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UNIVERSITY OF SASKATCHEWAN

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2020 Graduate Research Conference



UNIVERSITY OF  
SASKATCHEWAN

**Behaviour,  
Society &  
Technology:  
A glimpse of current  
research approaches**





## WELCOME MESSAGE

### GSA President

The GSA is honored to host and welcome all participants to the 2020 Graduate Student Research Conference "Behaviour, Society & Technology: A glimpse of current research approaches". This conference brings together our brilliant researchers from the University of Saskatchewan providing the opportunity to share the latest information, exchange expertise on different topics, share the challenges of the associated fields, and form collaborations with each other. By your participation, each of you will enrich discussions, insights, and collaborations that will make the difference in this conference.

On behalf of the GSA executive, I welcome you to this conference and look forward to your participation.

**Mery Mendoza**

*President,*

*Graduate Students' Association*

*University of Saskatchewan*





## SCHEDULE

THURSDAY FEB 13TH

**9:30AM** Registration and Refreshments

**10:05AM** Opening Remarks

Dr. Trever Crowe, College of Graduate and Postdoctoral Studies,  
University of Saskatchewan

Mery Mendoza, President, Graduate Students' Association

## BEHAVIOUR

**10:20AM** Dr. Barbara Fornssler

*Academia in Action: How community-based research approaches can help mobilize advocacy and policy change to reduce the harms of problematic substance use*

**10:50AM** Harini Aiyer

*Strategy for development of a Health Education Program for Students in Northern Saskatchewan*

**11:05AM** Amanda Prudente de Moraes Goldbach

*Re-thinking the use of monolingual language acquisition standards to evaluate bilingual children's linguistic abilities*

## LUNCH

**12:40PM** Sylvia Constanza Mora Sanchez

*Engaging Youth in Community Forestry: Lessons from Oaxaca, Mexico*



## SCHEDULE

THURSDAY FEB 13TH

## HEALTH

**1:00PM**

*Humans, Animals and Disease Transmission: How do we know what we know?*

**1:30PM** Saman Naghie

*Mechanical characterization of 3D bioprinted scaffolds: one step closer to artificial organ printing*

**1:45PM** Farzad Dehghan

*An Implantable Bio-compatible Powersource: PVDF Nano-fibers based Microfluidic Fuel Cell*

**2:00PM** Allen McLean

*Investigating the Efficacy of Persuasive Health Technologies for Improving Patient Activation*

**2:15PM** Joelena Leader

*Exploring Community Perspectives on Telehealth Technologies in Northern and Indigenous Contexts: The Mutual Shaping of Tele-Healthcare Practice*

**2:30PM** Selehadin Seid

*Predictors of Weight Regain in patients who had Bariatric Surgery using Decision Tree and Logistic Regression*

**2:45PM** Namalika Karunaratne

*Effect of exogenous beta-glucanase on growth performance of broiler chickens fed hullless barley-based diets with and without medication*

## NETWORKING





## SCHEDULE

FRIDAY FEB 14TH

**10:00AM** Registration and Refreshments

### ENVIRONMENT/TECHNOLOGY

**10:30AM** Dr. Helen Baulch

*The water quality crisis in Canada*

**11:00AM** Samantha Morrice

*Diversity and Abundance of Native Bees in Canadian Prairie Agroecosystems*

**11:15AM** Hadi Ramin

*High efficiency energy recovery ventilator for reducing energy consumption in buildings*

**11:30AM** Tumpa Rani Sarker

*The effects of hydro-thermal pre-treatment and torrefaction post-treatment on the quality of biomass fuel-pellets*

### LUNCH



## SCHEDULE

FRIDAY FEB 14TH

### SOCIETY

**1:00PM** Dr. Rose Roberts

*Re-membering the Land as a Path of Healing*

**1:30PM** Farzana Quader Nijhum

*Evaluation of alternative future scenarios of Saskatoon's Northeast Swale to develop ecosystem services-based SEA framework*

**1:45PM** Sasha Sukkhu

*Utilizing the Theory of Sociocultural Models to Understand the Differences Between the Institutionalized Sociocultural Models of Teaching, Learning and Learners between India and Western Canada*

**2:00PM** Kerry Marshall

*Reproductive Rainbow*

### NETWORKING





## KEYNOTE SPEAKER

### Dr. Barbara Fornssler



Barbara Fornssler PhD is an Adjunct Professor in the School of Public Health at the University of Saskatchewan and is also the Knowledge Translation and Exchange coordinator for the Canadian Research Initiative in Substance Misuse (CRISM) Prairie Node. Dr. Fornssler has been working in the field of problematic substance use since 2011 and has enjoyed teaching the 'Studies in Addictions' graduate course, yearly since 2014. Dr. Fornssler has a background in women's and gender studies and studied the philosophy

of media and communications for her doctoral degree. She is one half of the experimental research-creation entity 'The Department of Biological Flow' based in Toronto, and she co-directs the 'Murmur Land Studios' field school that offers event-based pedagogy in art, philosophy, movement and ecology. Her research interests include; participatory research-creation methods, harm reduction, advocacy, intercultural communications, gender and embodiment. Importantly, when she's not in the office or the classroom, Dr. Fornssler enjoys camping adventures with her dog, a Great Dane named Opal.

**Title:** *Academia in Action: How community-based research approaches can help mobilize advocacy and policy change to reduce the harms of problematic substance use.*

In Canada, research about problematic substance use is shifting to better engage the voices of people with lived or living experience and other community members, with the aim of enhancing pathways to care and improving access to health services. However, social stigma around substance use and addictions remains one of the biggest barriers for individuals accessing care. Drawing on the outcomes of a 2018 study titled Consolidating Perspectives on the Nature of Saskatoon's Evolving Opioid Crisis this presentation will share how community-based research practices and methodologies can help reduce stigma and build cross-sectoral collaboration, enhancing community advocacy efforts and prompting policy change for better health outcomes.



### Strategy for development of a Health Education Program for Students in Northern Saskatchewan

Harini Aiyer

**Purpose:** There is a need for culturally sensitive, strengths-based, health education to empower Indigenous youth with health information. The Child-to-Child approach to health advocacy has the potential to strengthen the capacity of children with health information that can facilitate health behavior change in themselves, their families, and their communities. This study proposes to develop, implement, and evaluate a health education program for school students in Île-à-la-Croix—a Métis community in northern Saskatchewan, using the child-to-child approach. **Methods:** The program could consist of a combination of informational videos, class activities and interactive sessions relating to community health issues that are primarily informed by traditional ways of knowing and supplemented by western worldviews. Every stage of the program, including the curriculum development, will actively involve community Elders, school instructors, health professionals, and student representatives. The program be integrated into the school curriculum and be used as a part of an existing health education course. The study will follow a concurrent mixed methods design. In-depth semi-structured sharing circle discussions and interviews will inform the qualitative portion of the study. Pre-test and post-test questionnaires will be used to measure the change in subject knowledge of the students. **Conclusion:** The study has the potential to train children as advocates in their communities, contribute to their future learning and career as well as strengthen cultural identity and community cohesiveness.

### Re-thinking the use of monolingual language acquisition standards to evaluate bilingual children's linguistic abilities

Amanda Prudente de Moraes Goldbach

This study investigates the early acquisition of grammatical gender in Brazilian Portuguese (BP) monolingual and BP-English bilingual children. The acquisition of grammatical gender was tested through elicited production activities involving the attribution of gender to nonce nouns and the consequent production of gender agreement in determiners and adjectives. Monolingual and bilingual acquisition were compared to determine the effects of acquiring a non-gendered language such as English on children's process of acquiring and producing gender agreement in another language. In an increasingly multicultural society such as Canada, and with worldwide migration at all-time high, the number of children being raised in bilingual and multilingual environments is exponentially growing. Despite that, monolingual standards are still applied to gauge children's linguistic abilities, leading to incorrectly diagnosing bilingual and multilingual children with speech delays due to disregarding the differences in acquisition speed. This research aims to pave way to establishing new language acquisition standards specifically applicable to bilingual and multilingual children, taking their rate of language acquisition into account. Few studies have been conducted in bilingual gender agreement acquisition: Blom, Polišenská & Unsworth (2008) compares Dutch-learners of different first languages; Guillelmon & Grosjean (2001) compares early and late English-French bilingual children. As verified in those studies, the acquisition of a language which does not contain gendered nouns hinders the acquisition of grammatical gender in a language which does display them. As such, the hypothesis of this paper – later confirmed – was that bilingual Brazilian Portuguese-English children would demonstrate later grammatical gender acquisition and later production of determiner-noun-adjective gender agreement when compared to monolingual Brazilian child.



## Dr. Tasha Epp



Dr. Tasha Epp is a veterinary epidemiologist in the Department of Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan. Her academic career has focused on research into the epidemiology of zoonotic diseases and exploring dog-related issues in rural, remote, Metis and First Nations communities. She applies traditional approaches to disease assessment (quantitative epidemiology), in addition, incorporates community-based participatory and qualitative methodologies where appropriate. As director for the Centre for Applied Epidemiology, she is the lead for the newly developed Masters in Field Epidemiology offered by the WCVL.

She is currently working on developing a companion animal disease surveillance initiative in western Canada.

**Title:** *Humans, Animals and Disease Transmission: How do we know what we know?*

One Health, Planetary Health and EcoHealth. These are the newest buzz words associated with collectively assessing the health of all of the world, particular focus on the interface of human and animal health within the environment. But how do we know what we know about health issues that cross species boundaries, disciplinary boundaries and jurisdictional boundaries? This talk will provide an overview of the complexity of gathering knowledge from diverse research methodologies to tell a single cohesive story.

## ***Mechanical characterization of 3D bioprinted scaffolds: one step closer to artificial organ printing***

*Saman Naghieh, Daniel Chen.*

Extrusion-based bioprinting has been implemented to create three dimensional (3D) structures, called scaffolds. For various tissue engineering applications, different mechanical properties of scaffolds are required. Having said that, efforts have been oriented towards the identification of elements that can modulate the mechanical characteristics of scaffolds such as biomaterial, design, crosslinking mechanism, and sterilization method. In addition, the creation of either hybrid or composite scaffolds to compensate the poor mechanical or biological properties of a sole biomaterial is of importance. Composite/hybrid scaffolds are made of more than one biomaterial to improve the properties of sole material. In this regard, limited studies have focused on the effect of sterilization techniques on the mechanical behavior of hybrid/composite scaffolds created by 3D bioplotting technique, as an extrusion-based printing method. In this study, we developed hybrid and composite scaffolds composed of 2% alginate and 6% gelatin. To check the printability, first of all, the flow behavior of the proposed biomaterial was studied and a suitable range of viscosity was observed. Then, scaffolds were fabricated using a 3D bioplotter and sterilized (ethanol and ultraviolet (UV) exposure). Results showed that sterilization technique can significantly modulate the elastic modulus of scaffolds. Results of this study can be implemented to carefully design scaffolds from mechanical characteristics perspective.

## ***An Implantable Bio-compatible Powersource: PVDF Nano-fibers based Microfluidic Fuel Cell***

*Farzad Dehghan*

A reliable, flexible and biocompatible power source for implantable and wearable devices has always been one of the biggest challenges for medical device design engineers. Microfluidic fuel cells (MFCs) are one of the candidates to generate a constant and reliable energy which can address the aforementioned challenges. However, aspects of this approach, such as expensive materials, limitation of power density and biocompatibility, have not been fully addressed. These challenges have led to the application of micro fuel cells being limited to lab-on-chip research. The purpose of this research is to develop a microfluidic fuel cell using Polyvinylidene Fluoride (PVDF) Nano-fibers as a biocompatible substrate material and test the performance of the MFC by inducing a capillary flow of Hydrogen Peroxide solution. One of the potential applications of this research, in medicine, is utilizing PVDF Nano-fibers in electrochemical, implantable and wearable medical devices. This approach can also be applied to self-powered point-of-care diagnostic systems.

## **Investigating the Efficacy of Persuasive Health Technologies for Improving Patient Activation**

Allen McLean

Peripheral vascular disease (PVD) is a serious chronic health problem affecting blood vessels throughout the body, excluding the heart and brain. PVD interferes with normal circulation, and the long-term sequelae include a greater susceptibility to lower-limb and foot wounds – serious wounds frequently leading to infection, ulceration, gangrene, and ultimately surgical amputation. An mHealth behavioural intervention was designed and delivered to a cohort of people living with advanced peripheral vascular disease; an intervention encouraging self-care of the legs and feet aligned with clinical guidelines. Patient activation a concept for describing and quantifying people's self-care abilities in terms of the knowledge, skills, and confidence a person needs when taking on a greater role in their own health and care. Evidence gathered from studies across a wide range of health problems tell us that when people are encouraged and supported to become more activated, they often benefit from improved health outcomes, better care experiences, fewer ED visits, fewer unplanned care admissions, and are more likely to engage in healthier behaviours. Persuasive technology is any technology purposefully designed to change attitudes or behaviours. Persuasive health technologies are a specialized branch that focus on influencing health behaviours using theories of motivation, persuasion, and behaviour change for influencing, reinforcing, changing, or shaping health-related attitudes and behaviours, and often used in disease self-management. REDCap (research electronic data capture) is a secure and reliable web application for building and managing online surveys and databases. REDCap can be used to collect virtually any type of data, and is particularly useful for supporting online or offline data capture in research studies. This presentation will describe a novel use of the REDCap system – REDCap as a persuasive health technology

## **Exploring Community Perspectives on Telehealth Technologies in Northern and Indigenous Contexts: The Mutual Shaping of Tele-Healthcare Practice**

Joelena Leader

In Canada, northern and Indigenous communities face well documented challenges to accessing healthcare services prompting the urgency to adopt innovative solutions to overcome barriers related to geographic distance, physician shortages, limited resources, and high cost of service delivery. Telehealth – the means of delivering health care services and information across distance – promises to augment services to address these barriers and is increasingly relied upon to bridge healthcare service gaps. Despite the promise of telehealth, notable utilization barriers and structural constraints remain that challenge long-term sustainability. This research captures a snapshot of perspectives (n=24) from four Northern Saskatchewan communities, drawing attention to users' experiences in relation to the social and technical factors shaping telehealth use. This work highlights the importance of community collaborations and identifies the strengths and barriers for utilizing telehealth within northern and Indigenous contexts. Drawing on Science and Technology Studies (STS), it is argued that users and technologies play significant roles in shaping telehealthcare practice and care experiences – i.e. technologies shape patients' and local/remote providers' use of the system in enabling/constraining ways and users shape technologies through reconfiguration or "tinkering". A mutual shaping approach following the relational and performative view of socio-technical agency serves as a pathway for examining socio-cultural factors shaping how technologies are designed, implemented and used, and alternatively how technologies shape practice and meanings of socio-technical spaces. Further, it is argued that understanding the context in which telehealth technologies are situated and experienced will be increasingly critical as technological systems play greater roles in service delivery

## **Predictors of Weight Regain in patients who had Bariatric Surgery using Decision Tree and Logistic Regression**

Selehadin Seid

Data Science and Artificial Intelligence are disruptive innovations that offer a novel and superior data-driven discovery. Nurse as a central component of healthcare workforces, they are responsible for utilizing such technologies in the delivery of high-quality care. However, methods to identify patient risks are often neglected and outdated. Bariatric surgery is found to be the most effective intervention available for the management of morbid obesity with improvement in excess weight-related comorbidities and quality of life for patients. However, studies have shown that patients after reaching the lowest weight following bariatric surgery, they have the difficulty of maintaining the weight loss resulting in the unwanted postoperative risk, weight regain. Our primary goal of this study is to build predictive models in order to find the preoperative and postoperative predictors associated with weight regain following bariatric surgery at Ziekenhuis Groep Twente hospital. The univariate analysis of logistic regression revealed that Patients who had SG and RYGB, higher level of LDL, lower preoperative weight/BMI, and long duration since the operation were associated with weight regain. The performance of the decision tree was better than the logistic regression model. These findings suggest that the preoperative level of LDL is an independent factor for the occurrence of weight regain over the long term in bariatric patients. Nurses at hospitals can use the decision tree to understand better and predict the occurrence of weight regain. Following risk identification, an alert triggers clinical nursing processes that facilitate evidence-informed early patient assessments and interventions.

## **Effect of exogenous beta-glucanase on growth performance of broiler chickens fed hullless barley-based diets with and without medication**

Namalika Karunaratne

Limited use of medication in poultry feed has led to the investigation of feed additives as alternatives to antibiotics. Exogenous  $\beta$ -glucanase is used to mitigate negative effects associated with barley  $\beta$ -glucan, and an increased dose of  $\beta$ -glucanase might influence carbohydrate fermentation that helps in controlling enteric diseases. The objective of the study was to evaluate the effect of diet  $\beta$ -glucanase and medication on performance in coccidiosis vaccinated broilers. Broilers were fed a high  $\beta$ -glucan hullless barley (CDC Fibar)-based diet with  $\beta$ -glucanase (Econase GT 200P from ABVista; with and without) and medication (Bacitracin and Salinomycin Na; with and without) arranged as a 2 \* 2 factorial arrangement. A total of 2376 broilers were housed in floor pens, and vaccinated for coccidiosis in feed and water at d 5. Each treatment was assigned to 9 floor pens in each of 9 broiler rooms. The performance was assessed on pen basis at d 11, 22 and 33. Statistical significance was considered when  $P \leq 0.05$ . Body weight gain and feed efficiency were higher with medication regardless of the  $\beta$ -glucanase use through-out the trial (except d 11-22 feed efficiency). Beta-glucanase resulted in higher body weight gain after d 11 (lower response with medication), and lower and higher feed efficiency before and after d 11, respectively (treatments without medication). Feed intake was higher with medication but only in the treatments with  $\beta$ -glucanase. Overall,  $\beta$ -glucanase and medication increased the performance, and  $\beta$ -glucanase appeared as a partial replacement for diet medication to increase broiler performance.

## Dr. Helen Baulch



Dr. Baulch is an aquatic ecosystem biogeochemist. The overall goal of her research program is to determine how to maintain crucial freshwater ecosystem services in the face of climate change and nutrient pollution. She grew up splitting her time between the city and the lake, and continues to do so, now as an associate professor and Centennial Enhancement Chair in the School of Environment and Sustainability at the University of Saskatchewan.

### **Title:** *The water quality crisis in Canada*

Across Canada, residents are familiar with the consequences of poor water quality, from unsafe drinking water to the occurrence of harmful cyanobacterial blooms – experienced from coast to coast, and now in the north. These blooms, a consequence of climatic drivers and nutrient pollution, have been a growing issue for decades. In this talk, I will touch on water quality stressors seen across the country, focusing on nutrient pollution and its consequences in the prairies. We will discuss why solutions have been elusive, the need for adaptation, but also the need to redouble our efforts to help mitigate current water quality issues (and other environmental issues) before they grow even worse.

## **Diversity and Abundance of Native Bees in Canadian Prairie Agroecosystems**

Samantha Morrice

Habitat loss due to agricultural intensification has negative implications for native bee communities throughout Western Canada. Wetland remnants are a common feature within the Prairie Pothole Region of Saskatchewan and are threatened due to increased conversion to agricultural land. Twenty-four million acres of canola and wheat were grown in Saskatchewan in 2018. Wetlands found in this region are embedded in the these agricultural matrices and may act as an important nesting and floral resource for many native bee taxa. Bees were sampled from wetland and field margins into the surrounding cropland across a growing season in three field types (canola, cereal and perennial grassland) in order to quantify the role that these wetlands play in supporting native bees. The purpose of this study is to determine whether conserved natural habitats, such as wetlands, within a highly cultivated landscape support native bee and pollinator diversity that is both ecologically and economically beneficial. Data presented will highlight trends in bee diversity and community structure found within agroecosystems containing wetland habitat. It will also examine the contrast in community structure as it pertains to bees sampled from fields versus those found in natural margins.

## **High efficiency energy recovery ventilator for reducing energy consumption in buildings**

Hadi Ramin

Ensure access to affordable, reliable, sustainable and modern energy (Goal 7) plays a substantial role in achieving the 2030 UN sustainable development goals which are essential for assuring dignity, prosperity, and peace for people and the planet. Goal 7 is targeted to ensure universal access to affordable, reliable and clean energy, increase the share of renewable energy in global energy mix and double the global rate of improvement of energy efficiency. Buildings account for about 40% of total energy consumption globally. Ventilation is the process of removal of the contaminated indoor air and providing fresh air to the buildings. This process is an important task of Heating, Ventilating and Air Conditioning (HVAC) systems and it is highly energy intensive especially in harsh climate such as Canada. Providing fresh air for the occupants of building is critical as health and productivity of people is proven to be related to the indoor air quality. Energy recovery ventilators are being used to transfer energy from the leaving indoor air and precondition the outdoor air which is being brought to the home. In this research, a new generation of energy recovery ventilators know as fixed-bed regeneration is tested and optimized to reduce energy consumption in the building. The preliminary results indicate that effectiveness of close to 90% can be achieved using this new ventilator and a considerable improvement in energy efficiency within buildings can be achieved using fixed-bed regenerators.



**The effects of hydro-thermal pre-treatment and torrefaction post-treatment on the quality of biomass fuel-pellets**

Tumpa Rani Sarker

*In the last couple of decade the urge to reduce the dependence on fossil fuels and achieve a clean, renewable and sustainable source of energy has increased. Agricultural residue can be converted to a value-added product like fuel pellets which has a great potential to replace fossil fuels and to reduce greenhouse gas emissions by applying those pellets in different sectors for heat and power generation. In this research, a process of co-pelletization was successfully used to produce fuel-pellets from hydrochar of canola meal, canola hull and oat hull and canola meal. Copelletization has been conducted using a bench scale extruder. All pellets showed a durability > 80%. The pellets produced using a biomass/water mass ratio of 2.5 had a higher density than the ones produced with a biomass/water mass ratio of 1.75. It was also observed that the pellets with a hydrochar/canola meal mass ratio of 35/65 had a higher density and durability than the 50/50 and 65/36 mass ratios. To increase the higher heating value and hydrophobicity of pellet, microwave torrefaction has been conducted. Different characterization techniques such as elemental analysis, CHNS, FTIR, XRD were performed to observe the characteristics of the pellets before torrefaction. After the torrefaction, the pellets experienced a color change, as well as a decrease in density and durability. Torrefaction increased pellets' carbon content, decreased oxygen content of pellets, and degraded the hemicellulose structure of biomass. Torrefaction significantly decreased the moisture adsorption of pellets.*



**KEYNOTE SPEAKER**

**Dr. Rose Roberts**



Dr. Rose Roberts is Woodland Cree from the community of Stanley Mission, SK and a registered member of the Lac La Ronge Indian Band. Rose has an undergraduate degree in Nursing, masters and doctoral degrees in Community Health and Epidemiology and is a member of the Indigenous Voices team at USask. Her role as an Educational Development Specialist in Indigenous Engagement and Education is to work with faculty and staff as they progress on their personal and professional paths toward Indigenization, Decolonization and Reconciliation.

**Title:** *Re-membering the Land as a Path of Healing*

Mother Earth is of paramount importance within Indigenous worldview, we understand that without her we, as human beings, would not be on this earth. Disconnection to the land has been an ongoing effect of colonization on Indigenous peoples of Canada. What is the impact of the disconnection to land on Indigenous youth? I have been taking youth out on the land for freez up since 2008. This presentation will provide some stories of the land based experiences of the youth, as well as the real and potential impact on improving health outcomes for Indigenous communities when we re-member and re-connect to our Mother.





### **Evaluation of alternative future scenarios of Saskatoon's Northeast Swale to develop ecosystem services-based SEA framework**

Farzana Quader Nijhum

This presentation reports on an approach to the evaluation of ecosystem services of an urban natural area under current and future land-use scenarios using a strategic environmental assessment framework. The study area is Saskatoon's Northeast Swale, a 26-kilometer-long ecological corridor that links native prairie uplands and a series of wetlands, making home for many wildlife species at risk. The Swale is subject to the cumulative stress of a growing city, including residential expansion, stormwater drainage, and freeway, many of which do not trigger any regulatory impact assessment. While rapid urbanization poses a threat to ecosystem services, the relationship between development pressures and ecosystems in urban areas is challenging to realize quantitatively. This research presents a choice experiment of alternative future land uses to assess the value of ecosystem services and evaluate the impact of development or conservation actions on those values to understand preferred future land uses. Ecosystem services-based environmental assessment and urban planning are getting global attention, whereas there is a scope for future scenario-based research. For city planners, conservation authorities, and land developers, the research provides an important baseline for assessing impacts of development actions on ecosystems and environmental amenities, for making informed decisions on land-use trade-offs, for identifying viable mitigation options, and informing future planning priorities.

### **Utilizing the Theory of Sociocultural Models to Understand the Differences Between the Institutionalized Sociocultural Models of Teaching, Learning and Learners between India and Western Canada**

Sasha Sukkhu

In this presentation the author provides a literature review of the communal institutionalized sociocultural models (ISCM), of teaching, learning and learners in India and Western Canada. The study utilizes the theory of sociocultural models (Chirkov, 2018) to identify the challenges faced to an immigrant child's acculturation in the domain of Education. From the discrepancies identified between these models an understanding is gained of the challenges families from India face when entering into the Canadian education system. Additional barriers may emerge from the parental demands regarding their children's education in a new system and the actual practices experienced in school. A comparative analysis of these two models is the first step in identifying these barriers and forms the preliminary phase of the empirical investigation into understanding the mechanisms of acculturation used by the target population.



### **Reproductive Rainbow**

Kerry Marshall

Individuals in the lesbian, gay, bisexual, transgender, queer, and/or two-spirit (LGBTQ2S) community encounter barriers to accessing health care, for example, feeling uncomfortable discussing health concerns and receiving care that is not specific to their needs. Accessing health care in areas that are highly gender-specific – such as family planning and fertility intentions – can be particularly challenging for those in the LGBTQ2S community. Community partners currently engaging with LGBTQ2S individuals highlighted fertility intentions and family planning as often-asked questions; however, limited community supports and answers to these questions currently exist in Saskatoon. This study aims to explore how to best support fertility intentions and family planning for individuals within the LGBTQ2S community. This study will use case study methodology, an intersectionality framework, and arts-based research (ABR) to achieve these aims. ABR allows for the creation of visual art to engage community discussion and participation, and to explore the experiences within this population. Additionally, ABR engages the broader, external community through access to study results in a non-traditional way. There is a current lack of representation of the LGBTQ2S community in research, which warrants further inclusion and exploration. Specifically, if the discussion of family planning and fertility intentions is not appropriate nor comprehensive, the needs of this population may not be met - leading to a lack of fulfilment, lack of inclusion, and further health inequities.

### **Engaging Youth in Community Forestry: Lessons from Oaxaca, Mexico**

Sylvia Constanza Mora Sanchez

Forests are critical sources of sustenance and livelihood for local people. Where a strong dependency exists between people and forests, community-based forest management has been shown to improve income streams while conserving natural forest ecosystems. In Mexico, around 2,000 communities are active in forest management. Yet recent trends suggest that timber production has been declining over the past 10-15 years. While external and market-related factors are well-reported, internal factors and challenges are less well understood. In Mexico, current community forestry work and governance structures are dominated by older male members, leaving several sub-groups underrepresented, including young people. The loss of youth is of growing concern locally, given the collective labour, energy, and ideas they can bring, especially in small communities. How can Mexican forest communities engage and involve their youth to strengthen forest use and management? Through this question, I am exploring the perspectives (and values) of youth in relation to community institutions, collective projects, and forest resources; also, their current and potential roles in forest work and governance. Initial findings show that youth are strongly attached to their communities, and even though forest management has brought job opportunities, these jobs are, according to them, physically demanding. Thus, some of them decide to go to college, and later help the community as external participants. Also, there is a lack of knowledge, especially from young women, about all the work that forest management involves. Discussion centres around the possibilities of youth involvement in community forestry, and the implications for both community and forest futures.

