

Excellence *in* Graduate Research Symposium

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Thank you to all our partners, participants, & supporters
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*Abstracts are listed alphabetically.
Please find within all the abstracts for the **POSTER** sessions.
Presentation session abstracts may be found in the separate
corresponding booklet.*

*A detailed timetable of presentators, topics, and timeslots will be
available separately.*

*The GSS respectfully acknowledges and thanks the many generations of stewards
of the unceded land on which we are situated that gives us life, and the air
we breathe, from the Ləkʷəŋən-speaking peoples, the Songhees, Xʷsepsəm/
Esquimalt, and ƳSÁNEĆ nations. We commit ourselves to truth, reconciliation
and decolonization.*

Moyinoluwa Amos

Curriculum and Instruction

Teacher Recruitment and Certification Pathways for Internationally Educated Teachers in British Columbia. A Document Analysis of Policy Reforms, 2022 - 2026

Teacher shortages in British Columbia (BC) are accompanied by a rising number of uncertified individuals working in K-12 classrooms and long-term reliance on Letter of Permission holders. Despite this, Internationally Educated Teachers (IETs) continue to face barriers when applying for certification. IETs describe a difficult, time-consuming, and costly certification process that can ultimately lead them to abandon plans to teach in BC or pursue another profession. Published research documents these difficulties but mostly predates the reforms implemented since 2022. This presentation reviews changes to IET certification pathways in BC from 2022 to 2026 and whether reforms addressed documented barriers. It draws on three provincial documents: the MECC's 2024 Internationally Educated Teachers Engagement Summary Report, the Minister of Education and Child Care's 2025 letter urging the BCTC to remove certification barriers, and the BCTC's 2026 Teachers Act Section 17 Special Report, as well as research on IET recertification to trace reforms and compare reported barriers with reform measures. The review reveals a gap between certification eligibility and employment. Following recent revisions, average eligibility outcomes for international applicants increased from about 60% in 2020–2021 to 79% in 2022–2025. Yet only about half of newly certified IETs are working in BC schools two years after certification. Certification costs also decreased to \$245 from \$395 in 2023, and the BCTC updated its website to clarify the certification process. The reforms appear not to have addressed other reported barriers, including long processing times and costly coursework. This presentation concludes by outlining next steps in the research: thematically code more policy documents and interview IETs about their certification and employment experiences. By assessing how reforms address IETs' reported needs, this study aims to inform certification policy and hiring practices, enabling more qualified internationally trained teachers to work in BC K-12 classrooms.

Lauren Burton

Environmental Studies

Indigenous Methodologies in Practice: A Global Review of Environmental Research

Amid increasing calls to incorporate Indigenous ways of knowing in environmental research and practice, more researchers are interested in engaging with Indigenous methodologies and methods. However much of the foundational literature written by Indigenous scholars on this topic is theoretical and emerges from other fields, and researchers hoping to incorporate Indigenous approaches into their own work are often unsure how to proceed. We reviewed 133 articles where authors self-identify as using IRM to explore how Indigenous methodologies and methods are discussed and/or applied in global environmental research. We used a decolonial/relational literature review approach to uplift the work of Indigenous scholars and their non-Indigenous collaborators and show what this research looks like in practice. Our review summarizes the ways authors engaged with and defined Indigenous methodologies, principles they identified, and their rationale for using IRM in their work. We provide examples of how IRMs are applied through analysis of methods used and discuss specific ethics and protocols for engagement with communities. We also highlight positive outcomes of research using Indigenous methodologies/methods, including specific innovative approaches and benefits to the communities involved.

Phoenix Charlie

History

Hul'qumi'num Tattooing Re-Indigenization: Upholding Snuw'yulh (laws/teachings) and 'A'lhut Tute et Sulhween (honouring and respecting the ancestors)

Eurocentric historians armored themselves to hide a darker side of how history took place in North America and worked toward undermining First Nations sovereignty and thus eroded our right to govern ourselves as our ancestors intended. The central claim here is that First Nations cultural knowledge, especially tattooing revival and Coast Salish artistic line formation (unique artistic characteristics for Pacific Northwest Coast Indigenous groups), continues to guide autonomy, agency, futurist frameworks, and intergenerational knowledge transmission, even as colonialism has disrupted these streams of conscious transmission. There must be no end point for First Nations histories; we are born, and eventually we pass away, but what knowledge is passed on to the next seven generations of Indigenous youth is what lives on in a circular fashion. This is why it is important to support Indigenous tattooing revival movements that are on the horizon. From here, with my research efforts, I am working toward understanding how Coast Salish artistic line formation might “speak” to local First Nations artists and how tattooing practices “speak” to others in our communities and beyond.

Keywords: First Nations, tattooing, bodily agency/autonomy, identity disruption, cultural disruption

Kuan Ju Chu

Excercise Science, Physical & Health Education

Whose Knowledge Counts? Sport Science and Coaching Practice

Sports science produce amount of evidence intended to improve coaching and athletic performance. However, research findings do not always translate effectively into coaching or training practice. Coaches makes decisions in complex and rapid changing environments where time, resources, athlete needs, professional experience, organization expectations could influence whether scientific evidence is useful. This study examines the gap between sport science research and coaching practice, especially in how coaches value and interpret the resource before applying into practice.

This study use critical perspective to examine the factors that may to research-to-practice gap, including strucure of coach education, limitations of research, different terminology between researchers and practiioners, and assumptions about what counts as credible knowledge. If research is intended to support practiioners, then the practitioners should also have a voice in defining what meaningful research looks like rather than treating coach as a recipients.

This study uses a survey incorporating both open- and closed-endedquestions to explore coaches' experiences with accessing, interpreting, and applying sport science research. This survey was pilot tested with individuals from diverse sport and physical education background. Their feedback was used to revise questions that were unclear or could be interpreted inconsistently.

The end goal of this study aims to identify the barriers that prevent useful scientific knowledge from being translated into pratical coaching decisions. By examining both research and coaching reality, this project seeks to encourage more accessible communication and styronger collaboration between researchers and coaches, helping sport science become more relevant and usable in real-world coaching environments.

Tegan M. Clarke

Applied Linguistics (School of Languages, Linguistics & Cultures)

Instructional Strategies for Meeting Diverse Needs: Approaches and Classroom Challenges in Advanced Russian-as-an-Additional-Language Contexts

In Canadian universities, Russian language courses are primarily offered through mixed classes, in which heritage and non-heritage language learners are enrolled alongside one another. Debate surrounding this mixed class format continues, as these learner groups often possess different language abilities, learning needs, and instructional expectations. However, despite the prevalence of mixed classes, little is currently known about the instructional practices employed and challenges encountered in advanced-level mixed Russian language courses in Canadian universities. Examining how these learning environments function and how they are perceived by both instructors and learners is important for advancing our understanding of the context and promoting opportunities for mutual growth and skill development. To explore this area, data were collected through an online survey (n = 26) and semi-structured follow-up interviews (n = 13). Findings revealed that instructors rely on diverse instructional approaches, careful lesson design and implementation, the use of differentiated tasks and assessments, as well as strategic grouping practices to effectively manage their mixed classes. Instructors' and learners' perceptions largely aligned, suggesting that instructors do indeed tailor their practices to learners' needs and that learners are not only aware of this, but understand and support the rationale behind these pedagogical actions. Participants also identified several benefits of mixed classes, particularly in facilitating knowledge sharing and enabling learners' perceived complementary skills to benefit one another. Nevertheless, instructors reported balancing diverse learner needs and managing workload as persistent challenges. Learners likewise described ways in which differences in skill levels and classroom dynamics, while often beneficial, could hinder learning. The study concludes with strategies and recommendations for addressing these challenges.

Coco Cunningham

Political Science

The Notion of ‘Perfect Victims’ in Guerrilla Conflict: Examining Rationale for US-Inflicted Rape onto Vietnamese Women and Girls

Acts of rape and sexual violence during the Vietnam War remain an understudied and overlooked reality in many realms of academia and the American psyche. Many American soldiers had cited their reasonings for committing violence as a counter and response to the VietCong. These acts not only had immediate and prolonged impacts on Vietnamese women and girls, but also stood as indicative of the longstanding pattern of American troops committing sexual violence in the Asia-Pacific region, under the guise of fighting an illusive guerrilla enemy. With the support of the Social Science Humanities Research Council, my current MA dissertation aims to further examine these acts of sexual violence during the Indochina and Vietnam War. My dissertation is guided by two overarching questions that can be applied in broad and specific contexts. Does a western, militarized perception of the monolithic guerrilla entity justify or encourage sexual violence in wars in the Asia-Pacific? Do certain constructions of female Vietnamese victimhood challenge or uphold dominant understandings of acts of US-inflicted sexual violence during the Vietnam War? Through qualitative research methodologies such as feminist historiography and critical discourse analysis, I intend to answer these questions, among others that develop, in order to bring visibility to these acts, the patterns associated with them, and provide some form of awareness for crimes against women in Vietnam. Additionally, this MA research lays the groundwork for my PhD research, where I intend to travel to Vietnam to interview Vietnamese survivors and American veterans in order to understand when a soldier becomes a perpetrator of acts of sexual violence.

Moira Dann

History

Love and Sex in mid-19th century Canada: Who Were the 'Mothers' of Confederation?

Love and Sex in mid-19th century Canada: Who were the Mothers of Confederation? This presentation offers a distaff view of Canada's creation using diaries, journals, letters and old-time reportage to dish about Canada's beginnings from the other side of the gender gap and show that even though women couldn't vote, they still profoundly influenced Canada's birth.

Proving that Canadian history is not boring, this talk with slides looks at the influence the wives, mothers, daughters, sisters and a sister-in-law of the Fathers in Confederation had on the events where our nation took shape. The influence is extrapolated to daughters, two of whom were among the first women to graduate from University of Toronto in 1884.

It looks at the Confederation-as-marriage metaphor often used then and since, and 19th century theories about the different spheres of influence women and men inhabited and where they overlap.

It shows women of today that while women weren't at the conference table in 1864, we WERE at the dinner table, and that's where most of the deal-making actually happened.

Joti Dhillon

Health Information Science

Human Systems Engineering and Informatics for Healthcare

Systems thinking is an important aspect of engineering design to design complex systems to solve problems in the healthcare space. Information science focuses on information creation and sharing to support better decision-making, enhance knowledge discovery, and enable overall productivity to identify ways to improve existing healthcare systems. The first step to building or enhancing a health system is to structure information and link information into workflows to reveal a relational perspective in the data points. Diagramming has often been used to provide a diverse view of interconnected system elements to analyze and mitigate problems in a healthcare setting by the usage of cognitive informatics. Cognitive informatics focuses on how the human brain works to process information to build better systems. Behavioural interactions with systems information and human-centric interactions in workshops or interviews are a key part of designing and implementing new health systems. There have been many applications in the real world to enhance medication management, medical device purchasing, and patient diagnosis to effectively design functional healthcare systems with a long-term view by diagramming through communication diagrams, flowcharts, and state-transition diagrams to understand systems, analyze risk, and design or redesign systems in three different contexts. Diagramming also helps healthcare workers by creating a holistic view for risk mitigation to effectively design functional healthcare systems with a long-term view. Communication diagrams focus on the end user patient to provide a clear understanding of how medications are provided to the patient from the pharmaceutical manufacturer, flowcharts allow stakeholders to capture their own processes, and state-transition diagrams provide information on behaviour change over time in systems by taking a patient perspective to analyze processes in a concise manner. A systems view helps identify where risks are to mitigate problems in a healthcare setting.

Olivia Druxerman

English

The Perfect Boyfriend, the Problematic Sport: College Hockey Romance and Sexual Violence

The popularity of hockey romance, a subgenre of romance fiction centred on hockey players, has grown in contemporary pop culture. Recent TV shows popularizing this genre include Crave's global phenomenon *Heated Rivalry* and Prime Video's college-set *Off Campus*. Both stories are based on romance novels and are bringing attention to the vast body of hockey romance fiction written by women. However, these stories are also coming out alongside ongoing discourse surrounding sexual violence in hockey, especially following the 2025 Hockey Canada sexual assault trial. The contradiction between hockey romances' idealized romantic relationships and the sport's documented history of sexual violence raises questions about how fiction represents these competing narratives. How does hockey romance transform the culture of the sport into romantic fantasy, and what role does sexual violence play in this process? My research seeks to examine portrayals of collegiate hockey players as a romantic hero in contemporary romance fiction against discourse on university rape culture and sexual violence in hockey. I also consider romance novels that intersect hockey with the subgenre dark romance to examine how narratives that foreground harmful or coercive relationship dynamics conflate sexual violence into romantic material. I approach this research through interdisciplinary research, including investigative journalism, criminal justice studies, and Canadian cultural studies. Ultimately, my research investigates how popular romance fiction negotiates the tension between the idealization of hockey players and the toxicity of the sport's culture.

Annabel Flint

Chemistry

Forever chemicals make “leaky” membranes; Effects of PFOA using DIBs

Forever chemicals like PFAS or Per/Polyfloroalkyl substances are very prevalent in our environment, and are known to cause detrimental health consequences in many organisms. However, their mechanisms of toxicity on the molecular level are not as well understood. Molecular dynamics simulations have theorised that these molecules can insert themselves into the lipid bilayer of the cell membrane, which causes disruptions in the bilayer that harm the cell. Developing a better understanding of these mechanisms is an important first step towards creating solutions that target the specific mechanisms of toxicity. An area lacking in this research is how PFAS molecules affect organisms like wheat. Understanding how critical agriculture plants are affected by PFAS is critical due to these molecule's level of prevalence in the environment; plants are frequently exposed to them. I have developed a model of a wheat root cell membrane using droplet interface bilayers to study the effects of PFAS molecules on cell membrane permeability. Calculating changes in permeability with and without the presence of PFAS in the membrane provides information about how the membrane is affected by possible PFAS insertion. I determined that PFAS presence increased membrane permeability with more PFAS making the membrane more “leaky”. This was seen at some concentrations of PFAS, but at some higher concentrations the membrane permeability actually returned to baseline, indicating that there may be more complex interactions at play. This work takes the first step in answering the questions of how PFAS affects critical organisms, something that is more critical than ever in today's current age.

Keona Gingras

School of Languages, Linguistics and Cultures

L1 Acquisition of Infinitive Embedded Clauses in English: A Diary Study Analysis from Ages 1;6 to 3;6

This diary study investigates whether U-shaped learning, researched extensively in morphology, phonology, and vocabulary in child language acquisition, also applies to complex syntactic structures. In English, infinitive embedded clauses are syntactic (related to sentence structure), compared to languages like French which use morphology to support those structures. The acquisition of infinitive embedded clauses such as “I want to go home” was compiled and analyzed using the corpus data of one child from 1 year, 6 months old (1;6) to 3 years, 6 months old (3;6). Three types of utterances were counted and compared each month of development: unanalyzed (“I wanna go home), incorrectly analyzed (“I will try not to spilling it”), and correctly analyzed (“I want to go to school”). U-shaped learning, where unanalyzed utterances are initially frequent, then incorrectly analyzed utterances arise, then finally correctly analyzed utterances become the most common, was hypothesized.

Once compiled, the data showed that unanalyzed utterances appeared most frequently throughout, increasing by 65 occurrences from the beginning to the end. Incorrectly analyzed utterances began at 0 and increased to 5 by the end, and correctly analyzed utterances increased from 0 to 19. There was no U-shaped learning pattern: the number of utterances of all types increased steadily from 1;6 to 3;6. Nevertheless, the output increased exponentially over time, largely the unanalyzed utterances, while correctly analyzed utterances outpaced the incorrectly analyzed ones. It shows that young learners can be familiarized with complex syntactic structures within months, and when as young as 1;6. Due to there only being one participant, the data collected was incomplete; there were no utterances collected in 6 of the 25 months. Next steps for this research would include collecting more data, perhaps using elicited productions, with more participants and longer periods of observation.

Caleb Gordon

School of Languages, Linguistics, and Cultures

Not quite aspect and not quite plurality: The syntax of verb stem alternation in Tsova-Tush

Tsova-Tush is an endangered language spoken by approximately three hundred adults in the mountainous country of Georgia. Scholars have long known that a subset of Tsova-Tush verbs have two alternating stems. This alternation has traditionally been referred to as ‘aspect’, a term which describes the relationship of an event to time. However, additional research has found that a speaker’s choice of which stem to use is based on the number of events they are discussing, prompting Wichers Schreur (2025) to characterize the alternation as ‘verbal plurality’ (or ‘pluractionality’). Which term is most accurate?

Based on fieldwork and corpus data, I show that this alternation is indeed related to event plurality. Yet this label alone is not sufficient: the plural verb stem can also express a host of previously underdescribed aspectual meanings, including events that occur frequently, that are extended in time, that lack an endpoint, or that involve generic, rather than specific, participants. Moreover, I argue that these intermediate, difficult-to-classify meanings are related to the position of the verb stem in the syntax, which, in Tsova-Tush, is in a higher position than similar markers in languages with prototypical pluractionality. This proposal makes sense of differences in scope, a semantic test used in linguistics, between Tsova-Tush and other languages, as well as the behaviour of the stem alternation in infinitives. The goal of this research is to contribute to the study of endangered languages, which are often understudied yet have the potential to make valuable contributions to linguistic theory. Furthermore, this work connects to broader developments in generative linguistics by supporting the idea, also advanced by Pylkkänen (2008) and Cuervo (2022), that syntactic heads can appear in various positions, with consequences for crosslinguistic variation.

Adrian Granchelli

Curriculum & Instruction

Situating Creative Confidence in the Age of GenAI

Creative confidence is the trust in one's ability to generate creative ideas and act on them. It is a widely studied construct in creativity research, a predictor of creative performance, and a central goal of leading design education programs (e.g., Stanford d.school, IDEO U). GenAI-powered tools have changed how people create as genAI can produce creative products, with minimal input or creative thinking. While this can expand one's capacity to create, it risks cognitive offloading, a sense of authorship, and ultimately lowers creative confidence. Research suggests that how people use genAI shapes these effects, with creative confidence supported when people explore and collaborate before using genAI, and when genAI tools are transparent, learning-oriented, and process-focused (Al-sa'di & Miller, 2026; Habib & Gardiner, 2026; Krajcer et al., 2026).

Creative confidence is malleable, shaped by experiences, and mediated by technological, social, and task-related conditions, including genAI use. The construct builds on Bandura's (1977) self-efficacy, a person's belief in their capability to succeed at a specific task, which develops through mastery experiences. Creative confidence is theorized to have two components: trait-like beliefs in one's creative potential, built through past experiences, and context-specific belief in one's ability to solve a particular problem (Karwowski et al., 2019).

This poster uses a non-linear format and reflects the system in which creative confidence develops. Four entry points explore the construct itself, creativity and design work, genAI-powered tools, and the system in which a creator acts, allowing viewers to choose their own path of engagement. Connections between the entry points highlight relationships and points of comparison.

Viewers will gain an understanding for deciding when and how to introduce genAI so that it supports rather than undermines creative confidence. The work is relevant to researchers preparing presentations, posters, and articles, and to instructors designing courses, assignments, and learning environments.

Rachel Higgins

Geography

A re-evaluation of the Mission Flats late Pleistocene record, Kamloops, British Columbia: stratigraphy, tephrochronology, and geochronology

Linking local stratigraphy to global marine isotope stages (MIS) creates a well-dated terrestrial record that can be integrated into broader paleoclimate syntheses. Current knowledge regarding the Olympia Interglacial period (MIS 3) and the onset of the Fraser Glaciation (MIS 2) in south-central BC relies heavily on stratigraphic frameworks established decades ago. Consequently, the temporal constraints of these units remain poorly resolved. Volcanic ash (tephra) is a powerful geochronological tool that can provide valuable time-parallel regional markers throughout the Quaternary. There is an abundance of tephra throughout the region that has been preserved in the MIS 3 sediments. Previous work has been done with these tephra in south-central BC; however, they were not tied to a source volcano, and their stratigraphic context needs to be re-evaluated with updated techniques. We hypothesize that exposures in the Kamloops region preserve a critical transition from non-glacial (MIS 3) to glacial (MIS 2) sediments, and potentially also the transition from MIS 4 to MIS 3. Our work aims to enhance scientific understanding of Kamloops' Quaternary history. Broader scientific impacts of this work include the paleoenvironmental reconstruction of MIS 3 and better constrained paleo-volcanic activity in the Canadian Cordillera.

Angela Jackson

Molecular Life Sciences

Defining a molecular signature of syphilis infection

Syphilis is a debilitating disease that has resurged globally.(1) Without a vaccine, robust diagnosis is crucial to disease management. However, current syphilis diagnosis relies on century-old serological tests that are limited by poor sensitivity and specificity. Assessment of an active syphilis infection relies heavily on antibodies against a poorly understood lipid antigen.(2) Moreover, lipids are involved in host-pathogen interactions and immune responses to infection. However, their role in syphilis pathogenesis remains unclear.(3,4)

The bacteria that causes syphilis, *Treponema pallidum*, subspecies *pallidum* (Tp), must steal and adapt lipids from the host for survival. Beyond their roles in metabolism, lipids are central to host-pathogen interactions and the immune response to a syphilis infection. However, lipid changes in the infected host remain largely unexplored. My research uses sensitive mass spectrometry imaging (MSI), a technology that creates molecular maps showing how molecules are distributed across tissues. Using an established model of syphilis, I have compared lipid molecular maps between infected and uninfected tissues. These studies have revealed a Tp-associated lipid with a distinctive structure that provides important information on the infection processes. I will build upon these findings and analyze serum samples to see whether infection leaves a detectable lipid pattern that could serve as a diagnostic marker.

By defining infection-induced lipid signatures across tissues and serum, this project will improve understanding of how Tp interacts with its host and will lay the groundwork for improving existing lipid-based diagnostics for better surveillance of syphilis.

PMIDs of referenced articles: (1) 37934903 (2) 38908301 (3) 11200228 (4) 16418521

Barbie Jain

Psychology

From Contact to Connection: Examining the Impact of a Diversity-Based Course on Empathy, Perspective Taking, and Tolerance

Diversity-based coursework in higher education is increasingly important within Canadian universities as students prepare to engage in socially and culturally diverse environments. Empathy, perspective taking, and tolerance are viewed as important outcomes that may support respectful engagement across difference. Little is known about the impact of integrating Indigenous pedagogical approaches and structured intergroup contact on promoting positive attitudinal change among university students.

This study used a pre–post design to examine changes in empathy, perspective taking, and tolerance among undergraduate students enrolled in a Psychology of Diversity course. Repeated-measures ANOVAs were used to assess change over time and moderation by demographic variables. Deductive content analysis was used to analyze students' open-ended responses regarding meaningful aspects of the course and perceived contributors to learning.

Results indicated significant increases in perspective taking from pre- to post-course, while empathy and tolerance remained stable over time. With the exception of a small interaction for Racial/Ethnic Identity in perspective taking, changes were generally consistent across demographic groups. Qualitative findings showed that students most frequently identified diversity-related course content and structured peer interaction as central to their learning. Indigenous perspectives and teachings were thoughtfully referenced. Students also emphasized reflection, dialogue, and exposure to diverse lived experiences as key aspects of their learning experience.

Findings suggest that diversity education supports enhancing perspective taking through a combination of structured intergroup contact, exposure to diversity-related content, and adopting Indigenous pedagogies and Líl'wat principles of learning. Although quantitative changes were modest, qualitative findings indicate that students experienced learning as relational and process based.

Jshandeep Jassal

Child and Youth Care

A Preliminary Survey of South Asian Youth Perspectives on Community Services & Surveillance in Surrey, BC

South Asian youth in Surrey, BC are disproportionately framed as public safety concerns, yet their voices remain absent from program and service design. This community-engaged research, conducted in collaboration with the South Asian Healing Network (SAH), centers the perspectives of South Asian youth (ages 15–29) on wellness, community services, and surveillance. Using a mixed-methods survey (preliminary n=44; target n=500), this study explores youth self-identified wellness needs, experiences accessing services, and encounters with racism and stereotyping. Guided by critical race, anti-racist, and anti-colonial frameworks alongside Healing Centered Engagement, findings reveal that youth demonstrate strong self-awareness of their wellness needs, recognize structural impacts of stigma and racism, and identify diverse protective factors including community, fitness, and mindfulness. This poster presents preliminary qualitative and quantitative results, highlighting youth-identified priorities for culturally relevant, identity-affirming, and future-focused supports. Key recommendations include mandating South Asian youth leadership in program design, restructuring services to build on existing strengths of youth, and shifting from deficit-based to future-focused, healing-centered approaches.

This research is focused on equity, community engagement, youth mental health, and anti-colonial approaches to service delivery, centering marginalized voices in systems change.

Sierra Lilly Lecanu-Fayet

Geography

Community Mapping as a Tool for Ecological Corridor Modelling in Southern Vancouver Island

Wildlife corridors are increasingly recognized as critical conservation strategies to mitigate habitat fragmentation, enable movement and ecological processes across landscapes. Vancouver Island hosts a highly varied landscape and an abundance of large ungulates and carnivores, making it a novel study area in small-scale corridor modelling. Species-specific requirements highlight the importance of tailored corridor design: wide-ranging carnivores such as cougars (*Puma concolor*) and wolves (*Canis lupus*) demand extensive, low-disturbance pathways, while ungulates like deer (*Odocoileus hemionus columbianus*) and Roosevelt elk (*Cervus canadensis roosevelti*) face heightened risks from vehicle collisions and disease in fragmented habitats. Corridor modelling offers a valuable tool for visualizing these dynamics, yet challenges remain due to reliance on expert-derived assumptions and data limitations.

This research emphasizes the integration of diverse knowledge sources, including community mapping and long-term ecological observations, to strengthen model reliability and ecological relevance. By comparing modelling outputs and incorporating multiple perspectives, the study aims to advance corridor design strategies that better reflect species needs and landscape realities, contributing to effective conservation planning in British Columbia.

Linnea Leist

Education Psychology & Leadership Studies

Exploring the Wellness of New Teachers in British Columbia

This poster presentation, Exploring the Wellness of New Teachers in British Columbia, will report on the findings for my Master of Arts Research. Four themes emerged from the data: wellness as dimensions, wellness as balance, wellness as programs, and wellness as change. The third theme, wellness as programs, had an additional three sub-themes: wellness as programs for teacher support, wellness as program awareness for new teachers, and wellness as programs for community. This presentation will also discuss hermeneutical phenomenology and poetic representation and how it was used in the context of this research. Attendees will have the opportunity to see the poems created from the research and will be encouraged to contribute to a live-created found poem using sticky notes regarding any questions or points of discussion regarding my presentation.

Maria Lourdes Balane

Physics and Astronomy

The chemical evolution of galaxies following mergers

One of the ways a galaxy can grow and evolve is by merging with another galaxy. The violent process of galaxy merger disturbs the gas content of the galaxies, which transforms several physical properties of these galaxies. For example, the tidal forces during a merger can drive gas from the outskirts of a galaxy towards its center. The gas in the outer regions tends to have lower metallicity, which refers to the abundance of elements heavier than hydrogen and helium contained in the gas. The inflow of this metal-poor gas dilutes the gas metallicity of galaxy mergers.

Previous observations on the evolution of galaxies undergoing mergers have primarily focused on the pre-merger phase, when two galaxies are still approaching coalescence. In order to get a complete picture of how metallicities evolve in the full merger sequence, a complementary study of the post-merger phase is essential. However, a detailed post-merger analysis has historically been limited by the manual visual classification process involved in creating a sample of post-mergers.

Recently, a machine vision pipeline called Multi Model Merger Identifier (MUMMI) has been developed at the University of Victoria, which now allows for an automated identification of galaxies that have merger signatures. MUMMI not only classifies a galaxy merger with high accuracy, but it also estimates the time elapsed since merger. This time-ordered post-merger sample now enables a fresh look into how galaxy properties evolve after coalescence. By using the MUMMI data, I investigate how metallicity progresses in the post-merger regime, and how mergers impact the long-term chemical evolution of galaxies.

Khalilah Luchs

Sociology

Experience and Imagination: Uncovering the Role of Creativity in Trans+ Experiences of Representation

The role of representational media in trans+ identities and cultures has been widely discussed within trans studies, though little research has been done regarding trans+ identities that have not/are not/can not be represented. This study uses a qualitative research design to investigate diverse trans+ individuals' experiences with and understandings of representation: how it appears, evolves, and (potentially) fails. Reading the responses of nine participants through the lens of Butler's gender performativity, this paper reinterprets representation as an active and interpretive process. The novel dataset described showcases the strengths and limitations of multiple forms of representation, categorized here by level of active participation in their creation: named, interpreted, self-made. The paper being presented argues that all three forms of representation are important for the development of healthy trans+ identities, communities, and wider acceptance. In recognizing the unique situated experiences of diverse trans+ peoples, so-termed 'gaps' in representation are re-interpreted not as a failing of representation, but an aspect endemic to representational forms requiring not merely broader coverage of named representation, but an interpretive mode of viewing. Creativity, as a resource for identity-development, is identified as a key target for future and ongoing critical scholarship and community support.

Megan MacDonald

Geography

Visions for energy futures: Exploring community perspectives amidst industrial decline in the Central Cariboo

Rural communities across Northern British Columbia primarily rely on single-resource economies which increase vulnerability to challenges including climate change, industrial decline, and volatile geopolitics. In the Central Cariboo and Williams Lake (T'Exelc), changing international demand, neoliberal forestry policy, and a lack of fibre supply arising from the mountain pine beetle epidemic and forest fires have resulted in a sharp decline in the forestry industry and the subsequent closure of internationally owned biomass facilities. The decline of a primary industry offers significant challenges for the community, while simultaneously presenting an opportunity for more community-led futures.

Among global calls for a transition to low-carbon systems to address the climate crisis, the energy industry provides unique community opportunities. Though conventional energy systems have relied on extraction and large-scale development in the North, local communities have rarely benefitted from such systems beyond a short-lived resource “boom” era. Renewable and low-carbon energy transitions present an avenue for transformative change in Northern and rural communities; scholarship has consistently demonstrated that community energy (energy by and for local people) may subvert longstanding top-down power relationships that govern traditional, extractive systems.

Research through the Northern Regional Energy Dialogues project (funded by the Accelerating Community Energy Transformations initiative) facilitated conversations across Northern BC to explore the energy landscapes and needs of Northern BC communities. These dialogues have revealed that community conversations about energy futures are obstructed by many factors including polarisation, entrenched cultural attitudes, disinformation, and lack of leadership and access to information. From these initial findings, this research project uses document analysis and semistructured interviews to explore community members' visions for the future of energy and economy in the Central Cariboo to support pathways towards community determined futures.

Eleanor Martin

Curriculum and Instruction

From Mandate to Meaning

Since 2023/24, students pursuing a British Columbia Dogwood Diploma have been required to complete four credits of Indigenous-focused coursework. This marks a commitment to Indigenous-focused education, but a graduation requirement cannot produce curricular change by mandate alone. Research shows that reforms can expand Indigenous content while remaining embedded within Western assumptions and institutional norms. Decolonizing history curricula requires more than adding content; it involves challenging hegemonic narratives, valuing Indigenous ways of knowing and being, and attending to positionality and ethics. In this presentation, I ask: How does British Columbia's Indigenous-focused graduation requirement translate its educational aims into policy design, curricular expectations, implementation, and measures of success? I use qualitative policy and curriculum analysis. A decolonial methodology guides attention to whose knowledge is authorized and to my responsibilities as a settler researcher. The analysis considers four dimensions. First, problem definition: what problems does the policy address—knowledge gaps, reconciliation, relationships, anti-racism, Indigenous ways of knowing, sovereignty, or some combination? Second, policy design: what mechanisms are intended to produce change, which courses count, and how much local influence is permitted? Third, implementation: what responsibilities are assigned to the Ministry, districts, schools, teachers, and Indigenous peoples, and what guidance and resources support implementation? Fourth, evaluation and accountability: what evidence demonstrates that the policy is accomplishing its purpose, and is success understood as credit completion or other educational outcomes? Rather than judging policy success, I examine alignments and tensions between stated intentions and the structures created to enact them, showing how Indigenous-focused educational aims are translated into policy and why curricular reform requires more than adding content.

Anzhelika Mostovshchikova

Counselling Psychology

Pathways to Recovery Following Service-Related Sexual Trauma: Literature Review and Theoretical Foundations for Exploring Helping and Hindering Experiences in the Therapeutic Enactment Course

Service-related sexual trauma (SRST) can have lasting effects on mental health, relationships, identity, trust, and overall well-being. For military members and veterans, these experiences can be particularly complex because the harm may occur within an institution, community, and culture that are also closely connected to a person's career, identity, and sense of belonging.

This literature review explores what is currently known about SRST among female military members and veterans and the pathways that may support recovery. It brings together research on the impacts of SRST, military culture and institutional betrayal, barriers to disclosure and accessing support, and current approaches to trauma treatment. The review also examines group-based and experiential approaches to recovery, with particular attention to Therapeutic Enactment, an approach that uses structured group work to help participants process difficult experiences and move toward healing.

The review identifies an important gap in the existing research. Although there is growing knowledge about SRST and trauma treatment, much less is known about how female-presenting participants experience Therapeutic Enactment Courses (TEC). In particular, we need to better understand what participants experience as helpful, what may hinder their recovery, and what they wish had been available or done differently. Identifying these helping, hindering, and wished-for experiences can provide a deeper and more nuanced understanding of participants' unique experiences of TEC.

Centering the voices of female-presenting survivors is especially important in a historically male-dominated and hypermasculine military context, where the experiences of female-presenting survivors have frequently been overlooked or minimized. Exploring the perspectives of female-presenting survivors may help refine TEC programming, strengthen trauma-informed and gender-responsive practices, and contribute to research on better supporting people in healing from service-related sexual trauma.

Kai Muir

Environmental Studies

“Great shoals in endless quantity”: Mixed methods in historical ecology reveal shifted baselines for Pacific herring

Within the context of fisheries stock assessment, the systematic exclusion of early relevant data can result in overly optimistic estimates of current fish stock abundance. This phenomenon has concerning implications for the management of Pacific herring (*Clupea pallasii*) in the Strait of Georgia (BC, Canada). Traditional ecological knowledge and archaeological evidence indicate that, prior to industrial fisheries, the biomass of this keystone species was greater than the estimated levels of historical biomass derived from the current stock assessment model. The discrepancy between these historical estimates may be attributable to a shifted baseline resulting from declines in herring abundance and distribution during the ~65 years of industrial fishing that predate the time-series data used in stock assessment. To evaluate the viability of this hypothesis, I have completed a meta-analysis of diverse historical source documents which provide insight into early (ca. 1880 - 1950) changes in the geographical distribution, abundance, and population structure of Strait of Georgia herring stocks. This work - which draws primarily from biological surveys, catch statistics, and news periodicals - demonstrates a local use case for mixed-methods approaches in historical ecology and emphasizes the importance of long-term historical data in describing the cumulative effects of an industrial fishery.

Courtney Neidig

Curriculum and Instruction - Art Education

‘S’ is for Scéalta: Exploring the Power of Community-Based Narratives and Storytelling for Creating Holistic, Creative, and Meaningful Early Childhood Curricula

Despite efforts of Early Childhood Education (ECE) in British Columbia to cultivate equitable, holistic, and decolonial curricula, significant progress remains necessary as ECE in Canada is structured as a social-service influenced by neoliberal principles that uphold dominant European ideologies, educational philosophies, and practices such as decontextualized learning and relegating the arts, particularly stories, to ancillary roles and superficial activities. Further, as a global collective, we face increasing precarious economic and ecological uncertainties that exert strain on educational spaces including financial limitations, anxieties, and performance-related stress. These 21st century conditions elicit fear-driven responses, producing monocultures, rote-standardization, and unimaginative curricula. These interconnected local and global contexts exacerbate the disparity between existing ECE curriculum development and practices, and the necessity for holistic, creative, decolonial curricula that proactively address 21st century demands. This research employs Arts-Based Research design through Action-Research, using an Aokian framework of Lived and Planned Curriculum as well as Two-Eyed Seeing, integrating the strengths and gifts of Western and Indigenous knowledges to create new knowledges. These frameworks value community-based stories and storytelling as living forms of meaning-making and learning, engaging the whole (holistic) self cognitively, emotionally, socially, creatively, culturally, spiritually, and physically. I assign community-based scéalta, meaning stories in Gaelige/Irish, as ancestral folklore, generational wisdom, and Indigenous stories. These living cosmologies convey how to live reciprocally with other-than-humans (land, animals etc.), are a means of self, familial and cultural (re)connection, a medium to develop rich perspectives, provoke critical thinking, as well as a method to preserve and pass on information through drawn, oral, and written forms. My research asks: How can community-based narratives and storytelling support holistic, creative, and meaningful curriculum development and practices in early childhood education? How can ancestral and Indigenous stories deepen our sense of self (children/educators), as well as our wider relations to ecosystems and ecologies of place?

Taryn Neligan

Geography

Active faulting on the west coast of Vancouver Island: a new source of shaking and tsunami hazard

Active faults are faults which are known to have ruptured in an earthquake in the recent past, and are therefore expected to rupture again in the future. Few active faults have been identified in British Columbia due to annually low slip-rates, dense forest cover, recent glacial erosion, and lack of high-resolution topographic data. However, newly available lidar data have allowed for the discovery a ~3 m-high active fault scarp on Flores Island, BC, ~20 km north of Tofino. The scarp is aligned parallel to the Cascadia Subduction Zone, and can be traced for ~3.6 km onshore, but likely continues offshore toward the NW and SE. Fieldwork confirmed this scarp as the surface expression of a NE-dipping normal fault, the first of its kind identified in Cascadia. This work presents the structural and geomorphic characteristics of Flores Island Fault and explores potential driving mechanisms. Understanding this fault and how it forms will help to better assess the associated seismic and tsunami hazards, and may provide insight into what a “worst-case scenario” Cascadia megathrust earthquake could look like.

Guy Oved

School of Languages, Linguistics & Cultures

Professional Development and Research Engagement for English Language Teachers

In the field of applied linguistics, specifically in English language teaching, there is a gap between research and practice. While researchers produce research that aims to inform teaching and learning, teachers may perceive academic research as inaccessible or irrelevant to their own teaching contexts. To help address this gap, previous research has discussed three areas: professional development, teachers' engagement with academic literature, and practitioner research, research conducted by teachers in relation to their own practice. Although previous research has investigated each of these areas, little research has looked at how all three connect with and influence one another. Taking a holistic approach, this study explores the connections between professional development, engagement with academic literature, and practitioner research. Through questionnaires and semi-structured interviews, the study will explore the perceptions and experiences of English language teachers and teacher educators, including factors that encourage or constrain their engagement with these three areas. By examining these areas together rather than individually, this study aims to gain a better understanding of how they may connect with and support one another. Through an analysis of these perceptions, the study aims to provide recommendations for strengthening the connection between research and practice in English language teaching.

Emma Rai

School of Child and Youth Care

Loving and liberating young people who use drugs: foundations for building new worlds

In this presentation I will intentionally embody and politicize the acts of liberating and loving youth who use drugs. I conceptualize liberatory love as political action and relational practice that asks us to consider the conditions through which certain bodies, lives, and knowledges become protected while other are governed, marginalized, and marked disposable.

Decolonial love will provide a conceptual starting place from which necropolitics, critical drug scholarship and decolonial frameworks will be placed in conversation with one another. This will create a strong yet flexible foundation for exploring how addiction is constructed and enacted through power relations between research, policy, practice, and social discourses. This approach creates expansive avenues for considering what might become possible in research, policy, and practice when youth substance use is situated within the broader material, social, political, and ecological conditions.

Drawing on critical and ontopolitical approaches to inquiry, I will challenge dominant youth substance use discourses and the way they produce particular understandings of youth, drugs, risk, and responsibility. Congruently, I will create space for the possibilities that surface when young people who use drugs are invited into developing research, policy, and practices that center their human rights, dignity, safety, and respect.

Ultimately this presentation proposes decolonial love as an ethical orientation and methodological provocation, opening space to explore what research, policy, and practice might look like when we begin from a commitment to the liberation of young people who use drugs.

Arseni Revoy

Molecular Life Sciences

Exploring Host Responses to *Staphylococcus aureus* in a Patient Cohort and an *in vitro* Model

Staphylococcus aureus is a bacterial pathobiont that is present in up to 30% of the global population permanently, and up to 50% transiently. Given the opportunity, *S. aureus* can become infectious and cause morbid systemic disease. The WHO reports an estimated 1 million deaths from *S. aureus* annually. 25-30% of patients with bacteremia (bloodstream infection) die within 1 year of infection. It is also known to cause endocarditis, pneumonia, meningitis, osteomyelitis, sepsis and toxic shock syndrome. Staphylococcal superantigens are well-studied exotoxins that dysregulate immune signalling. At the molecular level, they function by cross-activating MHCII and TCR receptors between antigen presenting cells and T cells, respectively, bypassing canonical antigen presentation. This leads to pathological cytokine production, such as elevated levels of interferon-gamma (IFN γ). Previous studies by our research group have shown that IFN γ induced by superantigen activity worsens disease outcomes in mice by increasing *S. aureus* proliferation in phagocytes. The focus of the given work is to 1) confirm IFN γ overactivation in humans 2) explore the mechanism of IFN γ -induced *S. aureus* proliferation in phagocytes. To confirm IFN γ upregulation in humans, an *in silico* analysis of transcriptomics data from a study conducted on patients with *S. aureus* bloodstream infection at Duke University Hospital was used. Results of this analysis support presence of IFN γ dysregulation, and also show a nitric oxide synthase (iNOS) response during *S. aureus* blood stream infections. To investigate the mechanism behind IFN γ -induced *S. aureus* proliferation, an *in vitro* macrophage infection model was utilized, with implementation of a colorimetric method to probe nitric oxide (NO) output during infection. Our preliminary data from the macrophage model suggests that IFN γ causes elevated activity of iNOS and that this elevated activity may be partly responsible for the increased proliferation of *S. aureus*.

Ava Grace Smith

Psychology

Understanding Loneliness and Solitude in Adulthood

Background: Growing concerns about social connection make it essential to distinguish solitude from loneliness, as these experiences have various implications for health across adulthood. Loneliness, the gap between desired and actual social connection, is linked to poorer mental and physical health, whereas solitude reflects being alone without distress and supports emotion regulation. Although often associated with older adults, younger adults spend 30-40% of their day alone. Most work has examined these constructs between individuals, limiting understanding of how daily experiences shape well-being. **Method:** This study uses the MIDUS dataset with adults (N=2,022; ages 28-84) who completed assessments of loneliness, solitude, and well-being. **Results:** Perceived social connection was positively associated with physical health, mental health, and life satisfaction, while loneliness was negatively associated with all outcomes. Significant age interactions indicated stronger effects of loneliness and perceived disconnection among younger and middle-aged adults. **Conclusion:** Findings suggest that perceived social connection may be more important for well-being than actual social contact, highlighting the role of subjective belonging. Younger and middle-aged adults appeared more vulnerable to loneliness and low perceived connection, while older adults showed greater resilience to these effects.

Owen Smith

Biology

Neuro-Immune Response Dynamics Following Corneal Damage

Following corneal damage, the initiation and termination of inflammation must be tightly controlled to promote healing and prevent vision loss through neovascularization (abnormal blood vessel growth) and fibrosis (scar tissue buildup). Neuro-immune crosstalk plays an important role in controlling the inflammatory response in the cornea. However, many of the mechanisms involved remain unclear. Here, we will investigate the role of a key signalling pathway in the neuro-immune axis involving the CX3CR1 receptor, found on anti-inflammatory resident corneal macrophages, and its ligand CX3CL1, a signalling cytokine expressed and released by corneal neurons. To investigate this, we have developed novel methods for inducing consistent levels of sterile microdamage and performing whole-cornea quantification to map immune cell population density at varying time-points post-injury. A 0.1mm heated pin was remotely controlled using a motorized apparatus to induce epithelial damage. At varying timepoints following damage, corneas were immunolabelled for immune-cell specific markers, then imaged using confocal fluorescent microscopy. Images were stitched together and multipoint cell counting was used to create high-resolution heat maps of immune cell density. Preliminary data indicate that circulating, pro-inflammatory neutrophils infiltrate into the central cornea in a manner dependent on the location of damage relative to the corneal edge. The total number of neutrophils in the cornea 12 hours after damage increased with the total area of the damage. This assay will be used to determine if the CX3CR1 receptor is required for the migration of resident macrophages to the damage site. We will also investigate the behaviour of infiltrating neutrophils to determine if total or partial loss of the CX3CR1 receptor will be sufficient to inhibit the normally anti-inflammatory effects of resident corneal macrophages. Our study aims to reveal clinically-relevant approaches for improving corneal wound healing.

Megan Sundberg

English

AIDS, the Cold War, and the Failure of Language

What made the AIDS Crisis in America different from any other biological epidemic? Why were AIDS patients exposed to such virulent criticism and blame by governments, media, and the broader American populous? To deconstruct the weighted evolution of the HIV/AIDS virus in Cold War America, one must begin and end with language. Susan Sontag (1933-2004), in her 1990 work *AIDS and its Metaphors*, places the locus of military and politically charged metaphors in the public description of AIDS and the AIDS patient. Language specific to the Cold War transformed ailing bodies into harbingers of political and ideological threat: viruses became foreign invaders; infected bodies, vehicles for biological warfare. In responding to this, I argue that the collision of Cold War ideology, government-led campaigns of homophobia, and national fearmongering of the Communist enemy within, all of which were guided by said militant language, were the very thing that transformed an objective spread of virus and disease into an agenda-driven social crisis. While these elements have been studied in part, this paper offers a novel argument for the connection between the social position of AIDS patients and the national deployment of Cold War militant language as being not only a correlation but in part a causation of what we know as the AIDS Crisis in America.

Karen Terra

Public Health and Social Policy - Social Dimensions of Health

Arts-Based Activities as Social Prescribing: Evidence on Quality of Life and Wellbeing of Older Adults and People Living with Dementia. A Scoping Review.

Social prescribing connects people with community-based activities and services that can support health and wellbeing beyond traditional medical care. Arts-based activities, including music, dance, visual arts, theatre, and crafts, may be particularly valuable for older adults and people living with dementia. This scoping review examined the evidence on arts-based activities as social prescribing and their contributions to quality of life and wellbeing among these populations.

The review included grey literature, scholarly publications, and supplementary materials from organizational and policy sources. The findings showed benefits across physical, psychological, emotional, behavioural, and social aspects of health. Improved wellbeing was the most frequently reported outcome, followed by reduced loneliness. Other reported benefits included greater social connection and physical activity, reduced depression and anxiety, and cognitive engagement among people living with dementia. Social prescribing may also benefit healthcare systems by reducing healthcare use and supporting collaboration between healthcare and community services.

Despite these positive findings, important challenges remain. Social prescribing is still not widely understood by patients, healthcare providers, and community practitioners, and stronger infrastructure, training, policies, and funding are needed to support its implementation. The evidence also varies considerably across programs and settings, making it difficult to determine how different arts-based activities produce specific outcomes. Theatre and drama, in particular, remain underrepresented in research.

Overall, arts-based activities as social prescribing show potential to support healthy aging and improve quality of life among older adults and people living with dementia. Future research should examine a wider range of artistic activities, strengthen evaluation approaches, and consider how programs can be adapted to different cultural and community contexts.

Sarah Trilesky

Biochemistry & Microbiology / Molecular Life Sciences

Harnessing Complete Mitochondrial Genomes and Airborne eDNA to Resolve Phylogenetic Complexities in BC Myotis Bat Species

Myotis bats are increasingly threatened by habitat loss and white-nose syndrome, a fungal disease impacting multiple North American bat species. Despite their conservation importance, conventional survey methods often fail to achieve reliable species-level identification and are constrained by bats' cryptic behaviour and use of inaccessible habitats. This restricts biodiversity monitoring, impedes effective conservation prioritization, and limits the study of bat ecology. Environmental DNA (eDNA), which detects trace amounts of genetic material shed into the environment, offers a promising non-invasive alternative. We leveraged an established analytical pipeline to advance airborne detection of low eDNA concentrations of specific Myotis species. We also generated complete mitochondrial genomes for species central to taxonomic uncertainty in British Columbia, including Myotis yumanensis and Myotis lucifugus. This data contributes to the growing evidence of the complex phylogenetic relationships among Myotis bats. It also provides mitogenome wide insight into evolutionary relationships, supports refinement of species boundaries, and expands the available genetic toolkit. Our results highlight the growing utility of eDNA for distinguishing species that are difficult to differentiate and strengthen the notion that comprehensive genomic data is a key to informing tactful action. This contributes to ongoing efforts to better understand the ecology and evolution of Myotis bats.

Megan VanderWal

Molecular Life Sciences

How do Bacterial Induced Changes in Host Membrane Lipid Composition Affect Influenza Replication?

Influenza A virus (IAV) is a respiratory virus with major pandemic potential. IAV infections are often complicated by simultaneous bacterial infections, most frequently with *Staphylococcus aureus*. These virus and bacteria mixed infections result in more severe disease and in extreme cases, higher mortality rates. Many studies looking at these mixed infections focus on how the virus benefits the bacterium; however limited studies have looked at how the bacterium benefits the virus.

Our lab aims to address this research gap by focusing on how *S. aureus* benefits IAV replication. We found that lipase 1, an enzyme produced by *S. aureus*, increases the amount of virus produced by infected lung cells. We propose that *S. aureus* lipase 1 benefits IAV by improving viral replication within lung cells, thus increasing the amount of infectious virus being produced. We have established a cellular model which we will use to further investigate the impacts of *S. aureus* lipase 1 on viral replication.

I will use microscopy to image IAV infected cells in the presence and absence of *S. aureus* lipase 1. At different times after infection, I will stain cells for viral and host proteins that are required for IAV replication to occur. I will compare lipase treated and untreated samples and determine whether lipase treatment alters the amount and/or location of these viral and host proteins.

Mixed infections with IAV and *S. aureus* represent a great clinical challenge as little is known about how *S. aureus* impacts IAV infectivity. We will address this research gap by unraveling the mechanistic workings of lipases and their impacts on IAV infectivity. Through uncovering this mechanism, we will better understand IAV- *S. aureus* co-infections and develop novel therapeutics to benefit patients.

Cameo Volk

Neuroscience, School of Medical Sciences

Mind-altering microglia: Exploring the microglial response to repeated psilocybin administration in mice

The world is facing an unprecedented rise in mental health diagnoses. Conventional psychiatric interventions to treat mood disorders, such as selective serotonin reuptake inhibitors, are ineffective for the silent majority. Many of these therapies, if effective, are ridden with long response-times preceded by dismal side effects. As such, clinicians and researchers alike are eager to find an effective, and safe, solution.

Psilocybin, a classic hallucinogen, is a leading candidate to revolutionize psychiatric care. Colloquially known as “magic mushrooms”, it demonstrates therapeutic success in clinical settings for treating anxiety, depression, and post-traumatic stress disorder. Single-dose administrations confer significant and long-lasting changes on mood and emotion, even in treatment-resistant individuals. Further, it’s shown to positively affect neuroplasticity, suggesting potential in treating age-related illnesses. However, this excitement is hindered by a lack of molecular insights.

Microglia, the resident immune cells of the central nervous system, are key in modulating neuronal inflammation associated with psychiatric conditions. Under homeostasis, they nurture the brain environment through supporting their glial counterparts and refining neuronal circuits. However, animal models of psychiatric stress point towards deleterious activities. Brain inflammation is tightly correlated with symptomatology and understanding the microglial response is essential to generating effective therapies. Thus, deciphering how microglia respond to psychedelics is vital to elucidating putative anxiolytic and antidepressant effects.

This project utilises a combination of fluorescent imaging and behavioural studies to deduce the impact of repeated psilocybin administration in adult mice over 7 days. A central aim is to determine the minimal dosage that, when administered, confers anxiolytic behaviours while limiting microglia-induced inflammation. Staining for cell-type identity and functional markers, along with the resulting ratios of activated cells, will provide insight into microglial dynamics and the underpinning mechanisms behind psychedelics’ beneficial clinical results. We hope to provide the cellular literature to support psilocybin’s integration into healthcare.

Elvia Willyono

Public Administration

Food Asset Mapping and Scenario Analysis in the City of Langley

Climate change, geopolitical uncertainty, and growing concerns about food security are prompting Canadian municipalities to consider how local food systems can contribute to more sustainable and resilient communities. Yet food systems planning remains a relatively emerging area of municipal practice, particularly compared to more established planning domains such as transportation, housing, and infrastructure. At the same time, new forms of urban and indoor food production create additional opportunities and challenges for local planning.

This research develops and experiments with a process for supporting local food system planning in the City of Langley, British Columbia. The project begins by developing a food asset framework and mapping the city's existing food system assets to better understand the local food landscape, including the distribution and accessibility of food resources. It then develops an indicator framework for assessing alternative food systems development scenarios across multiple planning priorities, including food security, land use, green infrastructure, sustainability, and community resilience. These indicators will be applied in a scenario mapping and spatial analysis exercise to explore the potential sustainability outcomes and implications associated with different local food system futures. The research will produce a systematic method for municipalities to examine and understand local food systems development options in terms of how different development approaches relate to broader community planning priorities and goals.

Sebastian Yerex

Geography

Modeling Logging Road Landslide Hazards Under Changing Environmental Conditions

In regions with histories of industrial forestry, including British Columbia (BC), Canada, logging roads represent a major factor contributing to shallow landslide hazards. Additionally, changing wildfire and rainfall patterns are expected to alter landslide processes, potentially increasing landslide frequency over the coming decades. Landslide susceptibility models are a critical tool for hazard assessment and management; however, most models neglect the influence of logging roads or require costly field data, limiting regional-scale application. To address this, we present a physically based landslide susceptibility model that requires only remote sensing-derived data and accounts for parameter uncertainty while preserving spatial variance. Additionally, we introduce an approach to systematically account for the impact of logging roads on key physical parameters, while enabling estimates of landslide susceptibility both with and without roads in the landscape. This modeling approach is applied to two sites in BC with differing climate and histories of disturbance from logging and wildfire. Across these sites, the impact of logging roads on landslide susceptibility under current and changing environmental conditions is examined using Coupled Model Intercomparison Project 6 (CMIP6) seasonal and short-duration rainfall projections as well as wildfire burn severity data. Results show that, at the regional scale, logging roads may increase the area susceptible to shallow landslides by up to 18.9 times, under current conditions and amplify the effects of future rainfall and wildfire by up to 7% and 25%, respectively. The methods developed in this study provide the opportunity to quantify the impact of logging roads on landslide susceptibility under a variety of conditions and may be used to improve forward-looking hazard and forest management.

Xi Zhang

Pacific and Asian Studies

Reimagining Female Heroism: Marriage and Narrative Change in Contemporary Adaptations of Fengshen yanyi

Marriage has long served as a narrative mechanism through which female heroes in Chinese mythology are incorporated into established social and familial order. Yet contemporary adaptations of Fengshen yanyi (Creation of the Gods) increasingly depart from this convention. While Deng Chanyu's husband, Tu Xingsun, remains an important figure in the original novel, his narrative role is progressively reduced across later adaptations before disappearing entirely in Creation of the Gods II: Demon Force (2025). This project asks what this transformation reveals about changing constructions of female heroism.

Rather than treating Tu Xingsun's absence as an isolated adaptation choice, the project examines the progressive displacement of the narrative functions traditionally assigned to the husband. As his role is weakened, responsibilities once mediated through marriage are increasingly assumed by Deng Chanyu herself. This shift raises broader questions about how contemporary adaptations reorganize narrative authority and redefine the relationship between marriage, heroism, and female agency.

The project combines close reading of the Ming novel with comparative analysis of television and film adaptations. The poster visualizes these changes through comparative narrative diagrams, adaptation timelines, and character maps, using Deng Chanyu as a case study to explore how inherited narrative structures are reconfigured in contemporary Chinese mythology.

