

Program

Welcome

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

Board Chair Remarks

Mr. John Pankratz, Chair, UFV Board of Governors

Dinner Buffet

Provost & VP Academic's Remarks

Dr. James Mandigo, Provost and Vice President Academic

Student Speakers

Ms. Heather Kelly, Biology, Faculty of Sciences
Mr. Nafeel Arshad, School of Kinesiology

Acknowledgement of Student Awards

Dr. Garry Fehr, Associate Vice-President

Awards Presentations

Dr. Sylvie Murray, Dean, College of Arts
Dr. Alastair Hodges, Dean, Faculty of Health Sciences
Dr. Chris Schinckus, Dean, Faculty of Professional Studies
Dr. Lucy LeeTf-, (D)5.3 (e)-3 (an)2.2 (,)-1 (C)1.4 (ac)-2 (u)2.3 (It)-79 (y)-4.5 ()1

A Message from the President

Dear Undergraduate Research Excellence Award Winners,

While it is my absolute pleasure to send you my congratulations, I am sorry I cannot honour you in person at what is one of my favourite events at UFV.

Over the last couple of years, the world has faced unprecedented change and challenges. And in facing challenge, history has shown research to be a catalyst for solving the world's most pressing issues. However, this work does not promise to be easy, and answers to the most important questions require dedication to unravelling complexity while engaging meticulous and rigorous approaches to creating understanding. This is the work of researchers: your work.

Your engagement in research, without a doubt, has tested you. There may have been moments of true difficulty when nothing seemed to make sense or come together as you had hoped. There may have been dead-ends along the way. And at those times, it is important to remember that there is much to be learned from failure, from results you did not expect.

I'm proud that you've had this learning opportunity at UFV and hope you will take your experience and skills and make this increasingly complex world a better place with them.

Please take pride in your achievement, as I know that your faculty supervisors take pride in you! And I sincerely thank and applaud all of the faculty members who have mentored you along the way.

Research and teaching are the core functions of our institution and are fundamental in fulfilling our mission of engaging learners, transforming lives, and building community.

Student Speakers

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

Nafeel Arshad

After four wonderful years at the University of the Fraser Valley (UFV), I am graduating this June with a Bachelor's degree in Kinesiology (major in Active Health). Throughout my time at UFV, I have participated in numerous extracurricular activities that have provided me the opportunity to learn and grow as a student and individual. I was a Supported Learning Groups Mentor for KIN 170 (Human Anatomy), I have served on executive boards for the Kinesiology Students Association, the UFV Health and Medicine Club, and the UFV Stem Fellowship. I was a Level-3 Mentor for UFV Lead and was a member of the 2021 UFV KIN Games Team! Most recently, I have embarked upon my research journey, working with Dr. Amanda Wurz to explore the experiences of individuals diagnosed with cancer. I have been a co-author on an abstract presented at an international conference, am a co-author on two forthcoming manuscripts, and will be assisting with community outreach to share the findings of the projects I have been engaged with.

I have also been heavily engaged in my community, as a mentor for Big Brothers Big Sisters, a volunteer in at Tabor Home, and most recently, as

a mountain or taking a peaceful stroll on the beach with my family and friends. I am a first-generation immigrant from Pakistan and have happily called the Fraser Valley my home for over 19 years!

I aspire to one day become a psychiatrist so that I can work to improve the mental health and quality of life of as many individuals as possible.

Student Speakers

Heather Kelly

This past semester I completed my Bachelor of Science degree with a major in Biology. I grew up in the Fraser Valley and decided to come to UFV in 2018 after being awarded the President's Entrance Scholarship. During my time at UFV, I was amazed at the wide variety of experiences I was able to take advantage of. I spent the past three years in Dr. Lucy Lee's lab conducting research with Dr. Justin Lee, and during

Indigenous Research

Carlanna Thompson

History

Faculty Supervisor: Scott Sheffield

Award: \$1,000

Carlanna: I am graduating this semester with my Bachelor of Arts in History Honours and a minor in English. I have always been a little obsessed with the past. As a kid, I devoured book after book about

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to examine the complex and often contradictory nature of local settler-Indigenous relations in the late 19th and early 20th centuries.

Website Link:

cthompson.opened.ca/

Indigenous Research

Shelby Davis

Teacher Education

Faculty Supervisor: Nikki Yee

Award: \$1,000

Shelby: I am finishing my final semester at UFV with a Bachelor of Arts degree with a major in Geography. Soon after I will be applying to the teaching program in hopes to teach in an elementary school. Due to my family ties to Indigenous culture and respect for all it has to offer, I felt that this topic is extremely relevant. In the education curriculum there is a major push towards understanding and implementing Indigenous knowledge. This project allowed me to be

apart of the research team on the project. I was able to contribute to the research and learn a lot from the experience.

Maegen Sargent

Art History

Faculty

Avitasha Chand

Communications

Faculty Supervisor: David Thompson

Award: \$1,000

Avitasha: I am currently in my third year at UFV pursuing a degree in Psychology. Receiving an award for a research project surrounding mental health means a lot as it has been a focus on mine to raise awareness about it, alongside neurological disorders/mental illnesses. I am very thankful to David Thomson for giving me the space to explore a topic, such as epilepsy that is not discussed enough. I hope to continue my education in graduate school and utilize my platform to help make mental health resources more accessible.

Effective Treatment and Therapy Options to Combat Anxiety and Depression for People with Epilepsy

“Effective Treatment and Therapy Options to Combat Anxiety and Depression for People with Epilepsy” started off as a potential idea for this research project due to a personal journey with epilepsy. It is also a neurological disorder that is often not given the proper attention it deserves. In addition to that, anxiety and depression are not typically the first things people think about when it comes to epilepsy. However, it is a major part of it that needs to be talked about more. There is a high prevalence rate of anxiety and depression amid individuals with epilepsy.

The research report looked at a few different treatment options for anxiety and depression in people with epilepsy, and to see which are more effective. Regarding anxiety, Cognitive Behavioural Therapy (CBT) was found to not only decrease anxiety, but also the number of seizures. Oral medications on the other hand have been found to aid patients with generalized anxiety disorder and overall, a better treatment option for individuals with epilepsy. CBT has been found to be a more effective treatment option for individuals with epilepsy battling depression.

Daniela Castroparedes Herrera

Criminology & Criminal Justice

Faculty Supervisor: Hayli Miller

Award: \$1,000

Daniela: I am a UFV School of Criminology and Criminal Justice alumni student. In September, I will be attending the University of Victoria to begin my Juris Doctor studies. Through my honours studies and my work as a legal assistant, my drive to advocate for equity and equality continues to grow, which has fueled my aspiration to succeed in law school.

Considering the Best Interests of the Child Within the Impact of Race and Culture Assessments for African Canadian Offenders

Within my research, and under Dr. Millar's guidance, I analyzed how the Impact of Race and Cultural Assessments (IRCA) can be used to make decisions that prioritize the wellbeing of the defendant's children when making sentencing judgements for African and Caribbean Canadian criminal defendants. This topic allowed me to advocate for children who experience traumatic loss throughout the criminal justice system. Though my positionality as a Latina means I cannot fully understand the lived experiences of African and Caribbean Canadians, I can relate my own experiences of racism and parental loss to the circumstances in the case law I reviewed. Within my research, I found three primary findings. Firstly, during the criminal sentencing of a parental caretaker, there is an overall lack of recognition of the best interest of the child. Further, that the cultural and social networks of African and Caribbean Canadian children need to be safeguarded, and notably, the IRCA reports did not include ramifications a child may face if their parent is given a carceral sentence. A key finding is, that IRCA writers should be trained and have a responsibility to report on the rights of children, including the right to culture and identity, which for collectivist cultures includes acknowledging a child's social-cultural network.

Adena Penner

Economics

Faculty Supervisor: Michael Batu

Award: \$1,000

Adena: I am currently graduating from the University of the Fraser Valley with a Bachelor of Arts. I have been a dedicated student for many years and am excited to continue my education at SFU this coming fall. I am very grateful to my family, friends, and professors that have encouraged me to come thus far, as I would not be here without them.

Determinants of Salaries of First Nations Elected Chiefs in British Columbia

This study analyzes the First Nations elected Chiefs salaries in British Columbia and determines factors that influence their annual compensation. We used the First Nation1T (t)-2(flu5)2.2 N6 (e)-3 (t)-2.94z0.00

Ian Boese

Philosophy

Faculty Supervisor: Wayne Henry

Award: \$1,000

Ian: I am a 4th year philosophy major, hoping to continue on to law school, with a particular interest in Indigenous law. I became interested in modal logic after completing an introductory course in symbolic logic, thinking that more study in that area would prepare me for taking the LSAT. What I found is that considering modality is philosophy at its imaginative best, and th.8 (h)-0.7 (y)-4h.8 (h t)-7.9(ur)-5.(t)2.4 (ia1 (tbp)-0.8 (h)-0

Michelle Grafton

Psychology

Project Supervisor: Sven Van de Wetering

Award: \$1,000

Michelle: I am currently an undergraduate student at the University of the Fraser Valley, where I will graduate this spring with a BA in psychology and extended minor in sociology. During my time as a student, I have been fortunate enough to work as a research assistant for the Community Health and Social Innovation Hub

Brooke Higginbottom

Sociology

Faculty Supervisor: Kathleen Rodgers

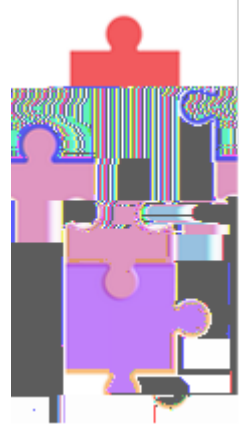
Award: \$1,000

Brooke: This semester was the end of my third year here at UFV. I am a sociology major, and my goal in studying sociology is to impact our understandings and constructions of everything to do with gender, sexuality, and sexual health. Moving forward, I hope to continue my education to achieve a Master's in Sociology. I plan on continuing my research into other lesser-known aspects of gender, sexuality, and sexual health.

“I don’t need to have sex to know that I don’t like it”: Asexual perspectives and experiences of romantic and sexual relationships

Over the past year, I realized that I am asexual. I wanted to incorporate this part of my identity into my studies, so, when given the opportunity, I decided to study the experiences of other asexuals. I realized that there were many gaps within the existing research about asexuality, so I took the opportunity to not only address those gaps, but to use my project as a way to educate others.

I found that the experiences of asexual people vary greatly from person to person, as the asexual spectrum goes beyond our basic understandings of sexuality. There is no way to capture every asexual experience within a single statement or paper. The sexual identities of asexual people actively deconstruct mainstream norms and ideas of relationships, romance, and sexual attraction. Many of the people in my study were aware of this and provided insightful comments on the construction of attraction.



Mia Davison

Theatre

Faculty Supervisor: Heather Davis-Fisch

Award: \$1,000

Mia: Mia Davison is a graduating student of the University of the Fraser Valley's theatre program. At the same time, she trained in a professional acrobatic program. She's excited to apply her learning and experience from both as she begins studying education.

"Performing Pain Under the Big Top" / "Just, Only, and Still Human"

"Performing Pain Under the Big Top" is a paper that compiled and discussed information suggesting and confirming the alarming prevalence of normalized pain in artistic, physical performance, and specifically in circus. I was able to anecdotally research through my own experiences in circus, as well as through theatre, physical therapy, and sociology sources. This paper helped me realize a darker side behind the bright big top.

*the solution
often turns out
to be more
beautiful than
the puzzle*

*- Richard
Dawkins*



Katrina Frankenger

Kinesiology

Faculty Supervisor: Gillian Hatfield

Award: \$1,000

Katrina: I am extremely grateful to the School of Kinesiology at UFV for providing numerous opportunities to learn about research in a hands-on setting, all of which led me to gain the skills needed to complete this pilot project. After graduation, I plan to gain practical experience in the field working with various populations, before applying to graduate school to study clinical exercise physiology. In the long term, I hope to pursue post-secondary teaching as well as continuing to investigate how exercise can be used to improve the quality of life for people who suffer from chronic conditions, and work directly with those patients.

The Feasibility of an Online Progressive Resistance Training Program with Instability for Individuals with Parkinson's Disease: A Pilot Study

Nicole Cusick

Nursing

Faculty Supervisor: Shelley Canning

Award: \$1,000

Nicole: I am a fourth-year Bachelor of Science in Nursing student passionate about Deaf-aware healthcare. In the future, I plan to pursue nurse practitioner training and provide Deaf-aware primary care services to D/deaf and hard of hearing patients, including services in American Sign Language. This study allowed me to develop research on an understudied population and begin a path to advocacy for D/deaf and hard of hearing patients.

Exploring D/deaf and hard of hearing people's experiences in the Canadian healthcare system

The purpose of this study was to identify the healthcare barriers experienced by D/deaf and hard of hearing people and to explore how healthcare professionals can provide Deaf-aware care. Poor communication, attitudes of healthcare providers, and the inaccessibility of services were themes that revealed a significant lack of Deaf-awareness in the Canadian healthcare system. A lack of access to sign language interpreters, especially in urgent situations, left participants feeling isolated from their health and medical care. One participant described how “there is a large difference between hearing that someone spoke and understanding what they said.” Experiences of poor communication compromise fundamental healthcare principles of patient safety, health literacy, and informed consent. Changes are needed to support the provision of a system that is accessible and Deaf-aware. Examples include ensuring streamlined and emergency access to interpreters, using clear face masks, and educating healthcare professionals on sign language and Deaf culture.

Addy Schnider, Trisha Kumar

Business

Faculty Supervisor: Kirsten Robertson

Award: \$500 each

Addy: As a Bachelor of Arts student with a double minor in business and communications and aspiring HR professional, Addy (she/her) is always looking for opportunities to get involved in the UFV community. This qualitative research project has allowed Addy to explore her interest in organizational behaviour and pursue her passion for lifelong learning.

Trisha: I am a fourth-year student working towards a Bachelor of Business Administration Honors degree in finance. After completing my undergraduate degree, I intend to pursue a Master of Science in Finance degree. This project has allowed me to develop the skills necessary to succeed in a rigorous, research-oriented graduate program. I am excited to continue to grow my research aptitude at UFV and in the future.

Stop for Squirrels, Speed up for my Manager: An Exploration of Supervisor-Perpetrated Mistreatment in Front-Line Service Work

We explored the experience of direct (i.e., being mistreated oneself) and third-party (i.e., observing co-worker mistreatment) supervisor mistreatment in the service industry. Through in-depth interviews with 35 service industry workers, we developed a framework of responses consisting of four categories: emotional reactions (e.g., feeling frustrated), prosocial responses (e.g., constructive intervention), antisocial responses (e.g., conflict avoidance), and relationship outcomes (e.g., bonding among employees). Within these four categories, we identified contrasting responses between experienced and observed mistreatment. We outlined the

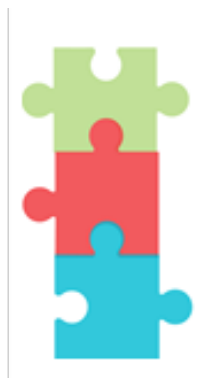
Chanzo Muema

Computer Information Systems

Faculty Supervisor: Amir Shabani

Award: \$1,000

Chanzo: I recently graduated from UFV's Bachelor of Science program, majoring in Computer Science. During my final year, I began research with the Interactive Intelligent Systems and Computing research group under the supervision of Dr. Amir Shabani. Engaging with the research group has greatly assisted with my securing multiple related career opportunities in software engineering. I intend to continue the research we began and eventually pursue a master's degree in Computer Science with a focus on affective computing.



Social Embodiment of Companion Robots in Smart Spaces: IoRT for Independent Living

Our system introduces a human-centered Artificial Intelligence (AI) approach to support independent living by providing immersive interactions between humans, robots, and their environments. We aim to have a socially intelligent robot equipped with personalized machine learning (ML) capability that can assist with daily human activities and improve the quality of life for individuals (e.g. dementia patients). We used AI and ML to aid in smart space control, and to improve emotion and mood through affective computing.

To make it scalable, we developed a method to remotely control these social companion robots (SCR) using an augmented reality (AR) interface. Furthermore, we developed a means to use a SCR to carry an audio conversation and one-way video feed with a centralized controller wearing an AR headset. To improve the mood of the individual, we integrated Google Assistant so that the SCR can interact with a smart environment (toggle lights, temperature, music, etc.).

Heather Kelly

Biology

Faculty Supervisor: Justin Lee

Award: \$1,000

Heather: This past semester I completed my Bachelor of Science degree with a major in Biology. Throughout my degree I had the incredible opportunity to be involved in research, which allowed me to gain vital skills for both my academic and professional future. I chose to conduct my research on the use of lipid nanoparticles in aquaculture due to the therapeutic use of LNPs and their multiple applications. In the future, I hope to continue my education by working towards my goal of becoming a family doctor.

The Investigation of LNP-siRNA Formulations for Rainbow Trout Fish Cell Lines Through the Examination of Cellular Uptake and Reporter Gene Knockdown In Vitro

LNP-mRNAs have gained extreme popularity in the last year as they are the major component of the Pfizer (Comirnaty) and Moderna (Spikevax) COVID-19 vaccines. Our project aims at transitioning this technology to benefit fish health, with the end goal of creating a new branch of aquaculture therapeutics. Encapsulating siRNA into LNPs can potentially be utilized to treat RNA fish viruses, including viral hemorrhagic septicemia virus (VHSV). We have been testing LNP-siRNA systems in a variety of fish cell lines in vitro to examine cellular uptake, gene silencing, and cytotoxicity. We also wanted to determine if this delivery platform is suitable for aquaculture. Results indicate that LNP-siRNAs are successfully taken up by the tested fish cell lines and that there are no significant cytotoxic effects. Future research will investigate the use of LNP-siRNA to knockdown a series of viral genes necessary for the replication and survival of fish viruses. This has the potential to benefit fish health and improve the aquaculture industry.

Bach Nguyen

Chemistry

Faculty Supervisor: Linus Chiang

Award: \$1,000

Bach: My name is Bach Nguyen, and I am currently studying at Simon Fraser University to pursue my Master's degree with Prof. Warren. I graduated from UFV last Fall with a Bachelor of Science in Chemistry. Research at UFV with Prof. Linus Chiang has developed my interest in working with the application of inorganic to catalyst design. During my time at UFV, the research prepared me to work well in my graduate studies as it shares many similarities. My research at UFV focused on designing new copper complexes to be used for CO₂ reduction. The project gives me a chance to create a catalyst from the beginning (literature research, lab work experience, problem-solving).

Investigating novel monometallic

Bis-amidoanilino metal complexes as small molecule activation catalyst

Functional groups that coordinate the metal center of an inorganic compound can greatly influence its electrochemical behaviour or the potential at which an oxidation or reduction reaction will occur. A widely studied class tetradentate ligand is the salen ligand, which is popular due to its ease of synthesis, allowing for a near-endless permutation of different complexes to be investigated, from varying its bridging unit, phenolate substitution, or metal ion. My project focus on creating a related class of tetradentate ligands, where two aniline functional groups are linked by a diamide bridge to yield a bis-amidoaniline ligand. It can be used for different metalation reactions and will be explored using optical and electrochemical methods established in the Chiang research group. I successfully made the target ligand for my project, which can be further studied and developed as a catalyst for CO₂ reduction by my lab-mate at UFV.

Jennifer Heldt

Environmental Studies

Faculty Supervisors: Steven Marsh

Award: \$1,000

Jennifer: I am currently an undergraduate student at the University of the Fraser Valley, where I will be graduating this summer in the Environmental Studies (Natural Science) program. I have greatly enjoyed my education at UFV thanks to the amazing instructors and students that helped me along the way. I decided to pursue this project due to my passion for research and conserving the environment.

Sara Hoffman

Social Work and Human Services

Faculty Supervisor: Brianna Strumm

Award: \$1,000

Sara: Sara graduates this year with a Bachelor of Social Work degree. Her supervisors note: "Sara's contributions have exceeded the Research Assistant job description, as she participated in editorial meetings with our Oxford University Press editors, and provided, from the lens of an upper level BSW student, a valuable review of content that has helped shape our vision of the book.

"Sara's work has been highly valuable and, additionally, she is reliable, punctual, responsive, professional, and manages her time extremely well. We wish her all the best in her future endeavors and are sad to see her go!"

Transformative community development in the 21st century: A Canadian guide

Transformative Community Development in the 21st Century will be an indispensable resource for Canadian postsecondary students interested in a comprehensive, up-to-date, practical textbook on community development. It will provide an overview of community development theory, history, and ethics as well as a practical guide to developing skills and strategies essential for engaging diverse communities in transformative community development initiatives.

Sara's duties included reading drafts of completed chapters to provide a student perspective on content and offering suggestions to make chapters more student-friendly; noting what was confusing or unclear; making suggestions for improving the clarity of the writing; identifying important curriculum that has been left out or underemphasized; and locating additional material that would enhance student understanding of the chapter topic.

BC Graduate Scholarships

Ministry of Advanced Education, Skills, and Training \$15,000

The Ministry has awarded funding to provide competitive, merit-based graduate student scholarships. These scholarships enable British Columbia institutions to attract and retain the best and brightest graduate students and increase their ability to compete for students who are leaders in their field.

UFV is delighted to receive \$90,000 from the Ministry, which will provide six \$15,000 BCGS awards over the next two years.

Website: www2.gov.bc.ca/gov/education/advanceskills/graduate-studies/graduate-studies-awards

Graduate Scholarships

UFV undergraduate students receive numerous prestigious awards for their graduate studies from national and international granting agencies and organizations. This year we have confirmation of the following:

Nyki Kish-Field – (UVIC) \$17,500

Faculty Researcher: Michael Corman

Social Sciences and Humanities (SSHRC)

Olena Bogdanov – (Cornell) \$70,000 USD

Faculty Researcher: Jon Thomas

Cornell's Dual Master's program in Urban Technology

UFV Student Research Day Awards

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

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 including "Provide opportunities for students to participate in experiential learning and/or research and scholarly activities with faculty members."

Heather Kelly - Biology

Award: President's

The Investigation of LNP-siRNA Formulations for Rainbow Trout Fish Cell Lines Through the Examination of Cellular Uptake and Reporter Gene Knockdown in Vitro

Faculty Supervisors: Lucy Lee, Justin Lee

Curtis Plug – Chemistry

Award: Provost & Vice-President Academic

*Investigations into the pharmacological impact of mono- or dimethoxy substitutions on chalcones in the model organism *Caenorhabditis elegans**

Faculty Supervisor: Nathan Bialas

Jordan McEvoy - Psychology

Award: Vice-President, Students

A More Generalizable Application of Social Norms and Its Effect on the Trustworthy Bias

Faculty Supervisor: Shawn Geniole

Jose Toffoli – Physics & Mechatronics

Award: Vice-Provost & Associate VP Academic

Monte Carlo Simulation for High Energy Photons in Radiotherapy Dosimetry

Faculty Supervisor: Derek Harnett

Jennifer Heldt – Environmental Studies

Award: Associate VP Research, Engagement & Graduate Studies

The Impact of Urbanization on Water Quality in Stoney Creek, Abbotsford, BC: The Correlation in Temperature and Dissolved Oxygen

Faculty Supervisor: Steven Marsh

Lisa Horton – Environmental Studies

Award: Associate VP Research, Engagement & Graduate Studies

Utilizing GIS to bridge the gap between vertical farming and local consumers

Faculty Supervisors: Rob Newell, Stephania Pizzirani, Addisalem Benyam

Samantha Motola - Psychology

Award: Dean, College of Arts – Social Sciences

How psychologists talk about psychological knowledge and research in podcasts: A discourse analysis

Faculty Supervisor: Donna Tafreshi

Katrina Frankenberger - Kinesiology

Award: Dean, Faculty of Health Sciences

The Feasibility of an Online Progressive Resistance Training Program with Instability for Individuals with Parkinson's Disease: A Pilot Study

Faculty Supervisors: Gillian Hatfield

Daylan Pritchard - Biology

Award: Dean, Faculty of Science

Applying Image Analysis Tools for Rapid Processing of in Vitro Rainbow Trout Cell Migration Data

Faculty Supervisor: Lucy Lee

Nicole Cusick - Nursing

Award: Dean, Faculty of Professional Studies

Exploring the experiences of D/deaf and hard of hearing people in the Canadian healthcare system

Faculty Supervisor: Shelley Canning

Leah Hamm - Agriculture

Award: Dean, Faculty of Applied & Technical Studies

Thrips monitoring in leeks: Preliminary Observations from the 2021 and 2022 field season

Faculty Supervisor: Renee Prasad

Visit

THANK YOU!

Our students