brooke: "Mild Fluorination of Thionobenzodioxoles with Silver(I) Fluoride"
		1:55-2:05 Bennett: "Women and Identity in the Aramaic Dead Sea Scrolls: Recovering the Ancient Idea that Women Matter"	1:50-1:55 Macdonald: "Challenges in Plastic Waste Diversion and the Need for a Systemic Overhaul" 1:55-2:00 Sheridan: "Analysis of Natural Surfactants from Sapindus Saponaria"
2:00-2:15 pm	Wilson: "Measuring Health Status in Long-term Care Residents: Adapting the Veterans RAND 12 Item Health Survey (VR-12©)"	2:05-2:15 Wang: "Physics and Metaphysics: On the Vocation of the Human Person"	Panel Questions
2:15-2:35 pm	Strobell/Buyco: "Recognizing Human Rights in the Everyday: Multidisciplinary Research on Albinism & Human Rights in Tanzania, South Africa, & Ghana"	2:15-2:25 Demchuk: "Becoming human: A Kierkegaardian Approach to the Imago Dei"	2:15-2:20 Bakker: "Pathogen resistance and osmoregulation: The function of the protein UNC-53 in the excretory cell of Caenorhabditis elegans"
		2:25-2:35 Oliver: "Understanding the drug addiction problem of Vancouver with The Four Pillar Approach"	2:20-2:25 Goncharova: "Seedling (Reynoutria x bohemica) Establishment Post Deposition from Various Aquatic Disturbances and Growth Stages"
			2:25-2:30 Oeggerli: "Determining shade responses of Bohemian knotweed (Reynoutria xbohemica) seedlings" 2:30-2:35 Witzel: "Examining the effect of threat-related face traits on social behaviours and perceptions in Deaf and hearing adults"
2:35-3:00 pm	Panel Questions	Panel Questions	Panel Questions
3:00-3:15 pm	Break		

	Zoom room 1:	Zoom room 2:	Zoom room 3:
<u>3:15-3:25 pm</u>	<u>Lehman</u> : “Emotional Intelligence and Perspectives on Mental Health: Comfort and Compassion Towards Persons with Mental Illness”	3:15-3:20 pm <u>Yasinski</u> : “Assessments of Cardiac Output During Incremental Exercise in Healthy Adults.”	3:15-3:20 pm <u>Tan</u> : “Laban Effort Analysis via Conducting Gestures Using Neural Networks”
		3:20-3:25 <u>Sherwood</u> : “Intrinsic and Extrinsic Motivations for Using Complementary and Alternative Medicine”	3:20-3:25 <u>Irimoto</u> : “Commutativity: The Notion of Symmetric Structure”
<u>3:25-3:35 pm</u>	DeLong: “Associations Between Relational Aspects of Care and Self- Reported Health Status of Residents Living in Long Term Residential Care Homes”	3:25-3:30 <u>Budlong</u> : “Predicting daily mood: Personality and daily activities”	3:25-3:30 <u>Wear</u> : “A Repressed Nature? Ecological Power Matrices and the Agents who Produce Them”
		3:30-3:35 <u>Peters</u> : “Assessing the Impact of an Inquiry-Based Chemistry Course on Non-Majors and Pre-Service Teachers”	3:30-3:35 <u>Taylor</u> : “How has western society affected the West African economy by the exploitation of natural resources and agriculture?”
<u>3:35-3:55 pm</u>	3:35-3:45 <u>Williams</u> : “Life Satisfaction as an Outcome to Care Strategies: Is there such a thing?”	Panel Questions	Panel Questions
	3:45-3:55 <u>Kruger</u> : “Exploring Societal Reconciliation in Canada”		
<u>3:55-4:15 pm</u>	Panel Questions		

Zoom Room 1

Being Stopped: Uncertainty and Hope in Precarious Times

Erica Grimm and Joshua Hale

“the element I speak of is precisely that which breaks an onrushing momentum and opens experience to another point of view. I call it the stop.” –David Appelbaum

Without a doubt, COVID-19 has stopped us. Revealing systemic cracks and forcing change on local and global levels, the ecology, race and coronavirus crises are intertwined. A triple wake-up call that insists on human embeddedness within earth systems, navigating the ensuing uncertainty has been uncomfortable. Despite our expectations of certainty, for philosopher Edgar Morin the degradation of our biosphere means we need to prepare for disasters. “Uncertainty is intrinsic to the human condition” he maintains. Paradoxically for Rebecca Solnit, uncertainty is also hope’s precondition. “Hope locates itself in the premises that we don’t know what will happen and that in the spaciousness of uncertainty is room to act.” Adept at navigating uncertainty, one of the strengths of the arts is that its practitioners learn comfort with unknowing and how to transform *stops*, into potential. With this in mind, the concepts of ambiguity tolerance (from creativity studies) and abductive reasoning point us toward the attributes and perspectives that we need to cultivate in order to solve complex and systemic problems that evade simple solutions. Recent projects shine a light on how intersubjective attention, interdisciplinary collaboration and imaginative embodied material explorations can harness the potential of uncertainty to shift us toward better futures as we learn “how to live on a damaged planet.”

Zoom Room 2

Surprisingly Rapid Evolution of Invasive Weed Species Under Climate Change

Dave Clements

Although evolution through a Darwinian lens has been often seen as a gradual process, far more rapid evolutionary change has been observed in recent times. Some of the most ideal research models of rapid evolution are invasive weeds. In fact, unique evolutionary mechanisms employed by invasive weeds are integral to their success. Recent examples documenting the potential speed of invasive plant evolution have included: invasive plants establishing latitudinal flowering clines, life history shifts, or dramatic changes in root systems. The fact that many invasive plants are genetically depauperate can work to their advantage, whereas genetic bottlenecks put endangered plants at risk of extinction. For example, purging of their genetic load may enable invasive plants adapt more rapidly. Numerous other genetic mechanisms have been implicated including plasticity as an evolved trait, hybridization, polyploidy, epigenetics, and clonal division of labor. In recent decades, the universal anthropogenic stressor of climate change has been fostering rapid weed evolution. Climate change stressors such as changing temperatures, moisture regimes and extreme climate events are operating universally, but studies have repeatedly shown that invasive plant species are generally better equipped than native plants to adapt.

Zoom Room 3

Profiles in Leadership: Two Women in Wartime China

Sonya Grypma

Drawing from my upcoming book “The Rockefeller Effect: Canadian Missions and the Unsettling of Modern Nursing in Wartime China,” and based on a keynote given to Leadership graduates last year, this presentation will introduce two women leaders who made a remarkable impact in wartime China. One was Chinese, the other Canadian. Both were born into well-respected families in China. Each had a strong relationship with her parents and one brother. Both earned bachelors degrees in nursing in the 1920s, and completed post-graduate studies in the United States and Canada. Each was fully-bilingual, proficient in English and Chinese. Each had long nursing careers in China, and each served as Deans of Nursing at separate institutions – one in Beijing and one in Sichuan – during China’s war of resistance against Japan. Both were well respected within their peer group. At the same time, each also suffered debilitating criticism from others, and experienced pressure to resign. They met in 1943 when one, the Dean from Beijing, evacuated to Sichuan during the height of the war. For the next three years their lives overlapped as each demonstrated three characteristics of leadership that served them well during one of the most horrific periods in China’s history: Courage, Humility, and Integrity.

9:45-10:00 am

PRESENTATIONS

Zoom Room 1

Trade Off: Difference and (Mis)Interpretation in Artistic Collaboration

Alysha Creighton and Russell Leng

The exhibition Trade Off is the final stage of an inquiry into open-ended artistic collaboration. The works created for this exhibition have developed through a constant flow of visual propositions over the course of three months. A simple rule was created at the beginning of the project: make a work and pass it to the collaborator with no verbal or written explanation. Each pass of the visual baton was a chance to respond in any way in an intentional gesture away from authorship and singularity of vision. The process produced fragments of sculpture, video, drawing, performance, collage, and painting. Run On amalgamates these forms in a site-specific graphite drawing, linking disparate visual languages collected over time into a coherent “sentence”. Chromatic Pass moves beyond the static nature of painting and proposes the medium as a platform for activation. Hands carefully navigate the interstices of the canvas. Connections are made and missed in equal measure as the hands establish a new surface together. The resulting works in the exhibition are manifestations of the potential of what might be gained through difference, (mis)interpretation, and the recalibration of divergent paths.

Zoom Room 2

Mitotic Centrosomes – A Promising Therapeutic Target for Glioblastoma

Julia Mills,* Jonathan Dresselhuys, Maddie Brown, J. Tan, J. Noble, W.K.A. Sikkema., M. Sharma, and M.E. Cox.

Glioblastomas are among the most common malignant brain tumours. Currently, there are no effective treatments for these aggressive solid tumours that affect both adults and children. Centrosomes are key in cell replication, forming two poles of a cell undergoing bipolar division. Though centrosomes are best known as the main microtubule organizing center in cells, they also act as signalling protein hubs that orchestrate normal cell division. However, when improperly regulated they contribute to various human diseases including cancer. We do not fully understand the role of centrosomes as signalling centres during division nor do we understand how these signalling protein hubs change in cancer. The focus of my lab is to explore the importance of various centrosomal proteins and their interactions in normal and cancer cell division with the ultimate goal to develop novel targets and combination strategies for drug-resistant glioblastomas.

Zoom Room 3

Developing Analytical Family Structures

Todd Martin

This presentation proposes and describes a project to develop analytical family structures. Most sciences have basic measurement structures that all theories must address. For example, physics has the basic dimensions of length (width and height). The study of families has been slow to produce such a basic measure yet it does seem that family structure and households are obvious candidates. The ambiguity in the use of family structures is easily demonstrated from the use of such terms as “single parent families” where assumptions are that other adults are not in the household and are not doing some of the parentings (e.g., cohabitant, grandmother, no related friends, etc.). This presentation develops a typology of families and households based on relations and domicile. The discussion yields a set of elements and relations so that a possibility space can be generated of all logically possible family households. This allows researchers to identify specific family structures and to form unambiguous clusters of family forms. Furthermore, using Shannon’s entropy measure I suggest how the measurement of family diversity might be improved in comparative family research and theory.

Zoom Room 1

Re/Generation: What Photography as Contemporary Art Has to Offer Inhabitants of the Photographic Universe

Helma Sawatzky

In this arts-based inquiry of my dissertation research, I explore the 'strange'—as a phenomenon, a concept, a narrative strategy, an intervention, an 'operation,' a dynamic—in the context of contemporary [art] photography. I specifically focus on the photographic image as event, as a generative encounter between multiple agencies—image(s), viewer(s), text(s) and other contextual factors—What happens? How? Why? Encounters with [the] strange and practices of 'making strange' emerge as probes into everyday ontological and epistemological operations of photography and the unique creative affordances this generates for photography as contemporary art. Merging my art practice and scholarship, I developed a form of visual storytelling that performs its subject matter in myriad ways—blending the linearity of argument structuring conventional modes of academic inquiry with more intuitive, non-linear modes of artistic writing that seek to open up—evoke and provoke—rather than foreclose differing interpretive paths. I foreground the process of knowledge production and meaning making by giving visibility and presence to participating 'voices' and the intertextual dynamics between them. Images, interview transcripts, dictionary definitions, quotes, diagrams, drawings and random bits found along the way converge to animate and illuminate operations of [the] strange.

Zoom Room 2

Wastewater Based Epidemiology: Using Municipal Wastewater as a Tool in the Detection of COVID-19 Infections in a Community

Laura Onyango

Wastewater-based epidemiology (WBE) has been used as a vital tool in the detection of a range of societal behaviours and conditions including monitoring of illicit drug usage, the presence of oxidative stress markers, and even the prevalence of human viral diseases. The urgency of the current COVID-19 global pandemic has prompted researchers to seek measures in the early detection of the virus in populations to mitigate clinical outbreaks. Preliminary research shows that viral loads could be detected in faecal samples of infected populations 2-3weeks prior to presentation of clinical symptoms. As such, WBE provides a timely and economically viable tool in the management of COVID-19 infections.

Zoom Room 3

Weathering Well: Predictors of Resilient Pluck During COVID Isolation

Bill Strom

At week seven of the pandemic lockdown in British Columbia, I had the opportunity to gather data from over 700 individuals to tap their degree of "relational resilience". My assumption was that living well with housemates – whether spouse, partner, or friends – would indicate best how people were weathering the storm of COVID-19. My study was organized around four elements: 1) What people brought to the pandemic in terms of their personality, relationship style, gender, age, and education, 2) stressor experiences related to isolation, risk, and health, 3) coping strategies related to exercise, diet, media use, and religious service attendance, 4) and outcome resilience – the degree factors 1-3 predicted 'weathering well' and several relational health indicators.

I found that resilient people were likely to be open to new experiences, extraverted, agreeable, conscientious, and less neurotic. They had a more covenantal way in relating, were well educated, sixty years old or older, and male. Moreover, resilient people were more likely to trust their housemates, receive social support, feel satisfied with life, and less likely to aggress against housemates, feel lonely, or be anxious and fearful. The coping strategies that appeared to contribute to pandemic pluck included exercising often, limiting media, eating well, and attending church online. These insights provide context for understanding resilience or lack thereof.

10:15-10:30 am

10:30-10:45 am

10:45-11:00 am

PANEL Q&A
BREAK
PRESENTATIONS

Zoom Room 1

Healthcare Providers' Experience of Incorporating the Voice of Patients: How to Conduct a Mixed Method Systematic Review of Non-Experimental Research

Angela Wolff,* Andrea Dresselhuis

Substantial literature has highlighted the importance of patient-reported outcome and experience measures to collect clinically relevant information from patients to better understand and address what matters to them. Data from these measures are critical to support clinical decision making in a person-centered approach. The aim of this presentation is to share the real-world experience of systematically reviewing (i.e., searching, screening, appraising, and extracting) the abundant evidence revealing how healthcare providers implement these measures to meet the needs of patients. A mixed-method systematic review was undertaken to synthesize peer-reviewed evidence from eight databases (2009-2019) yielding 26,134 citations. After applying screening criteria, 156 sources of evidence were critically appraised using validated tools and data were extracted using the data management software NVivoTM. Unique to this project is the use of a large amount of evidence (180+ articles) and the creative use of a variety of appraisal tools to assess the quality of the evidence. A new innovative approach to the systematic review process is the use of NVivoTM to extract the relevant findings and synthesize the data. In this presentation, we share insights gained about the systematic review process for large, complex projects.

Zoom Room 2

Who Invented the Decimal Point?

Glen Van Brummelen

The question of the invention of the decimal point is vexed, with multiple interpretations and several different cultural claims. Within Europe, textbooks assert that decimal fractional notation was introduced in the late 16th century with Simon Stevin's De Thiende, and that the decimal point itself first appeared around the same time with Christopher Clavius or John Napier. These claims are mostly untrue. We shall explore the much older origin of the decimal point in European mathematical astronomy, and touch on some of the historiographic issues that arise when considering this issue.

Zoom Room 3

Massive Global Loss of Languages By the Year 2100 – Myth, Fact, Or Something Else?

Norman C. Weatherhead

In 1991, linguist Michael Krauss predicted that by 2100 nearly 90% of all languages of the world would be either dead or moribund, leaving only about 600 languages globally that will still be spoken viable languages. Many linguists since Krauss' declaration have written about languages that are shifting or being lost across Europe, Asia, Africa, and the Americas. Could massive language loss in our current century be just a myth, extrapolated from small isolated cases? Could it be a fact? Or could there be something else we need to consider before consigning the languages of the world to the dusty pages of history books? In my presentation, I want to promote Lynn Landweer's unique perspective on the possible language vitality of small language groups scattered across the islands of the South Pacific, presenting a special focus on Papua New Guinea. There is another way to measure language vitality which might apply best to Pacific Island languages, which contain over 18% of the world's languages. Landweer's insights can give us hope that many small languages might still survive to see the year 2100.

11:00-11:15 am

PRESENTATIONS

Zoom Room 1

Digital Storytelling as a Patient Engagement Method with First Nations Women: A Debwewin Journey

Kendra Rieger,* Marlyn Bennett, Donna E. Martin, and Tom F. Hack.

Structurally disadvantaged populations face marked health inequities as they navigate their illness experiences. Western approaches to Indigenous research and healthcare practices have had limited effectiveness on patient outcomes. When research is conducted from a Western paradigm alone, the findings and resultant policies ignore health practices of Indigenous peoples and fail to align with their healthcare priorities. There is a need to employ Indigenous research approaches to identify intersecting reasons behind these troubling inequities and to integrate Indigenous knowledge into current healthcare services. We engaged with First Nations women to assess the feasibility and meaningfulness of using digital storytelling to explore their breast cancer experiences. Our two-day digital storytelling workshop incorporated ceremony, talking circles, and a feast. Our conversations with the women were profound and provided deep insights into First Nations women's experiences with breast cancer. We found that the digital storytelling workshop facilitated a Debwewin journey, which is an ancient Anishinaabe way of knowing that connects one's heart knowledge and mind knowledge. Based on their feedback, we are embarking on a new research project in which the workshop participants have become full research team members to elevate storytelling as a decolonizing method in Indigenous health research.

Zoom Room 2

Symmetries in Nature

Enrique Torres-Giese

When do we say that an object is "symmetric"? In this talk we will present examples of symmetric objects and formalize this concept in terms of algebra and geometry. We will show how symmetries form a very particular algebraic structure that can be used in different contexts such Physics and Chemistry.

Zoom Room 3

Does EVERYBODY Think That "Literal Meaning" Is a Real Thing?

Doug Trick

Translators have known for centuries that "literal translation" is a fiction, and yet the notion persists. A concept that crucially underlies "literal translation" is that of "literal meaning" - one must accept the claim that words have "literal meanings" prior to accepting the validity of "literal translation." There are very serious problems with the theoretical notion of "literal meaning"; I would claim that this, too, is a fiction (albeit a convenient one in some cases). In spite of these problems, the notion of "literal meaning" is widely and strongly held, at least in the English-speaking world. The hypothesis of this project is that two factors contribute to the strength with which this (fictional) notion is held: monolingualism, and literacy. That is, an individual or a society who interacts with the world primarily through a single language is likely to have a stronger commitment to literal meaning than is an individual or society who routinely interacts with the world through two or more languages. Similarly, the functional weight of literacy in the experience of an individual or society is likely to contribute to one's commitment to the notion of literal meaning.

Zoom Room 1

Why, What, and How to Educate for Human Flourishing

Darlaine Jantzen,* Sheryl Reimer-Kirkham, Angela Wolff, Michael Morelli, Derek Sellman, Maria Fyfe

Promoting health and human flourishing is one of five strands in the TWU strategic research plan. In keeping with strand, we are studying how to educate nursing students for human flourishing. The study's purpose is to explore how BSN students learn select dispositions (trustworthiness, open-mindedness, and self-awareness) for good nursing in diverse educational settings. Using grounded theory methodology, we will conduct in-depth interviews with graduating BSN students and newly graduated RNs from these three programs. The resulting grounded theory will inform pedagogical strategies approaches to educate for good nursing practice. As an interdisciplinary team (nursing, philosophy, theology), we began by situating our research in a philosophic ancestry, through a virtual dialogue with Alasdair MacIntyre's *After Virtue*. In this presentation, based on our reading, we will present why virtues are increasingly relevant for 21st century healthcare professionals. We ask: what does the role of community narrative/s play in the development of both a professional practice and the dispositions and virtues that constructively shape this practice in contemporary settings? Is part of being a good nurse "being good," and if so, what does "being good" look like for a practicing nurse? Further, does "good nursing" require the cultivation of virtue/s?

Zoom Room 2

Making Things the Easy Way: Advancement in HFEs

Chadron Friessen

Hydrofluoroethers (HFEs) are common place for de-greasing solvents, refrigerants, and heat transfer fluids in industry due to its low global warming potential and non-ozone impact. However, if simple methods could be found for the synthesis of carbon-ringed HFEs a large number of avenues could be tapped for growth areas in the polymer industry, specifically research in fluoropolymers applications. This work will cover the methods toward the formation of niche small molecules and how this works can expand capabilities in the photopolymerization of perfluoropolyalkylethers (PFPAEs). In other words, making very durable rubber with light.

Zoom Room 3

The Pitch Synthesis Model of Lhasa Tibetan

Jonathan Lim

I present a phonologically-based pitch synthesis model to verify the adequacy of the proposed tonal analysis of Lhasa Tibetan. This model consists of three main components: a) the tone target component, b) the pitch synthesis component, and c) an evaluation component. The phonological input for the tone target component is extracted from manually annotated audio recordings. They were annotated with various tonal labels that can be assigned with different surface tones and boundary tones. The goal of the pitch synthesis component is to compare the intonation of a real speaker with a simulation of his/her pitch. It requires both speaker-specific and generic input parameters. I will illustrate the outcome with real speech examples. The evaluation function determines the adequacy of the model. This evaluation function correlates both the pitch extracted from the model and the original human utterance. This function is to fine-tune and assess the explanatory power of the model. This pitch synthesis model has proven to be productive in the current paper. It substantiates the idea that a phonologically-based model can predict and synthesize the pitch of a native speaker with a relatively small number of pre-set parameters.

11:30-11:45 am

11:45 am-12:00 pm

12:00-12:15 pm

PANEL Q&A
BREAK
PRESENTATIONS

Zoom Room 1

Shall We Fortnite This Fortnight? A Multilevel Motivational Model of Video Gaming Behaviour Across 14 Days

Kelly Arbeau,* Alice Atkin, Sarah Woolgar, and Benjamin Budlong

People are motivated to play video games for a variety of reasons: to be social, reinforce identity, cope with negative emotions, avoid being left out, and simply have fun. These motives differ in the nature of the reinforcement being sought (positive or negative) and the source (internal or external) of the desired consequences of the behaviour. Past research suggests that both typical and situational factors may be important to video gaming behaviour. We developed the first daily process model testing this hypothesis. Hierarchical linear modeling assessed typical (game playing motives) and situational (mood, sleep, task completion, alcohol use, exercise) influences on time spent video gaming in 162 undergraduate students (M age = 19.7, 71% male) across 14 days. Strong support was found for the utility of the model in predicting total daily time spent playing video games. Subsequent analyses revealed that the model works well for predicting time spent playing online multiplayer and offline PC games, but not console and casual browser games, suggesting different drivers of those types of video games. Theoretical and applied implications of the findings will be discussed.

Zoom Room 2

What's Good About Christian Schools: Environmental Pedagogy and Indigenization in Christian K – 12 Schools in Canada

Allyson Jule and Adrienne Castellon

The successful transformation of existing modes of environmental pedagogy and inclusion of indigenous perspectives in faith-based schools has not been well explored, and yet most Christian schools in Canada are governed by provincial curricula and provincial teacher standards that require commitments to environmentalism and indigeneity. This study draws on data from three schools from different areas of Canada – one in the province of Ontario and two sister schools in Saskatchewan. The conceptual framework is Appreciative Inquiry which serves as a way to highlight areas of excellence in these particular areas. Explored here is what the practices are that can inform other schools in regards to environmental pedagogy and inclusion of indigenous perspectives and knowledge. Each school offers a unique case study into school cultures that embrace well these particular commitments.

Zoom Room 3

From Hero to Zero: Older Men's Transition to Retirement

Deepak Mathew,* Bill Borgen, Marla Buchanan, Lee Butterfield, and David Kuhl.

This study seeks to understand what happens when men, 55 years and older, retire from a job that is their passion and has been a strong career and personal anchor point for their identity for several years. What happens when men who has exercised fewer role options to help develop a renewed and evolved sense of identity outside of paid employment as retirement approaches? This ongoing qualitative inquiry focuses on men who said they are doing well, specifically looking at (1) What is the transition process of older men who are highly work identified and believe they are doing well with transition to retirement? (2) What has helped and hindered them in doing well with the transition to retirement? (3) What would have helped them do well with the transition to retirement if it had been available to them? Preliminary results provide insights into the personal perspectives and contextual issues that have promoted successful transition from paid employment to retirement.

12:15-12:30 pm

PRESENTATIONS

Zoom Room 1

The Meaning of Virtual Virtue: The Role of Frames in Video Game Players' Moral and Ethical Decision-Making

Kevin Schut,* Kelly Arbeau, Myron Penner and Talitha Fagan.

What does it mean to steal in a game? Or shoot someone? Or help someone, for that matter? A video game is not physically real, but it often resembles familiar reality. Both scholars and the general public have expressed concern about video game content and potential negative outcomes in those who play them. Much of the debate surrounding games, however, completely ignores how players understand the games they play. If video game players do not think about games as akin to real social situations, can they engage in immoral or unethical acts while playing? This project investigates how players interpret their gaming actions. Gary Alan Fine, using the theoretical concepts of Erving Goffman, suggested that game players can deploy different interpretive “frames” that shape the meaning of their gaming actions. This project seeks to identify the range of video game player frames that can be activated by players and establish their effect on decision-making in moral and ethical scenarios. If, for example, players think of a game as a toy to be prodded and played with just to see what it does, is what appears to be theft or generosity or violence in the game really what it looks like?

Zoom Room 2

Planning for Learning

Gordon Moulden

As an instructor in the MA TESOL program at TWU, I am involved in training teachers. My involvement in this program has led me to consider how best to explain to our learners the nature of their job. As a former ESL teacher, I believe it is very helpful for teachers to view themselves as “learning planners”. With this definition in mind, I have developed a planning for learning model that I present to students during the Assessment course in our program. This model demonstrates how curriculum, instruction, materials, and assessment can be planned for any course so as to help teachers plan effectively, whatever subject they are teaching. The model includes a cyclical process in which planning, implementation, evaluation, and response continue throughout a course to enable teachers to provide the best opportunities for students to learn. This is particularly important in 2020, because COVID-19 has required us, as instructors, to plan our courses to enable multiple access for our learners if needed. The truth is, whether a course is taught online, on campus, or through a combination of the two, effective planning, and analysis of the results of implementation, is crucial for success in any course

Zoom Room 3

Conditionals in the Greek New Testament: A Guide for Bible Translators

Steve Nicolle

Conditional constructions occur in nearly every language. These constructions are typically expressed in English as “If... then...” sentences. Their particular uses, however, are wide and can vary from language to language. This is no less true of the conditionals found in the Koine Greek in which the New Testament was written. There are over 600 conditional expressions in the New Testament, so understanding how they function is incredibly important to correctly understand the New Testament, and to accurately translate it into other languages. For this reason, we are describing and classifying all the conditional constructions in the Greek New Testament, with the ultimate goal of creating a resource that will help Bible translators to produce clear, natural, and accurate translations of the New Testament.

Zoom Room 1

It Can't Be for Nothing: Communicating Intentions for Play Through Trophy Design in The Last of Us and The Last of Us Part II

Eric Stein

To borrow from Katherine Isbister, a games researcher and educator, one of my primary concerns when it comes to the study and design of games is "how games move us." Isbister's invocation of "movement" has a double meaning—that is, to be moved as both an emotional and an embodied experience. Indeed, in chapter three of her book, "Bodies at Play," Isbister explores precisely this intersection between feeling and the body. Following Isbister, this talk examines both games in developer Naughty Dog's post-apocalyptic oeuvre: *The Last of Us* (2013) and *The Last of Us Part II* (2020). It is specifically interested in the way in which Naughty Dog subtly attempts to move the player through the extrinsic motivator of PlayStation trophies, and the way this movement has evolved in the seven years between releases. It is my contention that the marked difference in emphasis in trophy design between parts one and two of *The Last of Us* indicates a change in ethos on Naughty Dog's part that brings (at least some of) the ludic aspects of the sequel in line with the themes that it tackles.

Zoom Room 2

Chinese International Students' Engagement with Democratic Discourses and Practices in Canada and the United States

Gang Li

Chinese citizens today make up the largest group of international students globally, and most of them are projected to return to their home country after graduation. Against such a backdrop, this study examines how Chinese international students engage with democracy in Canada and the United States, and how such engagement affects their thoughts and actions regarding China's democratization in the 21st century. The study demonstrates that students can engage with democracy at two levels during their stay abroad. At the regime level, they can observe, reflect upon, and even participate in the democratic practices associated with the electoral politics of their host countries. At the level of local associations, they can experiment with democratic practices in the processes of organization design and management. Through such engagement, some students may even become increasingly committed to democracy and increasingly competent to effect democratization in China.

Zoom Room 3

How "the Tone of Your Voice" Could Change the Bible

Bruce Wiebe

If English were a tonal language (where pitch differentiates words, as in Mandarin Chinese's *má* (High) 'mother' vs. *mà* (Low) 'horse' *), it might be completely filled with words like:

óbjàct (High Low) → She was the óbjàct of his affections.

òbjèct (Low High-Low) → Her parents òbjèct to their courtship.

...where only pitch (rather than stress, as in actual English) makes the meaning difference, and we would have to write all words with accents to tell them apart. Or we might use another way to mark the difference in pitch: superscript numbers (ob¹ject³ vs. ob³ject¹³) as in Sochiapam Chinantec of Mexico, or punctuation marks ('ob'-ject- vs. -ob-'ject-) as in Eastern Dan of Cote d'Ivoire...or nothing at all, as in many tonal languages - but then would the language (and a Bible translation) be readable? What happens if the pitch shape of a word changes depending on what word is next to it (very common in Africa) - then what pitch do you write? What does the science of linguistics have to offer in sorting this out? In this talk I will give a layman-friendly overview of my research program, which addresses all these issues.

12:45-1:00 pm

1:00-1:45 pm

PANEL Q&A
LUNCH

In lieu of our ability to offer refreshments in person, enjoy this delicious picture of a cheese steak sandwich:



... and for the vegetarian option, a tofu-tomato sandwich.



We also offer a gluten-free option, in the form of a picture of a Thai quinoa bowl. If you are not gluten-free, please have one of the other options, as we have a limited number of this gluten-free picture available.



Bet the food didn't look so good at the last conference you attended! 😊

Zoom Room 1

Taking the “Complex” Out of Complex Statistical Methods: Plain Language Knowledge Translation Resources About Patient-Reported Outcome Measures

Lara Russell,* Richard Sawatzky, Ronak Brahmhatt, Jae Yung Kwon, Lisa Lix, Benjamin Stenner, Madison Muhic, Kathryn Sibley, Tolulope Sajobi, Lena Cuthbertson, Anne Gadermann, Bruno Zumbo

Patient-Reported Outcome Measures (PROMs) are questionnaires used by patients to describe how they feel about different physical, mental, and social aspects of their health and quality of life. PROMs are valuable tools in patient-centred care and research because they measure a person’s well-being from their own point-of-view. However, differences between people, and changes within people over time, can affect how PROM scores should be interpreted and used. Methodologists have developed ways to detect and adjust for these differences and changes, but the methods can be complex and challenging to share with knowledge users (KUs; clinicians, healthcare analysts and decision-makers, and patients) who may have limited familiarity with advanced statistical techniques. We conducted a knowledge translation project to bridge the gap between methodologists and KUs by developing resources to facilitate understanding and use of PROMs. Based on semi-structured interviews with 20 KUs, we developed a video that provides a plain-language introduction to PROMs and their use with different people and over time. This presentation will describe some of the challenges and decisions we faced in developing a video that conveys complex ideas in an accessible way, and ensuring relevance for different KU audiences. The video will also be presented.

Zoom Room 2 [two talks]

The Dao of Humility - How Cognitive Psychology and Daoist Philosophy Give Us a More Practical Understanding of This Controversial Virtue

Ben Birkenstock

The virtue of humility has a long and varied history. Beginning as notion of solidarity of the poor in the Old Testament, it became a highly-praised personal virtue in Christendom, only to be challenged in the modern world as self-deprecation or self-deception. Modern psychology is divided on the virtue, with some praising intellectual humility while others wonder whether humility can even be measured, let alone cultivated. The ancient Chinese philosophical poem, the Daodejing, presents an approach to life that may help to rehabilitate this virtue. For the Daodejing, any effort or ambition pushed too far becomes counterproductive. It therefore enjoins us to embrace lowliness and identify with socially-undesirable groups and outcomes. In this way, we can forestall vanity and self-destructive ambition. There is interesting evidence from psychological studies over the past century suggesting that the human mind indeed only has limited capacities for cognitive control, and that prescribing symptoms--i.e., telling people to ironically intend the very mental outcomes they are trying to avoid and control--is often more productive than trying to directly control outcomes. Therefore, I propose that a conception of humility as the tendency to voluntarily choose to accept unwanted outcomes and situations when necessary is more practical and realistic than one that focuses on self-conception or self-presentation.

Women and Identity in the Aramaic Dead Sea Scrolls: Recovering the Ancient Idea That Women Matter

Shelby Bennett

Have you noticed the startling absence of women in the foundational texts of the Bible? Have you wondered if those women mattered? The discovery of the Dead Sea Scrolls brought to light new texts that serve as conversation partners with our familiar Scriptures. The Aramaic texts at Qumran are an under-studied element of this new conversation, and they have a lot more to say about women, marriage, endogamy, and identity. These Aramaic scrolls tell us of a culture where women mattered as bearers of identity, not just bearers of children. The texts emphasize wives, mothers, sisters, daughters, aunts, and nieces in new and creative ways, writing endogamy into the annals of Israel’s history. Why did the identity of women seem to matter more to the Aramaic scribes than the scribes who composed our Biblical texts? What have we missed by only having one side of the conversation? In the centuries since the formation of a Biblical canon that excluded other literature, women have struggled to find ourselves in the patriarchal, male-dominated Biblical story. The Aramaic Dead Sea Scrolls help expand the story around the role of women in ancient Jewish culture in ways that still matter for culture today.

Zoom Room 3 [three talks]

Mild Fluorination of Thionobenzodioxoles with Silver(I) Fluoride

Alan Brooke,* Josiah J. Newton, Bastian Duhamel, Jason M. Pulfer, Robert Britton, and Chadron Friesen

Difluorobenzodioxoles are important scaffolds found in pharmaceuticals and agrochemicals and their late-stage introduction is complicated by the reliance on fluorine gas or combinations of HF and strong oxidizing agents. Here, we demonstrate that various catechols can be converted into thionobenzodioxoles and subsequently undergo desulfurative fluorination with silver(I) fluoride at room temperature to afford difluorobenzodioxoles. These mild reaction conditions are compatible with a variety of functional groups and enable access to a range of functionalized difluorobenzodioxoles. This novel process should facilitate more efficient syntheses of organic compounds containing the difluorobenzodioxole group. Certain difluorobenzodioxoles are important for the treatment of Cystic Fibrosis and Multiple Sclerosis as well as in research on Parkinson's Disease.

Challenges in Plastic Waste Diversion and the Need for a Systemic Overhaul

Alexander MacDonald

The use of plastics has become ubiquitous throughout recent decades. Plastics are prevalent in every sector of the economy and found in virtually any type of consumer product. They are environmentally pervasive and, especially through their degradation into microplastics, are the source of many ecological and toxicological problems. With only 9% of plastics recycled in Canada, it is evident that a systemic overhaul is needed in plastic waste diversion, as well as a fundamental change in perspective on how plastic waste is approached. For instance, unrecovered plastics deemed as "disposable" are in fact an untapped resource of great economic significance—the national value of which was estimated to be \$7.8 billion CAD in 2016. Along with revamping and upscaling current recycling methods, such as mechanical, thermal, and chemical processing, a variety of recent methods are discussed herein. Of particular note is the carbonization of plastic materials through laser ablation, atmospheric and laser pyrolysis, and chemical vapour deposition to develop nanomaterials. Furthermore, plastics are increasingly sourced from bioproducts and designed to be biodegradable or incorporated into alternative building materials post-product. The advancement of these methods and strategies would have immense economic value and help alleviate the ecological consequences of plastic pollution.

Analysis of Natural Surfactants From Sapindus Saponaria

Ian Sheridan,* Paul Brown

Surfactants are compounds which reduce the surface tension between a liquid and another substance of any phase; they have widespread application including usage as soaps, detergents, emulsifiers, and wetting agents. Extracts from *Sapindus saponaria* contain a range of natural surfactants, which may also possess unique bioactive properties. Various studies show evidence of fungicidal, molluscicidal, anti-microbial, and tumour suppressive effects thought to be associated with the natural surfactants in these extracts. We have developed a method of extraction, isolation, and purification of these natural surfactants which has widespread implementation potential for both a laboratory and industrial setting. Furthermore, we have characterized and identified several individual surfactants from the mixture of surfactants present within *S. saponaria*.

Zoom Room 1

Measuring Health Status in Long-Term Care Residents: Adapting the Veterans RAND 12 Item Health Survey (VR-12®)

Rozanne Wilson,* Lena Cuthbertson, Lewis Kazis, and Richard Sawatzky.

Purpose: To examine the qualitative content validity of the Veterans RAND 12 Item Health Survey (VR-12) among adults living in long-term residential care (LTRC) and develop an adapted version of the generic patient-reported outcome measure for this population. Methods: A total of 18 residents participated in cognitive interviews to examine the content validity of the VR-12. The cognitive interviews examined comprehension, acceptability, and relevance of the VR-12 items. Results: Two VR-12 items had limited acceptability in the LTRC setting, the reference to “work” in items was irrelevant to residents, and the lack of a frame of reference (“During the past week ...”) impacted comprehension of several items. Conclusions: Study findings informed the development of an adapted version of the VR-12 for older adults living in Canadian LTRC homes and provided content validity evidence regarding its relevance and appropriateness for this population.

Zoom Room 2

Physics and Metaphysics: On the Vocation of the Human Person

Marcus Wang

The classical Western and Chinese philosophical traditions represented by Aristotle, St. Thomas Aquinas, Laozi, Zhuangzi, Confucius, etc., in general viewed the human person as a being created for wisdom (哲), where wisdom is understood as a knowledge and contemplation of the Divine First Principle of all things, who is the final fulfillment and Beatitude of the human person in his/her vocation to search for intelligible meaning, desirable good, splendid beauty and their transcendent origin in and beyond the order of being. However, the above classical view is greatly challenged by early-modern mechanistic-philosophy that often leads to microphysicalism, which asserts that all corporeal existence is ultimately reducible to their micro-level parts; as such, there is little room for affirming the genuine existence of macroscopic entities such as human beings and their vocation towards wisdom. Therefore, this paper argues that mechanistic-microphysicalism is not the only way to understand reality: an Aristotelian-Thomistic philosophy of nature and metaphysics can be a fruitful alternative and is in fact what modern science implicitly presupposes. Furthermore, the revolution of quantum physics provides evidence against microphysicalism that supports the irreducibility of macroscopic entities to its micro-parts, which calls for a return of an Aristotelian-Thomistic conception of reality.

2:15-2:35 pm

PRESENTATIONS

Zoom Room 1

Recognizing Human Rights in the Everyday: Multidisciplinary Research on Albinism & Human Rights in Tanzania, South Africa, & Ghana

Emma Strobell* and Meghann Buyco,* Sheryl Reimer-Kirkham & Barbara Astle

Ethnography invites us to confront the idealized or academic understandings of human rights we may hold as researchers. The experience of persons with albinism in parts of Africa challenges such conceptualizations. Albinism, as a recessive genetic condition results in a lack of melanin causing a high risk for skin cancer as well as low vision, has gained international attention after reports of violent attacks against persons with albinism, associated with the abuse of witchcraft-related beliefs. With an invitation by the UN Independent Expert on the enjoyment of human rights by persons with albinism, Ikponwosa Ero, a program of research led by Drs. Sheryl Reimer-Kirkham and Barbara Astle, exploring the intersections of albinism, mothering, health and human rights in Tanzania, South Africa, and Ghana is in its second year. In this presentation, we describe our journey as graduate students moving from an idealized understanding of human rights to a practical, lived experience through our work on this project. Buyco will speak to the experience of applying a human rights lens to a review of current research and grey literature, and Strobell will present her experience of ethnographic data collection in Tanzania.

Zoom Room 2 [two talks]

Becoming Human: A Kierkegaardian Approach to the Imago Dei

Dryden Demchuk

Recent developments in Old Testament scholarship have promoted an understanding of Imago Dei that is rooted in functional and vocational anthropology. The implication of the Imago Dei, when understood within its ancient near-eastern context, places a responsibility on the human being to be a representation of the divine. This representation is comparable to the role of an idol in many ancient near-eastern theologies. My presentation will compare this understanding of Imago Dei with Søren Kierkegaard's philosophical category of "repetition". As a contrast to the ancient Greek notion of "recollection" which orients the human being towards that which is already lost or in the past, Kierkegaardian repetition existentially situates the individual toward the future; toward a becoming where the divine or the eternal becomes actual as opposed to a loss. It will be shown that Kierkegaard's category of repetition serves as a useful illustration to understand the anthropological and existential ramifications of Imago Dei when it is understood within its ancient near-eastern context.

Understanding the Drug Addiction Problem of Vancouver with the Four Pillar Approach

Sophia Barbara Oliver

The city of Vancouver in British Columbia has a longstanding drug use plague. In the year 1997, the city experienced a sudden surge in HIV infection spread and it has been recorded as the worst in the advanced world till date. The community and public health have been a vulnerable target for such social evils. Many proposals to tackle this illegal drug problem by curbing its users have resulted in reduced evidence of benefit or unstable cooperation between the affected population and officials. The intake of such drugs as crack, cocaine, methamphetamine, oxycodone, rohypnol, illicit fentanyl, GHB and ketamine hydrochloride to name a few have adverse effects such as fatal overdose, infectious diseases, social and economic dysfunction, and criminal activity. The latest records state that 60% of people who are into drug addiction are among the age group of 15 to 24 years. Hence the need to raise awareness of the above issue is dire so that we claim the future of this city towards a prosperous and kind society. This presentation is to present the effective implementation of a proposed strategy called the four-pillar strategy by MacPherson D towards this social evil to break down the many effects of drug abuse in the city of Vancouver to start with. The various finding and suggestions on research could set this strategy in motion as it has lost its momentum in the past few years though it was implemented. Hence the goal towards the need for treatment for the effected and enforcement towards criminal behaviour.

Zoom Room 3 [four talks]

Pathogen Resistance and Osmoregulation: The Function of the Protein UNC-53 in the Excretory Cell of Caenorhabditis Elegans

Mikayla Bakker

UNC-53 is a protein expressed in the model organism *Caenorhabditis elegans*. Its expression in the excretory cell is required for survival against the bacteria *Pseudomonas aeruginosa*. Given the excretory cell's role in osmotic regulation, to understand if UNC-53 mediates osmotic tolerance in the excretory cell against *P. aeruginosa*, we first exposed UNC-53 deficient *C. elegans* to pathogen, then assessed osmotic stress tolerance with touch assays. Our data shows no difference in unc-53 mutant versus wild-type animal recovery after exposure to osmotic stress. This suggests that UNC-53 does not aid osmotic stress tolerance during innate immune responses.

Seedling (Reynoutria X Bohemica) Establishment Post Deposition From Various Aquatic Disturbances and Growth Stages

Maria Goncharova

Bohemian knotweed is one of the world's worst invasive weeds and is frequently observed near riverbanks which suggests that knotweed can disperse through water. This study aims to further research the success of knotweed establishment post-deposition into soil after being subjected to various aquatic disturbances induced by rockers. Seeds were grown in no, low, and high water disturbances until various growth stages (germinating, exhibiting cotyledons and exhibiting first leaves) and then, planted into soil. Then, growth rates and survival were analyzed by ANOVA. This research will help to analyze if there is a maximum growth stage after which knotweed cannot properly establish in soil and if the prior growth in water under disturbances influences post-deposition establishment and growth.

Determining Shade Responses of Bohemian Knotweed (Reynoutria xBohemica) Seedlings

Virginia Oeggerli

Restoring disturbed environments requires an understating of the mechanisms of invasive plants and how they respond to environmental stressors. The mode of distribution along with germination and growth are essential information when determining management strategies. It is unknown if the seedlings of Bohemian knotweed (*Reynoutria xbohemica*) can survive and grow under their parent canopy. The effect of shade on the survival and growth of seedlings was determined through measuring plant architecture. Shade responses of Bohemian knotweed seedlings were measured under four varying light intensities. Seedlings within the shaded condition exhibited the greatest vertical growth. Only the seedlings with exposure to full light had substantial leaf growth whereas the seedlings grown under shaded conditions and darkness showed limited leaf growth. Shade clearly has a substantial impact on plant architecture of Bohemian knotweed seedlings suggesting that the shade cast by the parent patch may affect growth and mortality, but seedlings can generally continue to grow through altering their architecture. This indicates that seedlings are somewhat resilient to adverse conditions such as growing under heavy shade cast by their parent canopy. Thus, sexual reproduction can occur within a Bohemian knotweed patch, increasing genetic diversity resulting in increasingly resilient patches.

Examining the Effect of Threat-Related Face Traits on Social Behaviours and Perceptions in Deaf and Hearing Adults

Alayna Witzel,* Valentina Proietti

Previous studies have shown that people who are Deaf and hard of hearing (HOH), approximately 466 million people worldwide, have deficits in communication and social-emotional skills. Studies have also shown that Deaf individuals differ from hearing individuals in their ability to process faces and emotional expressions. No studies to date have looked at whether Deaf individuals differ from hearing individuals in their ability to perceive other's traits as presented in the face (e.g., level of threat), a skill that deeply affects our social interactions. This study addresses this gap in the literature by comparing a sample of hearing individuals and a sample of Deaf individuals in their ability to perceive and use facial information about others' traits (e.g., level of threat).

2:35-3:00 pm

3:00-3:15 pm

3:15-3:25 pm

PANEL Q&A
BREAK
PRESENTATIONS

Zoom Room 1

Emotional Intelligence and Perspectives on Mental Health: Comfort and Compassion Towards Persons with Mental Illness

Renée Lehman

I will be presenting on my undergraduate thesis study, which sought to evaluate a person's emotional intelligence (EI) and the variables that contribute to perspectives of comfort and compassion towards individuals with a mental illness (MI). Patterns in demographics, personal or family history of mental illness and overall level of compassion of participants were explored. Participants responded to a series of mental illness case studies (MIS) to determine their feelings of compassion and levels of comfort in various situations. Emotional intelligence (measured with the TEI-Que-SF) and overall compassion (measured with the Compassionate Love for Humanity Scale) were also measured. A positive correlation was found between overall compassion scores and each MIS outcome. TEIQue-SF subscales well-being, self-control, emotionality and overall compassion, were significant in predicting compassion and comfort towards persons with MI. Participants with a personal history with MI scored lower in total EI than people without a personal history with MI, and well-being and self-control were related to people's personal history with MI. Having a personal history of MI did not show a positive correlation to levels of comfort or overall compassion towards MIS characters but was correlated with compassion towards MIS characters. EI (via TEIQue-SF) was not always associated with high compassion (via MIS).

Zoom Room 2 [two talks]

Assessments of Cardiac Output During Incremental Exercise in Healthy Adults.

Jennifer Yasinski

Cardiac output (CO) is the product of heart rate and stroke volume. Non-invasive methods of measuring CO have been developed for use in research and clinical practice. However, while non-invasive assessment tools have been validated for use at rest, their validity for use during exercise has not been determined. The purpose of this project is to evaluate the feasibility of a non-invasive hemodynamic monitoring instrument for the assessment of CO during exercise relative to the gold standard. Currently, the accepted gold standard for measuring CO during exercise is the inert gas rebreath technique. Our study utilizes the Innocor R8 rebreath and Finapres Nova measuring CO simultaneously during an incremental exercise test on a semi-supine cycle ergometer to volitional fatigue. Gas is administered at intervals consistent with the incremental levels of exercise intensity. Following the collection of results an analysis of variance (ANOVA) with repeated measures will compare each device from rest, and each stage of exercise, with post-hoc test tests for the repeated factor (SPSS 24). To our knowledge, this study is the first to assess the Finapres Nova during exercise, and will have relevance for researchers and clinicians who are using exercise to identify, monitor and treat cardiovascular disease.

Intrinsic and Extrinsic Motivations for Using Complementary and Alternative Medicine

Jillian Sherwood

What are the motivating factors associated with use of complementary and alternative medicine, such as acupuncture or essential oils? And, why are some people more, or less committed to using these approaches? Our research explores internal (e.g. taking personal control) and external (e.g., a friend's recommendation) motivations for using complementary and alternative medicine and how these patterns of motivation are affected by personal characteristics, such as five factor personality and health anxiety. Additionally, it asks whether an individual's level of personal commitment to complementary alternative medicine is associated with being more internally or externally motivated. This presentation will discuss theoretical underpinnings, study hypotheses, and preliminary data analysis. As well (your turn to shine), audience feedback regarding internal and external motivations for using complementary and alternative medicine will be requested.

Zoom Room 3 [two talks]

Laban Effort Analysis Via Conducting Gestures Using Neural Networks

Faith Tan

Gesture recognition via neural networks has been widely researched. In such a saturated field of research, novel methods for gesture recognition have begun to be tested. One such new method is applying the Laban Movement Analysis to gesture recognition techniques. The Laban Movement Analysis is a system that can describe human motion well, making it a viable candidate as a gesture recognition tool. This research uses neural networks to see how well computationally, machine-learning algorithms are able to understand four of the Laban qualities: weight, space, time, and flow/energy. These four qualities combine to form the eight basic Laban Effort Actions, which are interpreted via 2, 3, and 4 beat conducting gestures. With the findings in this research, conducting gestures may be better described and understood through the Laban Effort qualities. Having the Laban Movement Analysis as a vocabulary to describe conducting gestures provides a way for conductors and conducting students alike to have a richer understanding of the nuances in conducting gestures that can so greatly affect the music of an orchestra. Being able to computationally recognize these also provides a way for better conducting gesture recognition in the future.

Commutativity: The Notion of Symmetric Structure

Kanto Irimoto,* Herbert H. Tsang and Gideon Woo

We all know that 2 plus 3 is the same as 3 plus 2, and that 4 times 5 is the same as 5 times 4 (commutative). However, 3 minus 2 is NOT the same as 2 minus 3 (non-commutative). As we can see in this example, not all mathematical operations are always commutative. In mathematics, this type of symmetry is an important property that can be used to classify mathematical structures. In this talk, I will present the notion of commutativity in the context of group theory and explain how this notion is related to other subjects such as geometry and probability.

Zoom Room 1

Associations Between Relational Aspects of Care and Self- Reported Health Status of Residents Living in Long Term Residential Care Homes

Mary DeLong

Background: Person-centred care is an approach to care delivery in long term residential care that acknowledges the person behind the patient and is believed to enhance the quality of life of residents. Relational aspects of care involve authenticity, human connection, dignity and respect, knowledge of the resident and a desire to allow patient preferences to guide choices. This study examined associations between relational aspects of care and residents' self-reported mental and physical health status.

Methods: A secondary analysis of data ($N = 2108$) from the British Columbia Residential Care was completed. Hierarchical multivariable linear regression was used to evaluate the extent to which relational aspects of care explain variation in self-reported physical and mental health, relative to other aspects of care experience.

Results: Relational aspects of care explained 16.0% and 20.0% of the variance in self-reported physical and mental health, respectively. Of the total amount of explained variance, 34.5% of physical health and 48.3% of mental health could be attributed to relational aspects of care.

Conclusion: Relational aspects of care are important to both physical and mental health outcomes of residents.

Zoom Room 2 [two talks]

Predicting Daily Mood: Personality and Daily Activities

Benjamin Budlong,* Kelly Arbeau

Have you ever been told you “woke up on the wrong side of the bed”? The factors influencing daily mood have been well studied. However, little research has examined how personality may interact with daily factors to influence daily mood. The present study aimed to address this gap in the literature. A sample of 168 university students were assessed on Big Five personality, sensation seeking, and depression. They then recorded their mood (positive and negative), sleep quality, exercise, task accomplishment, and alcohol consumption for 14 days. Higher baseline sensation seeking, daily sleep quality, task completion, and exercise predicted higher daily positive mood. One interaction was observed: high extraversion individuals gained more mood-boosting benefits from exercise. In contrast, lower trait agreeableness and higher baseline depression, higher daily sensation seeking, lower sleep quality, and lower exercise all predicted high daily negative mood. Another interaction was observed: consistent with the positive mood model, more highly agreeable individuals were less likely to experience negative affect on days in which they exercised. This study provides further evidence for the mood-enhancing effects of exercise and sleep quality, as well as insights into the ways in which personality may alternatively boost or attenuate those effects.

Assessing the Impact of an Inquiry-Based Chemistry Course on Non-Majors and Pre-Service Teachers

Christy Peters

This research assessed 60 students' attitudes and beliefs about Chemistry before and after a novel chemistry class. The course focused on implementing inquiry-based learning in applicable chemistry topics from the BC K-8 science curriculum through hands-on, affordable classroom activities designed to enhance pre-service teachers' confidence in teaching science through interactive experiments. Using a 5-point Likert survey to measure the impact the class had on students, the project found students' overall confidence in chemistry increased from a 2.7 to a 3.3. Most statements showed similar increases in positive attitudes towards chemistry.

Zoom Room 3 [two talks]

A Repressed Nature? Ecological Power Matrices and the Agents Who Produce Them

Evan Kieran Wear

This essay attempts to imagine new horizons for ecological discourse. By means of Jane Bennett's *Vibrant Matter*, it moves to demonstrate that a human-nonhuman separation sits at the origin of environmental degradation, and nowhere near its solutions. Having realized with Bennett that a clear human-nonhuman delineation does not function, the

essay examines the power relations between and within ecologies through a Foucauldian lens to demonstrate that human and nonhuman power relations exist as productive matrices, not a simple, one-sided repression of nonhuman by human. Ultimately, with an arboreal textual application sourced in mycorrhizal root networks and Simard's work on this subject, we find that environmental relations are free-flowing, power-laden matrices—in which non-human and human entities are full (and not entirely distinct) participants, caught in constellations of desire, movement, and perhaps agency.

How Has Western Society Affected the West African Economy By the Exploitation of Natural Resources and Agriculture?

Desmond Kelvin A Taylor

I will be talking about how colonialism and western ideologies affected the social, economic and geographic structure of west African societies, political and economic systems. Having an effect on how agricultural products and natural resources are produced and disrupted. How economically dependent these counties are on agriculture and natural resources goods in competition with western economies. The market and capital in agriculture and natural resources, the social impact of agriculture and exporting natural resource goods and what is to be done.

3:35-3:55 pm

PRESENTATIONS

Zoom Room 1 [two talks]

Life Satisfaction as an Outcome to Care Strategies: Is There Such a Thing?

Gwendolyn Williams

Older adults are increasing in numbers worldwide. Life satisfaction, a component of subjective wellbeing, is believed to be indicative of successful aging and longevity in older adults. The aim of this investigation was to explore socio-demographic, social support and health-related factors that possibly explain life satisfaction among community dwelling older adults in Alberta, Canada. An ordinal logistic regression was conducted on pooled data using multiple imputation on data collected by the Canadian Community Health Survey 2015-2016 (N = 2678). Older men had higher life satisfaction than older women. The factors importantly explaining life satisfaction were perceived general and mental health, perceived life stress, having strong emotional bond to at least one person, having a strong sense of belonging to a local community, being physically active, higher educational level and being male. Emerging as predictors are good general health, lower levels of stress, a strong sense of belonging to a local community, increased physical activity, having up to secondary school education, and being male. This indicates that emphasizing healthy lifestyle practices earlier in life and keeping older adults active and engaged could possibly increase and ensure satisfaction with life as people age. The findings also suggest that many of the factors predicting life satisfaction are modifiable. In designing, implementing, and evaluating care strategies, clinicians should consider and utilize this construct.

Exploring Societal Reconciliation in Canada

Nicole Kruger

This research project responds to the calls for action from the Truth and Reconciliation Commission in Canada (TRC). The investigation of a previously undiscovered part of the underlying process of how non-Indigenous emerging adults make sense of reconciliation with Indigenous Peoples of Canada. Reconciliation must take place at the individual, community, institution, and societal level. However, many Canadians do not know what reconciliation between Indigenous and Non-Indigenous Peoples means to them. Using a grounded theory method this study plans to explore the underlying phenomenon of what the human experience is for non-indigenous emerging adult university students. Further, I propose to explore their ability to conceptualize what reconciliation means to them personally as they are invited to participate in a dialogue regarding reconciliation with Indigenous Peoples.

Zoom Rooms 2 and 3

Panel Q&A

3:55-4:15 pm

PANEL Q&A