

# Program

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## **Welcome**

Dr. Garry Fehr, Associate Vice-President  
Research and Graduate Studies

## **Board Chair Remarks**

John Pankratz, Chair, UFV Board of Governors

## **Acting President's Remarks**

Dr. James Mandigo, Acting President and Vice-Chancellor

## **Dinner Buffet**

## **Student Speakers**

JJ Janzen, Psychology  
Gurneesh Purba, School of Kinesiology

## **Acknowledgement of Student Awards**

Dr. Garry Fehr, Associate Vice-President

## **Awards Presentations**

Dr. Tetsuomi Anzai, Associate Dean, College of Arts  
Dr. Alastair Hodges, Dean, Faculty of Health Sciences  
Dr. Chris Schinckus, Dean, Faculty of Business and Computing  
Dr. Ian Affleck, Associate Dean, Faculty of Science  
Dr. Mary Saudelli, Associate Dean, Faculty of Education, Community,  
and Human Development

## **Closing Remarks**



# Welcome to the 2023 Undergraduate Research Excellence Awards Presentation

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## *Research that's out of this world!*

Tonight, the University of the Fraser Valley is thrilled to present 24 students with research awards totalling over \$20,000.

These students were nominated by faculty for exceptional research work, either as part of the UFV work study program, for contributions as research assistants on faculty projects, or for an outstanding research project of their own. As Captain Kirk said, they have dared to go where no one has gone before.

Since inception, these awards have launched almost 500 students into their futures with over \$370,000.

Tonight, we also acknowledge students who received prestigious awards from UFV, federal granting agencies, and other external organizations.

Congratulations to all the students whose research activities create new knowledge through amazing experiential learning opportunities. Connecting knowledge, skills, and experience with creative minds provides the fuel for Canada's economy to reach warp speed!

With more than 14,000 students attending UFV this year, these awards represent only a small portion of the research and other experiential learning activities that students are able to explore on their way to new beginnings.



# A Message from the Acting President

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Dear Undergraduate Research Excellence Award Winners,

UFV's strategic plan IYAQÁWTXW - House of Transformation – outlines our commitment for UFV to be known as a gathering place for learners, leaders, and seekers. Leading through our values of integrity, inclusivity, community, and excellence, UFV is dedicated to pursuing diverse pathways of scholarship, leading to community connection, reconciliation, and prosperity, locally and beyond.

Guided by this vision, many of the research projects that our students participate in with our faculty are often focused on topics that are important and relevant to the communities in which we live, work, and learn.

Tonight's award winners represent research and scholarly excellence across a number of disciplines and address a multitude of important issues. When weaved together, they represent learning from the past, reflections on the current, and projections to the future.

I continue to be inspired by the quality, impact, and high level of engagement in research and scholarly activity by our undergraduate students.

Each of the research projects featured tonight and the many other research activities that have engaged our students have all made significant contributions to make the world a better place to live in their own unique way.

While tonight reminds us that learning can truly take place anywhere, it also demonstrates that with learning comes the responsibility to share that knowledge with others.

It takes courage to share what you have learned with others, and I want to applaud all the students who have shared their research and scholarly works for demonstrating such courage. While we celebrate you and your accomplishments, you open yourself, and your ideas, up to scrutiny and criticism when you publicly share your work.

However, this is all part of the pursuit of discovery. Harnessing the energy of discovery and being committed to explore solutions,

however challenging they might seem, is at the heart of the advancement of any society.

If tonight is any example, the future generation of researchers and scholars are not afraid to tackle the big, important and complex issues facing society now and in the future.

The success of our student researchers and scholars could not be possible without the tremendous dedication and support of their faculty supervisors. Their tireless dedication to mentor, inspire, challenge, and teach our students is a shining example of their commitment to engage learners, transform lives, and build communities. Thank you to those who mentored and inspired all of UFV's students to pursue knowledge through discovery.

Sincerely,

Dr. James Mandigo

Acting President and Vice-Chancellor

# Student Speakers

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We are delighted to have two student speakers this evening selected from our Student Research Day Microlecture presenters.

## ***JJ Janzen***

This past April marked the final semester of my Bachelor of Arts degree in which I majored in psychology. I aspire to be a registered clinical counsellor and I am looking forward to pursuing my graduate education at Trinity Western University in the Master of Counselling Psychology Program.

UFV has provided ample research opportunities for me to develop and hone my skills to best prepare for graduate school.

For my honours research project, I selected self-compassion as I was interested in running a study that could have real-world implications while also being applicable to my career aspirations. Self-compassion—involving self-kindness, mindfulness, and common humanity—appears to reduce stress and rumination in response to setbacks. Despite these benefits, studies suggest self-compassion exercises/workshops are underutilized/attended by men and that reframing self-compassion (e.g., with more masculine-stereotypical language) may boost interest/participation. Here, however, such reframing had little effect on men's interest (sign-up rates) and dramatically reduced women's sign-ups. Nonetheless, high self-compassion individuals—regardless of workshop (vs control) participation—showed lower rumination. Thus, alternative strategies to boost self-compassions appeal should be explored as these may ultimately improve men's wellbeing in response to setbacks.

# Student Speakers

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## **Gurneesh Purba**

Gurneesh Purba is a highly motivated and accomplished student who demonstrates a deep commitment to the well-being of others. Led to UFV's Bachelor of Kinesiology program by an inherent passion for caring for people, his impressive academic record and dedication to volunteering in the community are both exemplary.

Gurneesh played a pivotal role in creating and executing projects such as the MySelf Club Intervention study and Chilliwack Junior Boccia Program while acting as President of UFV's Kinesiology Student Association (KINSA).

Being involved in research studies and pilot projects, Gurneesh gained skills and attributes, greatly enhancing his learning of theoretical concepts in his courses. With his unwavering passion for physical rehabilitation and health promotion, Gurneesh aspires to become a physiotherapist, aiming to help people regain mobility and enhance their overall well-being.

*Imagination will often carry us to worlds that never were. But without it we go nowhere.*

- Carl Sagan



# UFV Undergraduate Research Excellence Award Recipients

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## **Community Service Research**

Carter Johannes

Saba Berenjforooshazar

– School of Land Use and Environmental Change

## **Indigenous Research**

Fergus Dalton – Psychology

## **College of Arts**

Jenna Duffin – Communications

Isaac Barker – Criminology & Criminal Justice

Joel Pederson, Justin Manalo - Economics

Sarah Brown – English

Jacalyn Drummond – History

Avery Fraser – School of Culture, Media, and Society

Reuben Louwerse – Philosophy

Muskan Manhas – Psychology

Sterling Kai Pollock – Theatre

Brielle Quon – Visual Arts



## **Faculty of Health Sciences**

Greg Luesink – School of Kinesiology

Jasleen Brar – School of Health Studies

## **School of Business and Computing**

Saransh Ahuja – Computing

## **Faculty of Science**

Mackenzie Frost - Agriculture

Maor Arad – Chemistry

Abbey Riddols, Aiden Haagensen

– School of Land Use and Environmental Change

## **Faculty of Education, Community, and Human Development**

Ashely Sharma, Jacey Giesbrecht – Social Work

Devina Badesha – Teacher Education



*you'd be surprised how often  
'what if' works.*

# Community Service Research

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## ***Carter Johannes, Saba Berenjforooshazar***

### **School of Land Use and Environmental Change**

**Faculty Supervisor:** Mariano Mapoli

**Award:** \$500 each

**Carter:** Carter is a Physical Geography major at UFV who plans to complete the Geographic Information Systems certificate. The research he has done has broadened his view to the universal applicability of GIS and he hopes to continue to use the technology for many years to come in his career or otherwise.

**Saba:** I, Saba Berenjforooshazar am currently an international student at UFV. I came to Canada with an associate degree in computer software engineering from IAU in Tehran, Iran. I started my journey at UFV in the Fall of 2022 and hope to complete my GIS Certificate in the Fall of 2023. At UFV, I have dedicated a consistent daily effort towards my career expectations of becoming a GIS Spatial Analyst.

Participating in the “Extreme Heat Mapping” project and working alongside SLUEC professors and other students, has been a transformative experience for me, as it has provided me with the opportunity to acquire new data analysis skills which enhanced my GIS education significantly. I owe a great deal of my success in this regard to the expert guidance and meticulous instructions provided to me by Dr. Mapili, whose skillful tutelage enabled me to process the information with utmost accuracy and precision.

### **Extreme Heat Mapping**

Extreme heat maps produced before the heat dome event of summer 2021 were regional in scope, the spatial unit of analysis used is either the Census Tract or Dissemination Areas, and the temperature data used were calculated estimates from satellites. All problematic for a heat map that will be used at the local level. We

created an extreme heat GIS based not only on Census data, but also local/municipal data. We started with the development of the Mission Mapping Units (MMU) based on a combination of Dissemination Block and Property Parcels. Next, we identified the Most Vulnerable Parcels (MVPs) which contained the most vulnerable population. We used ground stations for temperature data to drive our Mission Climate Map (MCM), and finally, we created several scenarios for municipal planners including the use of the Mission Community Assets (MCA) to mitigate the extreme heat.

# Indigenous Research

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## ***Fergus Dalton***

### **Psychology**

**Faculty Supervisor:** Carey DeMichelis

**Award:** \$1,000

**Fergus:** I'm a fourth-year psychology student at UFV who had little interest in research prior to my first brush with it in a Directed Studies project completed in winter 2022. Since then, it's become a passion. My goal now is to advance to graduate school to become an experimental psychology researcher and faculty member at a university like this one, and I hope to contribute to the field by applying a critical eye to all the faults and assumptions which have led to the replication crisis today.

### **Critical Health Psychology: Medicine Walk**

On-brand with my usual deviation from the norm of assignment instructions, in my Health Psychology presentation on Indigenous Health, I diverged from the PowerPoint method and took the class for a medicine walk. Rather than citing academic sources, I consulted with my Métis Elders on traditional Indigenous medicines and scoured the UFV property in search of native plants in order to teach the subject the way it was traditionally taught. For the presentation, I took the class outside, pointing out the medicines that Elders Joe and Lorelei had mentioned to me, highlighting the historical context and cultural differences to colonial conceptions of medicine and health. Upon returning inside, I provided a prepared tea with the class from medicines I'd harvested myself and shared about my family's experience with residential schools. The presentation aimed to highlight how colonial conceptions of health diverge from traditional teachings while emphasizing the value that indigenous methods provide through engaging, hands-on learning.

## Departmental Awards

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### ***Jenna Duffin***

#### **Communications**

**Faculty Supervisor:** Nicole Stewart

**Award:** \$1,000

**Jenna:** I am a fourth year Bachelor of Arts student and am currently completing a major in communications and a minor in business. As I near the end of my studies, I hope to pursue an internship with the Canadian Federal Government through the 2024 Parliamentary Internship Programme. In the future, I would love to continue my academic journey and achieve a Master of Arts in Communications. My time at UFV has allowed me to grow, not only academically, but personally. I have had the opportunity to continuously challenge myself through my studies, which has given me the ability to create a clear plan for long-term academic and professional success.

**Is Virtual Reality Social Media: Questioning the Constraints and Possibilities of Fully-Immersive and Social VR** | This project explores the notion that, while social VR (metaverse applications) are forms of social media, fully-immersive hardware platforms (i.e. Quest 2 head-mounted displays) are not forms of social media. Using a theoretical approach, the study proposes that the *four parameters for social media* (a framework inspired by Aichner et al, 2021) and the theories of *Networked* and *Refracted Publics* (specifically the dynamics and conditions) must exist simultaneously within a particular network for it to be considered “social media”. Discourse analysis was used to analyze the testimonies of research subjects, mainly, occurrences in which subjects compared, contrasted, or linked virtual reality technologies to the required characteristics of social media. The main results of the study provide that, while the *four parameters for social media* and the frameworks of *networked* and *refracted publics* exist within social VR, they are largely absent within VR as a technology platform. These findings are significant, as they not only create new potential for how “social media” can be defined, but also explicitly link the theories of *networked* and *refracted publics* with social VR applications.

# ***Isaac Barker***

## **Criminology and Criminal Justice**

**Faculty Supervisor:** Irwin Cohen

**Award:** \$1,000

**Isaac:** I will be graduating this June after 5 years at UFV with a Bachelor of Arts (Hons) degree in Criminal Justice with an extended Minor in Psychology. I have always had the intention of becoming a lawyer and I am continuing this pursuit at the University of Birmingham in the UK this upcoming September. The driving force behind my focus for this project stems from the unfortunate circumstances surrounding the disappearance and recovery of a friend along the Fraser River. The subsequent involvement and efforts of Search and Rescue, despite the terrible situation, was truly amazing to witness and helped me to better understand the crucial role they play across the country. This project allowed me to build my understanding of research methods and honor someone close to me in a meaningful and impactful way. I am grateful for the opportunity Dr. Irwin Cohen and UFV's School of Criminology and Criminal Justice has provided me.

## **Searching for a Solution: A Qualitative Study into the Challenges Facing Canadian Search and Rescue**

**Agencies** | This study explores the perceptions of a sample of SAR members about the current human, financial, and technological challenges facing SAR in British Columbia. Utilizing a convenient sample of SAR members, six in-depth, semi-structured interviews were conducted. Using an inductive approach to data analysis, themes, and patterns were extracted following the completion of the interview process. The underlying patterns include an increase in caseloads, the influences of global warming, problems associated with funding and fundraising, structural challenges in training methodologies, burnout, as well as, administrative and collaborative struggles between SAR groups. Much of the findings of the current study support similar results found in previous qualitative and

quantitative research. Considering these findings, the present study demonstrates a need for additional research into this subject matter and consideration for improved training methods, different strategies for obtaining funds, and tactics for addressing burnout and a growing annual caseload.

# ***Joel Pedersen, Justin Manalo***

## **Economics**

**Faculty Supervisor:** Bosu Seo

**Award:** \$500 each

**Joel:** I have recently graduated from the University of the Fraser Valley with a Bachelor's in Business Administration. I have recently started a new position at Gulf and Fraser as an investment specialist. I plan on continuing education by getting my CFA and/or CFP. Research throughout university has helped me develop my technical skill assessment and problem-solving capabilities which is paramount in my field of work.

**Justin:** My name is Justin Manalo, and my future aspirations are to pursue a career in banking. Regarding my engagement in research, it has helped me recognize underlying attributes that are the foundations of a successful student, such as the commitment to exceed expectations, and proper organization of personal activities while spending critical time to contribute to this project. Nonetheless, Joel and I were dedicated to do this project because after finding interest in "Luxury of Lockdown", constructed by Mehdi Shiva and Hassan Molana, we believed that extension of the article would be possible to unlock new findings inspired by their work.

## **An extension of "The Luxury of Lockdown"**

To reflect upon the project to which Joel Pederson and I have constructed, it investigates the impacts of the Coronavirus pandemic between countries depending on whether they were an under-developed or developed nation. Particularly, our work identifies how the pandemic has shifted the way that countries act and how they respond, while accounting for their economic status and the deaths that have accumulated. The data that we have collected illustrates the significance of a variety of important aspects such as the difference in COVID-19 testing, life expectancy, and contrasting number of deaths, which are investigated in respective hypotheses. Nonetheless, our data compliments the data presented in Shiva's article because it shows correlations which may have strengthened the conclusions made by Shiva and Molana.



# ***Sarah Brown***

## **English**

**Faculty Supervisor:** Hilary Turner

**Award:** \$1,000

**Sarah:** I graduated from BCIT's Marketing Management program in 2017 with many unanswered questions like "how did we get to the present moment" and "why are things the way they are." I transferred to UFV in 2018 and was thrilled to be in a stimulating environment surrounded by students and professors interested in similar questions. I am very grateful to finish the fourth year of my English Honours degree with an undergraduate research project. This opportunity to dive into deep questions about how we think and live is exactly the experience I was craving at BCIT, and I was lucky to do so under the mentorship of Dr. Turner. I intend to start my Master's studies in English in the next year or so and am interested in doing interdisciplinary research at the graduate level.

## **From the Phonetic Alphabet to AI-Powered Large Language Models: A Study of Writing Technology and Culture**

The project titled "From the Phonetic Alphabet to AI-Powered Large Language Models: A Study of Writing Technology and Culture" considers the progression of communication technologies from ancient Greece to the natural language processing of the present. This paper contextualizes models like ChatGPT within Rhetoric and Media Studies by applying Marshall McLuhan's and Walter J. Ong's theories to the artificially intelligent language models. McLuhan argues that each technological innovation produces a profound remodelling of the human interpretation of experience, and this paper compares past large-scale readjustments of human consciousness to one brought about by adopting this new technology. This project connects contemporary technologies based on large language models (LLMs) like ChatGPT and the preceding, equally revolutionary discoveries of alphabetic writing, print technologies, and electric forms of communication in language (such as radio, cinema, and television).

# ***Jacalyn Drummond***

## **History**

**Faculty Supervisor:** Keith Carlson

**Award:** \$1,000

**Jacalyn:** I completed my Bachelor of Arts degree with a History major and Art History extended minor in December of 2022. Since my third year I have had the opportunity to work for Dr. Keith Carlson as a research assistant and now as his research coordinator. I have been accepted into the Dual Master of Archival Studies and Library and Information Studies at UBC and will begin my studies there in September of this year.

## **The Risk Would be Small but Why Take it at All? An Examination of Anti-Vaccinators in British Columbia's 1892 Coastal Smallpox Epidemic**

After a relatively healthy 30 years, the province of British Columbia was hit with yet another smallpox epidemic in 1892. Smallpox had ravaged the entire province in 1862 with particularly large death tolls among Indigenous peoples. This time, smallpox found its target in B.C.'s main coastal cities: Victoria, Vancouver, and New Westminster. At the close of the epidemic a Royal Commission was called together, headed by Judge Matthew Baillie Begbie and Doctor Emil Arnold Praeger, to investigate how smallpox had entered the city through two questions of inquiry: "What was the channel and means of the introduction of the epidemic?" and "How and why did this visitation become epidemic?" Remarkably, although the minutes of evidence from the Commission and accompanying documents have all been preserved in paper (non-digital format) in the BC Archives, scholars have overlooked them, and as such their contents have not been able to contribute to discussions into the history public health in British Columbia and in particular, into the history of the anti-vaccination movement. What these records reveal is that despite the presence of debate over certain scientific facts, the core anti-vaccinator argument in 1892, like today, anchored around individual rights and opposition to government overreach into citizen's lives. This focus also reveals subtle ways in which the anti-vaccinator rhetoric of human rights was deployed in methods that sought to reinforce racial and ethnic divisions within British Columbia.

# ***Avery Fraser***

## **School of Culture, Media, and Society**

**Faculty Supervisor:** Chantelle Marlor

**Award:** \$1,000

**Avery:** Avery is completing her BA, majoring in Sociology, with a social research concentration, and minoring in Global Development. She feels that research has enhanced her education by providing her with practical skills, such as qualitative data analysis skills, that will benefit her in the future. After graduating, she hopes to attend law school.

## **Why Do Female Fans Love True Crime?**

Despite the vast array of true crime content and its prominence in today's mainstream media landscape, the true crime audience and the precise motivations or reasonings behind why female fans are fascinated with true crime content remain a mystery. Therefore, Avery's qualitative research project seeks to understand why female fans are fascinated with true crime. By employing a uses and gratifications theoretical frame (Katz, 1959), Avery's research aims to expand on and confirm previous researchers' findings concerning why female fans gravitate to and are fascinated with true crime content across a variety of media forms (e.g., books, documentaries, and podcasts). Avery conducted two semi-structured interviews with two female interviewees for her project and identified six key themes as to why female fans are fascinated with true crime content, including escapism, convenience and availability, learning opportunities, psychological content, relatability, and for some female fans, an emotional connection or investment with the (usually female) victim in the true crime content they are consuming. When engaging with true crime content, female fans vicariously experience horrific crimes and acts of violence and, ultimately, survive.

# Reuben Louwerse

## Philosophy

Faculty Supervisor: Jeff Morgan

Award: \$1,000

**Reuben:** I'm Reuben Louwerse and I'm doing a Bachelor of Arts with a major in Philosophy and an extended minor in History. My passion is for philosophy, especially philosophy of religion, and I look forward to more deeply studying topics in this area in the future.

## A Defense of Richard Taylor's Principle of Sufficient

**Reason** | My paper, *A Defense of Richard Taylor's Principle of Sufficient Reason*, is exactly what it sounds like. It takes the Principle of Sufficient Reason that Richard Taylor put forward in his cosmological argument for God's existence, which states that any positive truth has a sufficient reason which makes it true, and defends it against two objections: Van Inwagen's Modal Collapse Argument and Mackie's "No Justification" Objection. If my defenses are successful, then two objections to a crucial premise of Taylor's argument are removed, and the argument is one step closer to successfully arguing for the existence of God.

*For my part I know nothing with any  
certainty, but the sight of the stars  
makes me dream.*

*- Vincent Van Gogh*



# **Muskan Manhas**

## **Psychology**

**Faculty Supervisor:** Zoë Francis

**Award:** \$1,000

**Muskan:** After completing my Bachelor of Arts degree at UFV this semester with a major in Psychology Honours and a minor in English, I will be attending Acadia University in Nova Scotia this Fall to complete a Master of Science degree in Clinical Psychology. Both my mental health journey and the experiences of those close to me have caused me to gravitate towards Psychology, making me motivated to make a positive difference in the lives of others. As such, I ultimately wish to complete a PhD in Clinical Psychology which will allow me to work as a clinical psychologist and professor/researcher. I am incredibly thankful to UFV for many enriching opportunities, such as the UFV Student-led Research Grant which allowed me to conduct my research the way I had always envisioned it. Finally, I am especially grateful for my supervisor Dr. Zoë Francis, whose guidance and mentorship I will never forget.

## **“I Think I Wear the Pants!”: Role of Perceived Power in Sense of Control & Wellbeing Within Romantic Relationships**

Relationship power refers to the ability to influence a romantic partner’s thoughts, feelings, and behaviours to reach a desired goal or to resolve a conflict. Additionally, power dynamics play a major role on a range of romantic relationship outcomes (i.e. satisfaction, adjustment, quality, conflict resolution). While the relationship between perceived power and relationship outcomes which impact mental health has been studied, the direct relationship between perceived power and mental health has not previously been considered. Furthermore, research considering the role of traditional gender norms and aggression in perceived power and its effects has been contradictory. Thus, my research looked at whether low perceived power was associated with a diminished sense of control and well-being, following a disagreement with a romantic partner.

Participants first independently completed an online pre-measure survey, after which they attended a Zoom session together as a couple. During the session, couples discussed an unresolved conflict for seven minutes amongst themselves. Following the discussion, participants independently completed an online post-measure survey, while remaining in the Zoom session. Results showed that an individual's own low perceived power is in fact predictive of diminished sense of control and well-being. However, diminished sense of control and well-being were present both before and after the disagreement in those with low perceived power. However, traditional gender norm adherence did not appear to play a moderating role between perceived power and sense of control and wellbeing. Finally, while having an aggressive partner did not predict low sense of control and well-being, self-perceptions of one's own aggressive behaviour did. The results from this research are the first to extend previous research by finding a direct relationship between self-perceived power and an individual's psychological state within the context of romantic relationships. Our results also inform the value in research on interventions aimed at empowering and increasing perceived power. Finally, results validate the use of online platforms such as Zoom in conducting dyadic studies.



*The scientific theory I like best is that the rings of Saturn are composed entirely of lost airline luggage.*

*- Mark Russell*

# ***Sterling Kai Pollock***

## **Theatre**

**Faculty Supervisor:** Shelley Liebembuk

**Award:** \$1,000

**Sterling:** Sterling Kai took on the roll as Dramaturge/Assistant Director for the Theatre production of *Ghosting of Sumas Lake* in fall 2022. The extensive resource book that Sterling Kai produced of the draining of the lake, and previous floods, Indigenous perspectives and the original flora and fauna of the history of the lake became extremely valuable for the theatre production and led to other projects including an exhibition at the S'eliyemetaxwtexw Art Gallery.

## **Ghosting of Sumas Lake Research Book**

The research project originally consisted of my compiling information on the Sumas Lake in British Columbia, with the aim of creating dramaturgical research to share with the cast of the fall 2022 Theatre devised production of *Ghosting of Sumas Lake*, conceived and directed by Dr. Michelle LaFlamme.

My instructor and director, Dr. Michelle LaFlamme, told me to try to answer the who, what, why, and how it got drained. Who was responsible, why did they choose to drain it, and what were the repercussions of the draining?

In the end, I ended up with over 300 pages of text, video links, and photos. This was both exciting and concerning for its magnitude. This research in edited form made it into the book and supported the fall 2022 Theatre devised production of *Ghosting of Sumas Lake*."



*You got to try and reach for the stars  
or try and achieve the unreachable.*

*-Cathy Freeman*

# **Brielle Quon**

## **Visual Arts**

**Faculty Supervisor:** Grace Tsurumaru

**Award:** \$1,000

**Brielle:** Brielle Quon will be graduating with a double extended minor in Visual Arts and Graphic Design this August. She has always found photography to be a useful tool in both fields of art and design as it has taught her professionalism in how to document information. Her project idea stemmed from a passion for the location of the site as it is where her cabin is located.

## **Relocation Camp - The Remains of Tashme: Social Landscape Photography**

Brielle's series delves into themes of social landscape photography, offering a profound exploration of the space occupied by Tashme's remaining structures. It explores the human impact on the landscape during a significant historical event. To capture these structures, Brielle used a large format 4x5 camera for its ability to capture intricate details precisely. The meticulous process of using this camera further compelled the photographer to focus and ensure precision in every shot. In order to gain a deeper understanding of the significance of the remaining structures at Tashme, thorough research into the site's history was undertaken. Brielle researched what life was like at the relocation camp and the ways these structures were utilized. As the structures of Tashme persist, they serve as a reminder of the passage of time in a place not forgotten.





# **Greg Luesink**

## **Kinesiology**

**Faculty Supervisor:** Cynthia Thomson

**Award:** \$1,000

**Greg:** I started rock climbing in my first year of university, and this has directed a lot of my goals. One day I would like to work as a physiotherapist for climbers and other outdoor athletes. I wasn't offered a spot in the UBC MPT program for this fall, so I am planning to work as a Kinesiologist to gain some experience before I reapply. This project gave me an opportunity to simultaneously learn about the research process and do it in an area that I am passionate about.

## **Investigating the Effect of Eight Week Hangboard and Handheld Training Methods on Finger Strength and Endurance in Intermediate and Advanced Rock**

**Climbers** | Having rehabbed from several climbing-related finger injuries myself, I wanted to test different training devices for improving finger strength in climbers, while mitigating injury risk. Specifically, comparing conventional hangboard training to pinch block and crimp block devices, which have not been empirically tested. Overall, I found that all three training methods had similar improvements for finger strength and endurance over time, measured by hangboard, pinch block, and crimp block tests. Only one significant difference between groups was found. For Left Hand Pinch Block Endurance, the Pinch Block training group outperformed the Crimp Block training group. This supports the Specificity principle of training - Specific Adaptations to Imposed Demands. Pinch Block training may be the safest and most versatile due to portability, low training load, and activation of both the finger flexors and extensors, all of which may be important for preventing injury of the fingers, hand, and wrist.

# ***Jasleen Brar***

## **School of Health Studies**

**Faculty Supervisor:** Shelley Canning

**Award:** \$1,000

**Jasleen:** I am going into my fourth year of Bachelor of Sciences in Nursing degree. After graduation, I plan to work at the Abbotsford Regional Hospital's medical unit and eventually move to the emergency department. In the future, I also plan to pursue my Master's degree in Nursing. I am very grateful to be involved in this research study with Dr. Shelley Canning which has helped me recognize barriers that impact healthcare providers and patient care. I am excited to continue working as a research assistant and help develop an education module to improve cancer care practices at BC Cancer.

## **Implementing a Dementia-Friendly Care Approach for Cancer Patients Living with Dementia**

The purpose of this study is to develop and implement a dementia-friendly education module and recommendations for improving cancer care practices at BC Cancer. The study will follow a qualitative design and ethnographic approach. The study consists of two phases. Phase one explores experiences of patients with both diagnoses of cancer and dementia, their caregivers, and their care providers. Currently, the team is gathering data via participant observations and interviews. Early findings reveal lack of formal dementia diagnoses, lack of dementia education, gaps in care provider communication, and increased patient safety risk during treatment. Once data analysis is complete, phase two will begin, which includes developing a dementia awareness education module. This phase will also include practice recommendations for BC Cancer healthcare professionals and an evaluation of the education module. This research study will help develop evidence-based practices that are necessary to provide safe, high-quality, dementia-friendly care to cancer patients.

# Saransh Ahuja

## Computing

**Faculty Supervisor:** Amir Shabani

**Award:** \$1,000

**Saransh:** As a high-achieving student and a dedicated participant in esports, my intellectual tenacity is mirrored in my academic excellence, earning me a place on the Dean's List. My entrepreneurial spirit led me to start my own company, and I've also been making substantial impacts in the top departments of a prestigious organization, demonstrating my versatility and commitment to innovation.



## Improving Deep Learning methods for Speech Emotion Recognition

This paper presents a fine-tuned ChatGPT approach for emotion recognition and regulation in social companion robots. The methodology involves feature extraction using MFCC, CQT, and Mel spectrograms, speech-to-text conversion, and fusion of emotional features for accurate emotion recognition. The RAVDESS dataset is employed for training and evaluation, showcasing high accuracy in emotion recognition and the effectiveness of the fine-tuned ChatGPT API in regulating emotions during human-robot interactions. The integration of this system into social companion robots holds potential in healthcare, education, and elderly care, fostering more engaging and emotionally supportive interactions.

# **Mackenzie Frost**

## **Agriculture**

**Faculty Supervisor:** Lauren Erland

**Award:** \$1,000

**Mackenzie:** This past semester, I completed my Agriculture Science degree at UFV. I am very passionate about horticulture and closed-environment agriculture. This research project enabled me to expand my knowledge of data collection and experimental design. I plan to take this experience with me as I continue to work in the industry and pursue my own business ventures in the future.

## **Can GA3 and tryptophan increase flower production in strawberry plants?**

The focus of this study was to apply both gibberellic acid and tryptophan to strawberry plants of the same cultivar and examine the results against a control group. Through analyzing the results, we could determine how these products can be used in commercial production to reduce fertilizer usage and improve fruit yield. The research trial demonstrated that ten parts per million of GA3 had a positive effect on strawberry flower and fruit production. With these findings in mind, GA3 products could be used to decrease flowering time and increase fruit yield without increasing fertilizer use.



# ***Maor Arad***

## **Chemistry**

**Faculty Supervisor:** Golfam Ghafourifar

**Award:** \$1,000

**Maor:** Participating in research at UFV, has enabled me to connect the content that I've learned in class, into real world applications. The project that I have been a part of is directly connected with my goal of advancing personalized medicine and disease detection. The experience that I've gained will be vital as I continue onto graduate school where I will apply the methods that I have developed at UFV on a large scale.

## **Rapid Proteomic Workflow Utilizing Pepsin within an in-situ Fabricated Open-Tubular Immobilized Enzyme Microreactor (IMER)**

Proteomics is the study of all of the proteins present in an organism. Generally, enzymes are added into a protein sample to break them down into smaller pieces called peptides. However, common methods employed can take upwards of a day to complete. My research was focused on developing a new method that was faster and fully automated. I was successful in developing an Immobilize Enzymatic Microreactor (IMER), which works by linking enzymes into the inner wall of a capillary. This allows proteins to be cleaved into peptides as they pass through. The IMER I developed is reusable, and only requires 15-minutes per sample, which is much faster than what is currently used throughout the research and healthcare fields. The IMER is now being tested with biological samples, with the goal of its use being adopted on a large scale.

# ***Abbey Riddols***

## **School of Land Use and Environmental Change**

**Faculty Supervisor:** Steven Marsh

**Award:** \$500 each

I am happy to be graduating this June after 6 long years at UFV with a double honors in Biology and Physical Geography. I plan on spending some time after graduation working in the field, and getting some much needed traveling in. Performing this research during my undergraduate years deepened my connection with the Chilliwack River Valley, and the people who live in it. I would like to thank the Ts'elxwéyeqw Tribe for allowing me to conduct research on their lands.

## **Forest Systems and Wellbeing**

My research from the past year contributed to the Forest Systems and Wellbeing Project, a collaborative effort between the Stolo Research and Resource Management Centre (SRMMC), Ts'elxwéyeqw Tribe Management Ltd. (TTML), and the University of the Fraser Valley. In addition, I am collaborating with our international research partners at the Woods Hole Oceanographic Institution (WHOI) for guidance and analysis of water quality samples. I am thankful to be working with these groups at such an early stage in my academic career. I came to this project from the angle of watershed health, water quality, and vegetation analysis. Initially I was solely focused on developing a sampling strategy for comparing old and second-growth watersheds in the Chilliwack River Valley (CRV) at a high resolution. My involvement with SRMMC and TTML directed my focus to better align with their “Forest Systems and Wellbeing” project. This meant that I had to expand my role to include sampling for vegetation diversity, comparing high and low elevation sites, and providing a foundation for future work that might take place in the CRV.

# ***Aiden Haagensen***

## **School of Land Use and Environmental Change**

**Faculty Supervisor:** Steven Marsh

**Award:** \$500 each

I am currently in my fourth year of a Bachelor of Environmental Studies. After I complete this, I hope to apply to law school, where I would like to focus on environmental law. My sense of place is so defined by the natural landscape that surrounds me and being an Environmental Studies student has created a newfound appreciation for the natural world. Working with the team from the Stó:lō Research and Resource Management Centre has awarded me the opportunity to learn in the field, surrounded by the topics of discussion from the classroom. Experiencing Stó:lō stories while being in the very places they originate is special in a way that cannot be put into words and has attributed to my appreciation for this beautiful land.

## **Forest Systems and Wellbeing**

This research was conducted by the Stó:lō Research and Resource Management Centre, Ts'elxwéyeqw Tribe Management, and the S'ólh Téméxw Stewardship Alliance supported by faculty and student researchers from the University of the Fraser Valley. Three sites were selected within a geographically condensed research area based on different levels of forest succession and human disturbance on the southeast side of Sxótsaqel. Soil, water, and tree core samples were collected from young (recently logged), mature, and old growth forest systems. The purpose of the study is to better understand how various forest health parameters change as a result of logging operations, and to monitor impact to old growth forest systems. Using our methodology from our work at Sxótsaqel we broadened our research area to various high elevation sites within the Chilliwack River Valley. We are continuing the research this summer to continue to build a collection of data that will be used to protect culturally and environmentally significant sites. I am honored to be a part of this project team and to play a small part in protecting these vital ecosystems.

# **Ashely Sharma, Jacey Giesbrecht**

## **Social Work**

**Faculty Supervisor:** Karun Karki

**Award:** \$500 each

**Ashely:** I've now completed my 4th year of the Bachelor of Social Work with a specialization in Child Welfare. Having the opportunity to research alongside other students and my professors has helped me understand the intricacies of the lives of some of the most vulnerable peoples. I hope to spread these findings to other social workers so we are better informed in cultural and gender competency.

**Jacey:** As a recent Bachelor of Arts graduate with a major in Psychology and minor in Sociology, I am extremely grateful for the opportunity to conduct meaningful research within the Social Work department. Ultimately, my goal is to attend graduate school and pursue a career as a clinical counsellor. Engaging in this research has provided a rich learning experience in which I have gained an unexpected admiration for research and knowledge dissemination. I look forward to putting my newfound skills into practice as I move forward from UFV to further academic endeavors and helping professions.

## **Do as I say, not as I do": Gender roles and decision-making power among racialized immigrant women in**

**Canada** | Studies have found that the majority of immigrant women come to Canada as dependent immigrants with their husbands. As such, it is important to investing ate immigrant women's lived experiences of gender autonomy in decision-making power and challenges that contribute to their limited socio-economic and civic opportunities in Canada. From a practice and policy perspective, the role and context of immigrant women affect social services, health, education, and economic sectors. The findings from this study will be significant for community and government organizations to develop gender-sensitive policies and programs appropriate to immigrant women of racialized groups. Further, the study will generate interest and debate among community practitioners and social workers and become a tool for advocacy and social action for women's empowerment and gender equity.



# ***Devina Badesha***

## **Teacher Education**

**Faculty Supervisor:** Nikki Yee

**Award:** \$1,000

**Devina:** My name is Devina and I just finished my last semester of my Bachelor of Arts degree. I am starting the Teacher Education program this fall and for one of the education classes I recently took, I got the opportunity to do a research project on the impacts racism can have on learning and development. Being from a minority background, shedding light on this issue is extremely important to me and it is crucial that educators become aware of the importance of including diversity within classrooms. Engaging in the project not only helped me spread awareness on a prevalent issue in education, but I got to gain an in-depth understanding of what I can do to foster an inclusive environment in a classroom and celebrate diversity. In order to become culturally competent educators, it is important to become aware of the detrimental impacts of racism and how it can affect children in and out of the classroom.

## **Devina Podcast: The Impact of Racism on Student Learning and Development**

My project focuses on how macro level policies are impacting micro level practices within the classroom and how these practices are failing to nurture languages, cultures and traditions that students from all walks of life bring with them. Such practices are contributing to the belief that those from monolingual and white upper/middle class backgrounds are superior, which prevents marginalized students from being able to achieve success in the classroom. It also has many negative impacts on a student's self esteem, their confidence and overall mental well being. This highlights the need to re-imagine learning and development to support marginalized students, which includes implementing culturally sustaining pedagogy, diversifying the representation of teachers and adopting frameworks and practices that allow students to make connections with their identity. When such steps are taken, students reap immense benefits that not only help them succeed academically and show positive behavioral outcomes, but it helps them build a positive racial identity as well.



# NSERC Undergraduate Student Research Awards (USRA)

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## \$6,000 Awards

These national awards from the Natural Sciences and Engineering Research Council are meant to stimulate interest in research in the natural sciences and engineering. They allow students to gain valuable research experience that complements their studies by working full time for a term with a nationally recognized UFV faculty researcher.

Additional funds are provided by the faculty researcher's grant.

### **Anna Bula, Biology**

Faculty Researcher: Lucy Lee

### **Amber Feaver, Biology**

Faculty Researcher: Justin Lee

### **Nicola Ferguson, School of Land Use and Environmental Change**

Faculty Researcher: Olav Lian

### **Avery LeComte, Chemistry**

Faculty Researcher: Linus Chiang

### **Megan Mulder, Chemistry**

Faculty Researcher: Linus Chiang

### **David Semke, School of Computing**

Faculty Researcher: Gabriel Murray

*UFV gratefully acknowledges the support of the Tri-Council Granting Agencies (SSHRC, NSERC & CIHR) through their Research Support Fund and financial contributions to the UFV Research Office.*



# Student Presentation Grants

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In addition to the awards mentioned here, the Research and Graduate Studies Office provides travel grants to students presenting their research at professional conferences. In 2022-23, 26 students were provided up to \$1,500 each to present at conferences online and across Canada, throughout the USA (including Hawaii), and internationally.

Our amazing students are often the only undergraduates presenting at these conferences, and they get to connect with leading researchers in their field of study. They often report that the experience was life changing and the highlight of their time at UFV, adding real world experiences to their educational journey.

*Space is an inspirational concept that allows you to dream big.*

*- Peter Diamandis*



# UFV Student Research Day Awards

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Each year the UFV Research Office invites undergraduate student researchers to showcase their work by participating in a fast-paced 2-minute Microlecture, a poster presentation, or both. More than 80 students connected at this lively interactive event and competed for eleven scholarship awards of \$200 each.

Engagement in research and events such as this can help students obtain scholarships, awards, and graduate school positions. It also contributes to UFV's strategic imperatives, "Provide opportunities for students to participate in experiential learning and/or research and scholarly activities with faculty members."

**Aysha Mcconkey - Environmental Studies, Natural Sciences Award:** President's *Does Anthonomus rubi utilize Potentilla spp. in the Fraser Valley* Faculty Supervisor: Sharon Gillies

**James Claire – Environmental Studies Award:** Provost & Vice-President Academic *Conservation of the Oregon Forestsnail Within the Fraser Valley Regional District* | Faculty Supervisor: Mariano Mapili

**Ryan Goldbach - Biology Award:** Associate Vice-President, Research and Graduate Studies *Investigating Cytotoxicity, Cellular Uptake, and Gene Knockdown Using LNP-siRNA Formulations in Rainbow Trout Cell Lines* Faculty Supervisors: Lucy Lee, Justin Lee

**Brielle Quon – Visual Arts Award:** Vice Provost and Associate Vice-President, Academic *Relocation Camp* | Faculty Supervisor: Grace Tsurumaru

**Kate Simpson - History Award:** Dean, College of Arts – Humanities *Homalco and smallpox* | Faculty Supervisor: Keith Carlson

**Maor Arad – Chemistry** Award: Vice President, Students *Rapid Proteomic Workflow Utilizing Pepsin within an in-situ Fabricated Open-Tubular Immobilized Enzyme Microreactor (IMER)* Faculty Supervisor: Golfam Ghafourifar

**Amanda Hooge – Psychology** Award: Dean, College of Arts – Social Sciences *The Influence of Cell Phone and Distraction on Cognitive Capacity* Faculty Supervisor: Andrea Hughes

**Greg Luesink - Kinesiology** Award: Dean, Faculty of Health Sciences *Investigating the Effect of Eight Week Hangboard and Handheld Training Methods on Finger Strength and Endurance in Intermediate and Advanced Rock Climbers* | Faculty Supervisors: Cynthia Thomson

**Laura Bodel - Biology** Award: Dean, Faculty of Science *Inventory and Timing of Disturbances in Breeding Great Blue Herons (*Ardea herodias fannini*) of the Fraser Valley* Faculty Supervisor: Gregory Schmaltz

**Mehak Narang – Computer Science** Award: Dean, Faculty of Business and Computing Award *Factors affecting the happiness score of a country* Faculty Supervisor: Longlong Huang

**Halen Davies, Jose Toffoli – Physics / Engineering** Award: Dean, Faculty of Applied & Technical Studies *Greenhouse Strawberry Health Monitoring Systems* Faculty Supervisor: Lin Long

Visit [ufv.ca/research/events/](https://ufv.ca/research/events/) to see photos of Student Research Day and videos of the student MicroLectures including our two student speakers!







# THANK YOU!

Our students could not soar to the heights that they do in their studies without the unwavering support of family and friends. Thank you for helping them reach for the stars in everything they do.

Special thanks to our incredible faculty and staff who are dedicated to mentoring our students, guiding them through their education experiences in a unique and relevant way to elevate their aspirations.

 *when our students succeed, we all succeed!*



**LASTLY**...a huge thank you to the **Clarion Hotel** for providing us with an amazing facility, great service, and an outstanding buffet for this event since 2004!



