

**LCCC
PROGRAM ABSTRACTS**

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KEYNOTES

Keynote 1: Wildfire and climate change: What does the future hold for our communities?

Mike Flannigan, BC Innovation Research Chair in Predictive Services, Emergency Management and Fire Science, Thompson Rivers University, mflannigan@tru.ca

Wildfires are a frequent occurrence in many regions of the world. These fires are the result of interactions between climate/weather, fuels (vegetation) and people. Our climate and associated day-to-day weather are changing rapidly due to human activities that may have dramatic and unexpected impacts on regional and global fire activity. A warmer world means a longer fire season, more lightning activity, and most importantly drier fuels. Drier fuels mean it is easier for a fire to start, to spread and it means more fuel is available to burn that leads to higher intensity fires that are difficult-to-impossible to extinguish. Our fire regime is driven by extremes, and we expect an increase in frequency and intensity of extreme fire weather episodes.

Biography: Professor Mike Flannigan is BC Innovation Research Chair in Predictive Services, Emergency Management and Fire Science at Thompson Rivers University. He is also the Science Director of the Canadian Partnership for Wildland Fire Science (Canada Wildfire) located at the University of Alberta. Dr. Flannigan's primary research interests include fire and weather/climate interactions including the potential impact of climatic change, lightning-ignited forest fires, landscape fire modelling and interactions between vegetation, fire, and weather.

Keynote 2: Finding nature-based climate solutions in forests

Dr. Suzanne Simard, Professor of Forest Ecology, Faculty of Forestry, UBC; Lead of Mother Tree Project and Mother Tree Network, suzanne.simard@ubc.ca

Forestry practices in British Columbia over the past century have contributed to our economy, but this has come the cost of depleting forests, watersheds, carbon pools, and biodiversity. Extensive clearcutting has also amplified fire, beetle, flood risks, and drought, with positive feedback to our warming climate. In this talk, I will discuss how to transform from a resource extraction to a healthy ecosystem-based approach that reduces these risks while stabilizing our economy. A foundation of this transformation will be nature-based solutions in forests that are grounded in environmental and social justice.

Biography: Dr. Simard's research focuses on the complexity and interconnectedness of nature and is guided by her deep connection to the land and her time spent amongst the trees. She is known worldwide for her pioneering work on how trees interact with one another and communicate using below-ground fungal networks. With a team of collaborators, Dr. Simard has established the Mother Tree Project, an innovative long-term experiment crossing a 900-km climate gradient that is investigating how retention of old trees helps protect biodiversity, carbon storage, and forest regeneration as climate changes. This research has already shown far-reaching implications for sustainable stewardship of forest ecosystems in evolving climates.

Dr. Simard is a passionate science communication advocate, empowering people to help manage and heal forests from human impacts, including climate change. She shares her research globally through teaching, interviews, and documentaries. Her TED Talk, "How trees talk to one another," has accumulated more than 5.4 million views and has been translated into dozens of different languages. Dr. Simard's award-winning scientific memoir, *Finding The Mother Tree: Discovering the Wisdom of the Forest*, continues to extend her global impact. Among its

numerous accolades is the prestigious Lewis Thomas Prize, bestowed by New York's Rockefeller University, awarded in 2023, in recognition of its innovative fusion of science and the humanities. Last year, Dr. Simard also received the Kew International Medal from the Royal Botanic Gardens, Kew, London, England. The award recognized her "invaluable work and devotion" to championing biodiversity in forests.

Dr. Simard holds a Ph.D. in Forest Ecology from Oregon State University and is a Registered Professional Forester. In her career, she has published over 200 peer-reviewed articles and presented at conferences around the world. Her enduring commitment to advancing our understanding of forest ecosystems and promoting sustainable stewardship continues to inspire and catalyze positive change on a global scale.

Keynote 3: Mobilizing communities for the climate emergency: Lessons from the Second World War

Seth Klein, Director of Strategy Climate Emergency Unit, author of *A Good War: Mobilizing Canada for the Climate Emergency* (2020), seth@sethklein.ca

Seth Klein explores how we can align our politics and economy with what the science says we must do to address the climate crisis. But Klein brings an original and uniquely hopeful take to this challenge. His book and talks are structured around lessons from the Second World War – the last time Canada faced an existential threat. Canada's wartime experience, Klein contends, provides an inspirational reminder that we have done this before – we have mobilized in common cause across class, race and gender, and entirely retooled our economy in the space of a few short years. In his talk, Klein will outline the "6 Markers of Emergency" – the framework he and his team employ to indicate when a government or institution is actually in emergency mode – and he will share concrete ideas for how local governments and communities can manifest these markers as we confront the climate crisis. He will provide examples of new public/crown and community enterprises and other innovative public programs needed to drive down greenhouse gas emissions, and he will share examples of municipal-level policies that are expediting the transition off fossil fuels. Klein's talk will expand our imagination, and leave people with a clear sense of what leadership looks like in a time of emergency.

Biography: Seth Klein is Team Lead and Director of Strategy of the Climate Emergency Unit (a five-year project of the David Suzuki Institute that Seth launched in early 2021). Prior to that, he served for 22 years (1996-2018) as the founding British Columbia Director of the Canadian Centre for Policy Alternatives (CCPA-BC), a public policy research institute committed to social, economic, and environmental justice. He is the author of *A Good War: Mobilizing Canada for the Climate Emergency* (2020) and writes a regular column for Canada's National Observer.

Seth also served on the Executive and Steering Committee for CCPA-BC's Climate Justice Project (CJP), a multi-year research partnership with University of British Columbia. The CJP produced over 40 reports that collectively map out how BC can become carbon-zero in a manner that also reduces inequality, includes just transition for workers, and enhances social justice. The CJP brought together a network of academics, environmental ENGOs and trade unions to model, sector-by-sector, and industry-by-industry, how an ambitious GHG-reduction plan can be pursued and paid for.

ROUND TABLES

Round Table 1: Innovate today for a better tomorrow: Improving TRU campus buildings with green technology

Sandra Jasinowski, Warren Asuchak, Matt Milovick, Hossein Banitabaei, Corbin Guenther, Dale Parkes, Amie Schellenberg, Crystal Schock, Amaia Zearra

The semi-arid climate in Kamloops creates many environmental challenges that impact buildings, as well as the people that work, study, and reside within them. These challenges are exacerbated by climate change, where record-breaking heat events are becoming more frequent. Air-conditioning is not the best solution to regulate a building's interior temperature: it is costly, energy inefficient, and creates harmful emissions that further exacerbates global warming. In a time when we are facing unprecedented heat-related climate crises, we need to think outside the box and work collaboratively to help mitigate the effects of climate change and adapt to the new normal.

The main goal of our project is to research and install green technologies in two TRU campus buildings to increase their energy efficiency by using two strategies: install shading structures to reduce solar heat gain in the Early Childhood Education Centre; upgrade the green roof system of the British Columbia Centre. Funded by a TRU Sustainability Grant, our multidisciplinary team is working together with industry to find the most appropriate green technology solution for these two buildings.

Our second goal is to empower change in our community. By showcasing these green technologies, our community can discover options to modify their own place of work / residence / play. With the increasing effects of climate change, it is essential to provide information and ideas about environmental solutions and climate adaptation so that everyone can “do their part” to help reduce the environmental impact of buildings.

Sandra Jasinowski, Science, sjasinoski@tru.ca

Warren Asuchak, Campus Infrastructure, Sustainability, and Ancillary Services, TRU

Matt Milovick, VP Finance, TRU

Hossein Banitabaei, Architectural and Engineering Technology, TRU

Corbin Guenther, Architectural and Engineering Technology, TRU

Dale Parkes, Architectural and Engineering Technology, TRU

Amie Schellenberg, Trades and Technology, TRU

Crystal Schock, Campus Infrastructure, Sustainability, and Ancillary Services, TRU

Amaia Zearra Architectural and Engineering Technology, TRU

Round Table 2: Sustainable tourism in the central interior of British Columbia

Darcy Alexander, Court Edeburn, Anne Terwiel, Ellen Walker-Matthews, Lisa White

Tourism is a major contributor to the economy of the central interior of British Columbia and a part of the social fabric of the region. In this presentation / roundtable, representative from four of the major tourism institutions in the region—Rocky Mountaineer, Thompson Okanagan Tourism Association (TOTA), Sun Peaks Resort, and Tourism Kamloops—will outline the growth of tourism in the region over the last quarter of a century, position tourism as a cornerstone of livability in the region, and offer some thoughts on the future of sustainable tourism in the region i.e. define sustainable tourism and how this can be achieved / maintained).

Darcy Alexander, CEO, Sun Peaks Resort, dla@sunpeaksresort.com
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Anne Terwiel, Tourism Management, TRU, aterwiel@tru.ca
Ellen Walker-Matthews, CEO, Thompson Okanagan Tourism Association (TOTA),
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Lisa White, Director, Community Development and Engagement, Tourism Kamloops,
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Round Table 3: Indigenous perspectives on sustainability and resilience

Jeneen HERNs-Jensen (All My Relations, TRU), Chief (Williams Lake First Nation) Willie Sellars, Tkwenem7íple7 Nikki Fraser, Aaron Sumexheltza (Lower Nicola Indian Band)

In this roundtable, speakers from First Nations communities draw on their deep knowledge of Indigenous traditions and experiences to give their voices and perspectives on sustainability and resilience. In the roundtable, speakers will delve into traditional knowledge, practices, and community-driven initiatives that contribute to sustainable development and resilience of Indigenous communities. By connecting ancestral wisdom with contemporary challenges, the roundtable will foster a deeper understanding of the unique and invaluable contributions Indigenous communities offer in the pursuit of a more sustainable and resilient future. *Livable Cities, Collaborative Communities* welcomes delegates to learn about the interconnections between land, culture, and community from the perspective of Indigenous ways of thinking.

Biographies: Jeneen HERNs-Jensen is a mixed Algonquin, Shoshone, Norwegian and British settler descendant. She holds a Master of Education from Thompson Rivers University, with a background in English and language studies, political science, and Indigenous studies. Jeneen currently works as the Associate Director of the All My Relations Indigenous research center at Thompson Rivers University, she is an active researcher, gardener, and parent to her son (Secwepemc). Her prior research focuses directly on Indigenous educational success in intergenerational language learning, as well as linguistic teaching methods within Indigenous languages. jhernsjensen@tru.ca

Nikki Fraser is an elected Tkwenem7íple7 (Councillor) with Tk'emlúps te Secwépemc; her primary portfolio is natural resources/rights and title. Nikki is the oldest daughter to Joyce Fraser (Dave Manuel) and Rob Spence; her late kyé7e (grandma) and xpê7e (grandpa) were Yvonne (nee Fraser) and Ben Paul Sr. Her late great kyé7e and xpé7e were Joe and Susan Fraser and Rose and Petel Paul. Nikki is proud to be raising her sqwsé7 (son) Trey and her stemkélt (daughter) Aiyana with family values. Within TteS, Nikki has served on the Sk'elep School Board of Governor's Housing Committee, and coordinated the Indigenous food sovereignty and the Indigenous tourism programs. She has spoken at the United Nations on several occasions including addressing the UN Permanent Forum on Indigenous Issues (2016, 2019), UN General Assembly (2016), the UN Commission on the Status of Women (2017), and the UN High-level Political Forum (2018). Nikki is a graduate of TRU (BA [sociology and political science]) and worked at the university as an Indigenous research assistant. nikkifraser@live.ca

Willie Sellars was born and raised in Williams Lake, BC and is a member of the Williams Lake First Nation (“WLFN” or “T’excelc”) of the Secwepemc Nation. Elected to WLFN Council at the age of 23 in 2008, Willie was one of the youngest elected Councillors in WLFN history. After serving 10 years on Council he was elected as the Chief of the Williams Lake First Nation in

2018 and is currently in his second term. In his previous work experience, Willie worked as a Wildland Firefighter for the Ministry of Forests, Lands and Natural Resource Operations before returning to his community to assume the position of Special Project Coordinator in the WLFN Economic Development Department. During this time he was responsible for new business initiatives flowing from Impact Benefit Agreements, engagement with proponents in the traditional territory and community consultation for major WLFN projects. Willie is the author of *Dipnetting with Dad* (Caitlin Press, 2014), which won a Moonbeam Children’s Book Award, and was shortlisted for the Chocolate Lily, Shining Willow, and Ontario Library Association awards. His second book, *Hockey with Dad* (Caitlin Press), was released in the Fall of 2021. Willie enjoys his family time with his partner and four kids, powwow dancing, playing hockey with the Williams Lake Stampedeers, attending community events at WLFN, hunting and dipnet fishing. Willie.Sellars@wlfn.ca

Aaron Sumexheltza is a member of the Lower Nicola Indian Band; he works as a lawyer specializing in Indigenous law at Miller Titerle Company in Merritt. Aaron advocates for the rights of Indigenous nations and advises Indigenous organizations on governance, economic development, and shared decision-making. He also works on justice-related issues and has a passion for helping Indigenous nations revitalize their laws. As a former elected chief and councillor of the Lower Nicola Indian Band, Aaron’s leadership experience provides him with a deep understanding of the challenges and the work required for his Indigenous clients. Previously, Aaron primarily practiced as a criminal defense lawyer, representing Residential School Survivors seeking compensation for abuse. He has represented clients in the BC Provincial Court, BC Supreme Court, and BC Court of Appeal. aron@millertiterle.com

Round Table 4: City of Kamloops climate action plan

Nancy Bepple, Glen Cheetham, Stephen Bentley, Purvez Irani

In this roundtable, Kamloops Councilor Nancy Bepple and staff from the city will discuss the City of Kamloops’ Climate Action Plan. Discussion will focus on:

1. the primary components of the action plan—transport, housing, and waste disposal
2. successes and challenges of implementation, and
3. prognoses for sustainability in Kamloops and surrounds.

Nancy Bepple, City Councillor, nbepple@kamloops.ca

Stephen Bentley, Community Planning, sbentley@kamloops.ca

Glen Cheetham, Manager, Climate and Sustainability, gcheetham@kamloops.ca

Glen Farrow, Manager, Streets and Environmental Services, gfarrow@kamloops.ca

Purvez Irani, Transportation, pirani@kamloops.ca

WORKSHOPS

Workshop 1: Foresight's BC Net Zero Innovation Network

Hilary Travis

Foresight's British Columbia Net Zero Innovation Network (BCNZIN) is an initiative to accelerate BC's transition to a clean economy and reach our 40% GHG reduction target by 2030. Our goal is to fast-track the scaling and adoption of clean technology solutions through ecosystem development, project development support, programing, and research. The network is focused on water, forest-sector bioeconomy, mining, and transportation sectors, and brings industry, innovators, investors, academia, government, and First Nations to work together. One of the network's priorities is regional economic development from a climate lens. We have undertaken several regional consultations where we bring together relevant stakeholders to discuss challenges and knowledge gaps, and coordinate action on priority projects to strengthen climate action. We have found towns, cities and districts have similar challenges and an opportunity to deploy projects together allowing information sharing and cost reduction.

The workshop involves 20-50 conference participants seated at 4-5 tables. It would begin with a presentation on BC's clean technology competencies and the BCNZIN. Each table will be asked to identify 3-5 local climate challenges, projects, or opportunities. The tables will be asked to present, everyone will vote, and the top 4-5 will be selected. Everyone will then break into the challenge / project they are interested in and work together to develop what a possible solution might look like, who would need to be involved and chart out some next steps. Our team will take this information, and follow-up with participants to find ways to action the projects.

Hilary Travis, Director (British Columbia) Foresight Canda, htravis@foresightcac.com

Workshop 2: Toward a net-zero commitment: Climate Action Secretariat, greenhouse gas emissions and climate resilient communities

Dave Aharonian

The CleanBC Roadmap to 2030 (Roadmap) is B.C.'s plan to meet our 2030 emissions reduction targets and sets the course to fulfill our net-zero commitment by 2050. The Local Government Climate Action Program (LGCAP), along with other provincial measures such as the Clean Transportation Action Plan, zero carbon new buildings and highest efficiency standards for new space and water heating equipment, is a Roadmap commitment that acknowledges the critical role local governments play in meeting the province's legislated greenhouse gas (GHG) mitigation targets. LGCAP disburses \$25 million annually to local governments and Modern Treaty Nations to advance climate action. The province continues to work with local governments to determine the most impactful actions to reduce GHG emissions and build climate resilient communities.

This workshop will focus on what the Climate Action Secretariat (CAS) has learned from local governments through LGCAP and which actions are currently most effective to meet the province's and local governments' GHG reduction targets:

- Reporting
 - Corporate & Community GHG reporting
 - Environmental and Social Governance reporting

- Net-zero commitments
- Complete Communities
- Transportation
 - Electric vehicle readiness
 - Active transportation
 - Fleet decarbonization
- Buildings
 - BC Energy Step Code
 - Building retrofits
 - Low-carbon materials

This workshop will start with a 20-minute presentation on these ‘big moves’ followed by 10-minutes of questions and answers. Participants will then have 60 minutes to join a facilitated small group discussion on the topics listed above. During these discussions, we will identify local climate priorities and the challenges of getting to implementation.

Dave Aharonian, Ministry of Environment and Climate Change Strategy, Climate Action Secretariat, Dave.Aharonian@gov.bc.ca

Workshop 3: Sustainability in Salmon Arm: A model for anywhere

Warren Bell, Julia Beatty, Launa Pyane, Howie McMillan

In this workshop, four ‘guides’ from Salmon Arm lead discussion, exploration, teaching and learning around sustainability from diverse perspectives. The guides are:

- Julia Beatty, retired career biologist and coordinator of the Shuswap Climate Action Society, <https://www.shuswapclimate.org/>
- Launa Pyane, Indigenous educator and executive director of Rise-up Indigenous Wellness, <https://riseupindigenouswellness.ca/>. Rise-up Indigenous Wellness promotes Indigenous culture, values and relationships to the land. It primarily addresses people who identify as urban Indigenous and has a particularly strong focus on food and food security
- Howie McMillan, retired investment counsellor, former businessman, and coordinator of the Salmon Arm Downtown Farmers’ Market, <https://shuswapfood.ca/farmersmarket/>
- Warren Bell, founding president of the Canadian Association of Physicians for the Environment (www.cape.ca) and a long-standing ecological, social justice and peace advocate.

Each ‘guide’ will introduce their perspective on sustainability. They will encourage participants to share their own backgrounds and perspectives on sustainability before leading them through a series of activities that include small group breakouts, on-line instantaneous surveys and questionnaires, and sharing resources and connections to resources.

Each ‘guide’ will briefly introduce a different perspective on sustainability in the context of local community approaches. The guides will encourage participants to share their backgrounds and perspectives on sustainability. They will then lead participants through a series of activities and interactions that include small group breakouts, on-line instantaneous surveys and questionnaires, and sharing resources and connections to resources. Participants should be able to understand critical components of sustainability, as well as the issues that are currently

silent in the concept and thus left unaddressed. Through these activities, participants will better understand their own positions with regard to responding to the key issues that underscore sustainability, and be able to make more informed decisions moving forward.

Warren Bell, BC Host of 'Food Conversations' on CKVS FM 93.7, cppbell@web.ca

Julia Beatty, julia.beatty@telus.net

Launa Pyane, Indigenoustriseup@gmail.com

Howie McMillan, howiemcmillan@gmail.com

THEMATIC SESSIONS

Themed Session 1: Using art to re-story livable communities

Eveline Kolijn, Lyn Baldwin, Kara Lefevre, Monica Kidd

The consensus is clear. To restore the world, we must re-story our relationship with it. Today, in the Anthropocene, the Age of Humans, empirical evidence indicates that humans and ‘nature’ are intertwined. Yet, for many of us, hegemonic stories still separate Us from Them, nature from culture, science from art. This dualism of the Anthropocene is such an entrenched part of our intellectual heritage that dislodging it requires changing the very way we read the world, and art can help in that. Across our continent, from the intermontane grasslands of Kamloops to the foothills of Calgary to the coastlines of Newfoundland and Florida and the Caribbean Sea, re-storying a path forward requires that we embrace the disruptive possibility of art. Through both practice and products, art can reshape the mental map of its practitioners and the larger public. A ‘re-discovery’ in the Anthropocene is that ‘nature’ is not inanimate after all; it is animated. It reacts and moves in response to our actions because we are part of it. In this session we will use the lived experience of four observers—scientists, doctors and artists telling stories through both word and image—to highlight the role of art in imagining new possibilities for livable cities and collaborative communities.

Eveline Kolijn, Independent Artist and Writer, Ambassador for Energy Futures Lab,
evelinekolijn@gmail.com

Lyn Baldwin, Thompson Rivers University, lybaldwin@tru.ca

Kara Lefevre, Thompson Rivers University, klefevre@tru.ca

Monica Kidd, University of Calgary/Memorial University of Newfoundland,
monica.kidd@me.com

Themed Session 2: Scaling up support for local government climate action in British Columbia

Dave Aharonian, Allison Ashcroft, Alex de Chantal, Josephine Howitt

The BC government’s climate plan, the CleanBC Roadmap to 2030, adopted targets of 40% greenhouse gas emissions reductions by 2030, and net-zero carbon pollution by 2050. With municipalities estimated to be responsible for approximately 50% of greenhouse gas emissions in Canada, it is critical to engage local governments and Indigenous communities to achieve the targets, while also increasing resilience to climate impacts. This session details the increasing support available for climate action—both mitigation and adaptation/resilience—and, using survey data and case studies, shares results that highlight both successes and challenges of implementation. Funding/financing options, capacity-building for staff, collaborative networks, policy templates, best practice guides and tools have been developed, with various institutions and organizations playing complementary roles. The BC government’s Local Government Climate Action Program provides local governments and Modern Treaty Nations with predictable and stable funding and collects data on the status of climate action in participating communities. The Municipal Finance Authority of BC provides financing through an innovative, cooperative model, including issuing sustainability bonds and offering low interest rates for climate action-related infrastructure projects. Fraser Basin Council leads Community Wildfire Roundtables for communities in the interior of the province, supporting coordination and

communication among those responsible for different aspects of wildfire preparedness and risk reduction. The Community Energy Association has developed peer networks, implementation cohorts, an online dashboard, and other tools to foster collaboration and efficiencies amongst local governments and Indigenous communities. Together, these measures are amplifying the scale and pace of the transition to low carbon, resilient communities in B.C.

Dave Aharonian, Communities, Climate Partnerships and Engagement Branch, Climate Action Secretariat, Dave.Aharonian@gov.bc.ca

Allison Ashcroft, Municipal Finance Authority of BC, allison@mfa.bc.ca

Alex de Chantal, Thompson-Okanagan Fraser Basin Council, AdeChantal@fraserbasin.ca

Josephine Howitt, Climate Planning and Implementation Community Energy Association, josie.howitt@gmail.com

Themed Session 3: Cross-pollination: How collaboration between Kamloops non-profits advances sustainability

Gisela Ruckert, Jess Payette, Jesse Ritcey, Lindsay Harris, Nancy Flood

In June 2021, the City of Kamloops adopted a Community Climate Action Plan (CCAP). The plan was developed with significant input from several local non-profit organizations including, the Kamloops Food Policy Council (KFPC), Transition Kamloops (TK), and the Kamloops Naturalist Club (KNC). These groups led an advocacy effort to build political support for adoption of the strongest possible climate reduction targets, while emphasizing co-benefits like creating a healthy urban ecosystem and a regenerative local food system and applying a social justice lens. However, adoption of the plan was only the beginning. Securing long term implementation funding and sustaining social and political support are ongoing efforts, especially as fresh opposition has emerged since the plan's adoption. As a small city, the capacity to engage in environmental advocacy is limited. Through collaborative efforts, this challenge has been transformed into a powerful tool for change. By hosting a joint climate crisis study group, facilitating a day-long Climate Action Fest, and then supporting and funding a variety of community-initiated climate action projects, these grassroots organizations are helping advance the CCAP.

This session will introduce delegates to the work of the KFPC, TK, and the KNC, as representatives from each organization reflect on their work, its relationship to the CCAP, and the theory of change that motivates their collaborative cross-pollination. A Q&A session will facilitate cross-community learning, allowing attendees to discover more about best practices in organizing community-led climate action.

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Jess Payette, KFPC, jess@kamloopsfoodpolicycouncil.com

Jesse Ritcey, KNC, jesse@naturekamloops.ca

Lindsay Harris, KFPC, lindsayellenharris@gmail.com

Nancy Flood, KNC, Nflood@tru.ca

Themed Session 4: Sustainable food systems I: Working with the land

The Skeetchestn school learning garden project

Shelaigh Garson

Skeetchestn Community School has embarked on an ambitious food sovereignty project in response to the rural community's fragile food systems, gaps in land-based food procurement, and climate change indicators. Deadman's Valley, home to the Skeetchestn Indian Band, was once a thriving region for Indigenous food sovereignty, both in traditional hunting, fishing, and gathering, and later, farming, ranching, and agricultural production. In the past few decades much of this has changed due to challenges facing this isolated first nations community. The Skeetchestn School Learning Garden project was initiated by a group of teachers through a small grant from Farm 2 School. The project aimed to introduce food literacy and food security by engaging students in their local food systems through land-based learning.

The Learning Garden project has since expanded with additional funding. New findings have identified that local food security barriers include climate change, accelerating drought conditions, and local food procurement, processing, storage, and distribution issues. A master plan has been developed to include a large rainwater harvesting system, a root cellar, and a food processing hub. These systems have been integrated nicely with the addition of the Skeetchestn Stables (animal husbandry systems) and Skeetchestn Culture Camp (a traditional pit house, tanning hut, and smokehouse). Today, they are working together to strengthen the community's dedication to Indigenous food systems.

Through the implementation of Climate Mitigation Systems Design, Skeetchestn Community School Learning Garden and Agricultural Centre has persevered and shown resiliency in strengthening their community food sovereignty.

Shelaigh Garson, EveryOne's Eden Regenerative Land Design, Skeetchestn Community School Learning Garden Project, edenquest@me.com

Toward a collaborative approach to wild salmon management, conservation, education: The case of Adams River Salmon Society

Robert Hood and Carmen Massey

The Adams River Salmon Society (TARSS) is a non-profit association based at one of the world's most notable salmon spawning grounds, Adams River, in Tsútsweew Provincial Park, British Columbia. TARSS's vision is to "promote the conservation of wild salmon and the cultural resources of Tsútsweew Provincial Park through education and interpretation." TARSS has evolved from its original purpose, which was to organize and host the Salute to Sockeye Festival every four years congruent with the dominant salmon spawning cycle, to managing a 'Canadian Signature Tourism Experience' with attendant and growing economic, social and environmental expectations. In the past 5 years, consistent with this development, the Salute has attracted international tourism research, TARSS has hosted the first British Columbia Salmon Symposium, and a TARSS member has conducted scientific research into wild salmon management, conservation and education at the Adams River and beyond. The latter research emphasized the collaboration between multiple agencies and actors. Indeed, a greater understanding of roles of multiple players stemmed from efforts to support Indigenous leaders and engage them in TARSS's vision. Subsequently, progress has been slow, compromised further by the 2023 wildfires that swept through the territory causing considerable damage. In

this presentation we will emphasize the contributions made by TARSS and describe the current challenges in exercising a collaborative approach, and the current and future actions required to achieve TARSS's vision in wild salmon management, conservation and education.

Robert Hood, Tourism, TRU, rhoon@tru.ca

Carmen Massey, Reach Marketing Consulting, reachmarketingconsulting@gmail.com

Themed Session 5: Food systems and social justice

In this session, TRU graduate students and alumni present research and discuss issues pertaining to equity and climate justice. Issues considered include Indigenous knowledge and approaches, food security and food sovereignty, enhancing the resilience of populations vulnerable to climate impacts, and creating equitable economic opportunities in the anticipated shift to a low carbon economy.

Courtney Mason, Fauve Smith, Emalee Vandermale, Shay Paul, Kevin Pankewich

More than just a meal: Community and social justice approaches to food security in Kamloops, BC

Fauve Smith

Kamloops, British Columbia, is a rural city situated on Tk'emlúps te Secwépemc, within Secwepemcúlecw, the traditional and unceded territory of the Secwépemc peoples. For countless millennia, Secwépemc peoples have been intimately connected with the delicate ecosystems within this region, relying on local and wild foods for their sustenance. Indigenous wisdom and knowledge were passed down through generations until the exchange was disrupted by the arrival of colonial-settlers. Consequently, many community members have become disconnected from the land and lack necessary food literacy and skills. This panel presentation will address the intricate web of historical and contemporary disparities that perpetuate food insecurity within the local Kamloops food system.

Through 25 semi-structured interviews with local food community champions and knowledge holders, significant barriers to achieving community food security were identified. A community-based participatory research framework was employed, along with in-depth community volunteer work and participant observation to gain insights into the local food system. This research explores the existing opportunities to bolster food security through grassroots activism and the development of local policies. Additionally, the study examines intersectional relationships between food security, neoliberalism, institutionalized racism, and the entrenched social structures within the regional food system that perpetuate food insecurity, including issues related to white supremacy, colonization, and poverty.

Fauve Smith, Master of Environmental Science, TRU, Kamloops Food Policy Council, fauvegarson@gmail.com

Growing sustainable and resilient northern Indigenous communities: Gardens, local food systems, and adaptive capacity to change in the Dehcho Region, Northwest Territories

Emalee Vandermale

Northern Indigenous communities in Canada experience the highest rates of food insecurity and diet-related illnesses in the country. This is primarily due to imposed colonial processes that transformed Indigenous diets and lifestyles and reduced access to nutritious market- and land-based foods. Government-led efforts to combat food insecurity have largely failed to make long-term impacts. As a result, northern Indigenous communities are rebuilding local food systems and implementing community garden programming to improve access to fresh, nutritious foods and address ongoing colonial impositions. Guided by Indigenous methodologies and collaborative approaches, this research uses semi-structured interviews with community members and northern residents involved in gardening initiatives in the Dene and Métis community, Fort Providence, Northwest Territories. The results and discussion explore the barriers and opportunities of gardening initiatives and assess how they support food systems and adaptive capacity to pressing environmental and socio-economic change. While only one part of a multifaceted approach, the findings emphasize the importance of long-term support for community-led gardening initiatives because of their holistic contributions to socio-economic, cultural, and environmental sustainability in northern Indigenous communities. Diverse communities, funders, and policy makers can use this research to inform garden projects in other rural and northern contexts.

Emalee A. Vandermale, Masters in Environmental Science, TRU, evandermale@mytru.ca

Analysing food sovereignty in Secwepemc'ulucw: Realizing a pathway to Indigenous dietary health through cultural reconnection

Shay Paul

For thousands of years, the Secwepemc people have been cultivating, harvesting, and connecting with the land of the Interior Plateau. Age-old traditions and harvesting practices have laid a pathway toward merging culture with the land and its bounty. Since settlement came to the Interior, the effects of being disconnected from the land have led to substantial diet change. The result can be seen in Indigenous bodies, who are overrepresented in health data reporting on obesity, cardiovascular disease, and Type 2 Diabetes compared to non-Indigenous populations. Reintroducing traditional means of food procurement supports better dietary practices and offers a cultural reconnection to traditions and community.

Shay Paul, Tourism Management / Horticulture, TRU, Shay-paul@hotmail.com

Risk mitigation in British Columbia's food system

Kevin Pankewich

A health-based food sovereignty approach toward the food production system in British Columbia may help alleviate both greenhouse gas emissions and reduce both associated supply side risks and demand side risks that will be exacerbated by climate change. Increased severity and frequency of weather hazards threaten to manifest as diverse risks, threatening the reliability of agriculture and shipping routes. Localizing production and encouraging organic practices may reduce some of the associated risks while lowering emissions. In addition to environmental risks, those already facing food security related issues are at greater risks of climate induced food security stressors. Effective policies safeguarding the provincial food system against climate change related hazards may address, on a provincial level, a substantial reduction in GHG emissions that are responsible for increasing the probability of these risks by incentivizing local and organic production. Addressing demand side risks as health hazards offers an opening to preventative medical intervention by encouraging people to eat healthier and reduce risks to themselves and their environment. Food sovereignty – the aspiration of developing a food system that is both capable of providing better-than-adequate nutrition for the community and is responsive to community needs – offers a lens from which to address the root causes of the issues: a lack of public control over resource provision and the ability for communities to operate autonomously. This paper addresses all four conference themes.

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Themed Session 6: Creating equitable economic opportunities through the creative economy

Karen Bannister, Kelly Galaski, Assetou Coulibaly

As we approach crucial ecological, transformational, and social tipping points, it is clear that economic models based on extraction of resources and maximization of profits do not serve a sustainable, equitable, decolonized and peaceful future for local and global communities. As we

imagine alternative economic futures, we must consider the potential of the creative economy. The United Nations situates the creative economy as an evolving concept “which builds on the interplay between human creativity and ideas and intellectual property, knowledge and technology.” It is among the fastest growing sectors of the global economy. The contribution of the creative economy to sustainable development was highlighted in the United Nations General Assembly resolution 74/198, which recognized that it “aligns with the three dimensions of sustainable development – economic, social, and environmental.”

In this thematic session, *Creative Coast*, a Vancouver Island-based collaboration lab that offers bridging supports into creative entrepreneurship and creative industries, advances the innovation-related practices, capacities, and potential of creative workers. From our work, and through an exploration of existing research globally on the role of arts and culture in (re)generative models of local (in particular, rural) economies, this session asks how we can support and harness the economic strength of this creative sector to drive robust development. Together with 1-2 creative entrepreneurs (we are committed to featuring underrepresented voices), and Kelly Galaski of The Travel Foundation, we will explore how nurturing the creative economy can contribute to a prosperous, socially enriched, and culturally vibrant future.

Karen Bannister, Creative Coast, info@creativecoast.ca

Kelly Galaski, Sustainable tourism specialist, The Travel Foundation

Assetou Coulibaly, Project manager, Accent Inns

Themed Session 7: Sustainable food systems II: Networks, community development, and local food initiatives

Kamloops Food Policy Council

Fauve Smith, Kent Fawcett, John Hull

The Kamloops Food Policy Council (KFPC) is a local non-profit organization dedicated to addressing food security in the Kamloops community and its surrounding areas. Established in 1995, it holds the distinction of being the longest-standing independent food policy council in Canada. With a strong grassroots network and a range of programs, the KFPC actively works to combat food security issues at the community level. Kamloops is located on the traditional territory of the Secwépemc people, specifically Tk'emlúps te Secwépemc within Secwepemcúl'eww. For millennia, the Secwépemc people have stewarded the fragile local ecosystems, relying on Indigenous and wild foods for sustenance. This rich knowledge was passed down through generations until the arrival of colonial settlers disrupted this exchange. Simultaneously, the industrial food system gained popularity, leading to the widespread adoption of fast and convenient foods. Consequently, many individuals have become disconnected from the land, resulting in a lack of essential food literacy and skills. Moreover, the challenges posed by climate change further complicate efforts to achieve food security. Food security, defined as the consistent physical and economic access to sufficient, safe, and nutritious food that meets dietary needs and preferences, is a central goal of the KFPC. The organization aims to establish a local food system that is regenerative, sovereign, and just through food security programs, policy development, and advocacy. This presentation will delve into the historical agricultural context of the region, shedding light on how past events continue to influence contemporary food security challenges.

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The Stir

Kent Fawcett

The Kamloops Food Policy Council (KFPC) has been a Canadian food policy leader since 1995, devoted to fostering a sustainable, sovereign, and just local food system. In 2021, the KFPC launched “The Stir,” a food hub that plays a central role in enhancing food security and sovereignty in Kamloops by using food as a lever for economic development. The Stir offers shared commercial kitchens, storage, and business incubation services for food producers and processors across the Kamloops region.

The Stir endeavors to foster equitable economic opportunities for food entrepreneurs, notably partnering with Community Futures Development Corporation of the Central Interior First Nations in 2021 to support Indigenous communities through the Kwseltken Kitchen, a mobile food processing trailer. By bringing the kitchen to remote areas, we can empower Indigenous entrepreneurs that are geographically hindered from accessing our brick-and-mortar facilities. In 2022, The Stir partnered with River Select Fisheries Cooperative, establishing a cold storage and distribution hub for value-added products from small-scale Indigenous fisheries across BC. Currently, The Stir is engaged in a distribution feasibility study and is developing a regional food supply chain modeling platform in partnership with various organizations from the BC Interior. This presentation will examine how the Kamloops Food Policy Council’s food hub, The Stir, empowers local food entrepreneurs to access broader markets, fostering a self-reliant community and advancing food security and sovereignty in the Kamloops region. Through strategic partnerships and innovative projects, The Stir realizes the vision of a regenerative and equitable local food system.

Kent Fawcett, KFPC/The Stir, foodhub@kamloopsfoodpolicycouncil.com

Farm 2 School BC

Sonya Rokesh

Farm to School BC is a program of the Public Health Association of BC. The Public Health Association of BC is a voluntary, non-profit, non-government, member-driven organization that provides leadership to promote health, well-being, and social equity. Farm to School BC works across the province to support projects and initiatives related to food literacy and hands-on food experiences for youth in kindergarten to Grade 12. Farm to School BC administers annual grants, food literacy resources, and regional support through the role of Community Animators. Community animators take an asset-based community development approach to bolster existing food systems and projects started by the community. In our region, projects have ranged from growing microgreens in the classroom to sell to local restaurants, incorporating grow towers into foods curriculum, bringing chickens to an elementary school courtyard, to field trips to local urban and rural farms!

In this presentation, our regional community animator, Sonya Rokosh, will explore the quest for a more sustainable, equitable, and local school food program here in the Kamloops area. Delegates will learn about recent funding from the provincial government which allocated \$1.9m to the local school district, with the intent of bolstering and enhancing existing or new school meal programs. They will also hear about some of the roadblocks to the efficient use of these funds, the efforts of local community organizations to support this initiative and join in a dialogue about next steps.

OPEN PRESENTATION SESSIONS

Open Session 1:

The role of Artificial Intelligence (AI) in achieving SDG11: Sustainable cities and communities

Hasnat Dewan

The 2030 Agenda for Sustainable Development adopted 17 Sustainable Development Goals (SDGs), of which SDG11 is Sustainable Cities and Communities. The purpose of this study is to assess the impacts of AI in achieving the UN SDG11 which has 10 targets and 15 indicators. An open AI tool, ChatGPT, has taken the world by storm. AI-based technologies have been in use in certain fields for some time, however, "... to date, there is no published study systematically assessing the extent to which AI might impact all aspects of sustainable development ...” (Vinuesa, et al., 2020). These authors show that AI can enhance progress towards achieving 134 of the 169 targets of the 17 SDGs while impeding the achievement of 59 targets (AI for Good, 2023; Vinuesa, et al, 2020). A UN (2022) forecast shows that 70% of the world population will live in cities and urban areas and will contribute more than 80% to global economic output by 2050. However, the literature on the role of AI in achieving SDG11 is very shallow. This study will attempt to close some of the research gaps. Due to insufficient and unattainable data, this study will rely on a consensus-based expert elicitation process (Slottje, et al., 2008; Morgan, 2014; Butler, et al., 2015) based on published work, reports, data, and other evidence. Different sustainability tracking and presentation tools will be used to assess and present the performance in achieving the targets of SDG11 with and without the use of AI-based tools.

Hasnat Dewan, Bob Gagladri School of Business and Economics, Thompson Rivers University, hdewan@tru.ca

The development and installation of heated solar roads in Kamloops

Gregory S. Brain

In this presentation, I propose the development and installation of heated solar roads in the City of Kamloops as an innovative infrastructure project to address the challenges posed by inclement weather conditions, and to enhance the overall safety, sustainability, and efficiency of the city’s transportation network. The primary objective of implementing heated solar roads is to create a more resilient and user-friendly road system, particularly during winter months when snow and ice pose significant hazards to commuters. The incorporation of solar technology will not only provide a sustainable energy source, but also contribute to the city’s commitment to environmental conservation. The benefits are numerous, including:

- enhanced safety: heated solar roads will minimize the occurrence of snow and ice accumulation, reducing the risk of accidents and injuries associated with slippery road conditions.
- improved traffic flow: by maintaining clear road surfaces, the system will facilitate smoother traffic flow, minimizing congestion and delays during winter weather events

- sustainability: the integration of solar technology aligns with the city’s commitment to sustainability, reducing dependence on traditional energy sources, and lowering carbon emissions, and
- operational cost savings: while initial installation costs are incurred, the system’s long-term operational efficiency will result in cost savings associated with snow removal and road maintenance.

Gregory S. Brain, Recode Solutions Corporation, gbrain2008@gmail.com

A comprehensive analysis on electric cars and their future

Damien Hodsall, Ruth Solomon Befikadu, and Anusha Venkataraman*

Electric cars are one of the most important technologies in the battle against global climate change. As transportation holds 23% of global energy-related CO₂ emissions, the integration of electric vehicles (EVs) into society holds the potential to significantly reduce humanity’s carbon footprint. In the heart of EV technology lies the complex world of semiconductors and digital electronics. The rate that digital electronics are being improved suggests they will continue to advance charging, battery retention and the overall efficiency of EVs. In addition, efforts are being made in making EVs fully renewable. One example could be integrating solar cells as a source of power. As more research is channeled into EVs, there will be a big shift in the already existing mobility industry away from internal combustion engines and towards the use of EVs. This change will be viable with the advancements of these technologies to support existing power demands. This paper talks about the sustainability of EVs and future advancements that could make it even more efficient, particularly in the use of fully renewable energy. These changes will affect existing industries and people’s lives. In addition to that, this paper will discuss the financial aspects of the electronic components being used and how company expenses will be affected with further improvement of the technology, as well as user accessibility in terms of price. EVs could be game-changing for global climate change, but only if they are designed for sustainability.

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Innovations for a sustainable future: Exploring economical and eco-friendly materials for dye-sensitized solar cells

Shaylee Broadfoot and Anusha Venkataraman*

Dye-sensitized solar cells (DSSCs) offer a promising solution for sustainable energy due to their flexibility, affordability, and adaptability to low-light conditions, positioning them as suitable alternatives to conventional solar cells and non-renewable energy sources. This study provides an overview of DSSC technology and assesses their efficiency, adaptability, and environmental impact, with applications in building design, portable electronics, and smart agriculture.

DSSCs particularly shine in Building Integrated Photovoltaics (BIPV), excelling in small-scale, budget-friendly projects and off-grid locations. Their transparent, lightweight design makes it easy to integrate them into architectural elements, effectively turning them into practical energy sources. Moreover, DSSCs are reliable indoors, reducing dependency on non-renewable sources and promoting sustainable energy practices. However, they do present challenges, including limitations in specific environmental conditions and efficiency fluctuations.

Through computational simulations, our work identifies scenarios where DSSCs outperform traditional solar cells, exploring techniques to enhance their lifecycle and efficiency. Notably, the integration of sustainable electrolytes, improving environmental compatibility and addressing toxicity and sourcing concerns associated with conventional alternatives like iodine-based electrolytes, is explored. This analysis offers practical insights into the potential of DSSCs to contribute to a more sustainable future. This research emphasizes the practical impact of DSSCs, contributing significantly to more environmentally conscious and energy-efficient solutions, actively contributing to a greener and more sustainable future, representing a practical approach to eco-friendly energy solutions.

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Open Session 2:

Climate solutions and resilience: Ecopsychology and nature-based education for collective flourishing and justice

Daniella Roze des Ordons

Education systems have the potential to catalyze significant ecological, social, and personal transformation and develop local climate solutions and climate adaptation and resilience (Blenkinsop & Fettes, 2021; Chawla, 2018). However, many contemporary Western education approaches contribute to the ecological crisis by reinforcing individualistic and androcentric behaviors and ways of being (Orr, 2020; Paulsen et al., 2022).

I will discuss my doctoral research that draws from radical ecopsychology to investigate the changes needed in educational approaches to holistically respond to the ecological crisis. Radical ecopsychology works to restore relationships between people, communities and the Earth and critically address and heal injustices and inequities to move toward life-sustaining futures. In my research, I investigate the potential for Ecopsychology and Nature-based Education (ENBE) programs and practices to contribute to ecological, social, and personal systems transformation. I propose an ENBE framework and corresponding principles for guiding educational and therapeutic programs and practices. This approach and framework can help develop local climate solutions and efforts toward climate adaptation and resilience.

My research draws from heuristic inquiry (Moustakas, 1990; Sultan, 2019), a qualitative, phenomenological-informed, social constructivist and relational methodology that investigates living experience. The research is informed by the literature, relationships with people and land and my own lived experience. My project includes semi-structured interviews with sixteen practitioners and learners in the field of ENBE.

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The grasslands of BC: More than meets the eye

Mike Dedels

Kamloops is fortunate to have diverse and accessible grasslands both within its boundaries and in the surrounding area. Healthy grasslands are resilient to both wildfire and drought. This presentation will look at some examples of these grasslands and the services they provide, consider some of the threats to those grasslands, and look at the path forward, working with First

Nations, governments, landowners, and the public to develop long term solutions to conserving our special BC grasslands.

The grasslands of British Columbia provide habitats for numerous wildlife, including many species at risk, as well as forage for livestock and wildlife. In addition, they are used for traditional cultural purposes, protect soils from erosion, contribute to biodiversity, provide valuable firebreaks around communities, and store large quantities of carbon. They are also highly valued for their viewsapes and recreational opportunities. Due to the location of many grasslands along the valley bottoms of the dry interior they have historically been the most desired lands to develop for agriculture, transportation, industry and housing. Many grassland areas have been degraded by invasive plant infestation, historically inappropriate grazing, and recreational practices. The Grasslands Conservation Council's mission is to ensure the conservation, restoration, and stewardship of B.C.'s grasslands through integrated partnerships across people, place and purpose.

Mike Dedels, Grasslands Conservation Council of BC (<https://bcgrasslands.org/>), info@bcgrasslands.org

Plant-based foods and sustainability: Perceptions of farmer's market consumers

Serena A. Girard

Plant-based (PB) foods are more sustainable than animal-based (AB) foods when considering impacts on humans, animals, and the environment. Minimizing harm from AB foods may be done by reducing consumption and increasing PB food consumption. Consumers at the Kamloops Regional Farmer's Market (n = 94) were surveyed to determine their perceptions of PB foods, AB foods, and lab-grown (LG) meats. Part one of the study included closed-ended questions. Quantitative statistical analyses (Spearman's rho, Mann Whitney U, and Independent samples *t*-tests) were conducted to determine relationships and differences in consumer food perceptions based on sociodemographic factors. Results were consistent with existing literature—being more educated, young, plant-based, and a woman are predictive of consumer PB food acceptance. AB food acceptance was highest amongst those who have a lower level of education, are older, and are omnivores. Part two of the study included free association questions on food perceptions. Qualitative analyses (thematic, content, and sentiment) were conducted. Consumers perceived PB foods positively while feeling unsure of AB foods and LG meats. The main themes consumers reported when reflecting on PB foods, AB foods, and LG meats were ethics, curiosity, and food and health. Consumers perceived AB foods as least ethical toward animals and the environment; were most skeptical of AB foods and LG meats; and viewed PB foods most positively in terms of food and health. There are possibilities for increasing alternative food acceptance by educating consumers and stakeholders on their holistic benefits.

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Open Session 3:

Building sustainability awareness through interdisciplinary pedagogies: A case for environmental sustainability at Riverside Park, Kamloops

Kimberly Thomas-Francois and Lindsay Blackstock

It is imperative that educational institutions strongly promote and embed all aspects of sustainability in students' learning to ensure that future thinkers prioritize sustainability in their

careers. Two educators from different disciplines (chemistry and tourism) piloted an interdisciplinary initiative to cross-lecture on the topics of Aqueous Environmental Sustainability and the use of Information Communication Technology (ICT) for sustainability in tourism. Following the interactive lectures for chemistry and tourism, where each educator taught the class outside their respective disciplines, students were brought together in a weekend workshop. At the workshop, students applied the knowledge gained from the lectures and presented solutions including the incorporation of ICT to assist in solving a case study on the Riverside Park, Kamloops. ‘Microsoft Bing Chatbot’ was provided with prompts to generate a one-page text as a ‘case study’ to outline a futuristic description of the unsustainable state of Kamloops city due to over-tourism by the year 2035. In their interdisciplinary working groups, students proposed solutions related to water quality management together with ICT Tools. In this presentation, we share some details of the key pedagogical outcomes from the engagement. We also outline key preventative strategies identified by students aimed at avoiding future impacts of continuous and exponential increases in tourism and the visiting population in Kamloops. Lastly, we highlight students’ feedback and reflection on the benefits from the initiative.

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Lindsay Blackstock, Science, TRU, lblackstock@tru.ca

Trails to reconciliation: A spotlight on allies through education

Bridget Orsetti

With a spotlight on Trails to Reconciliation (a ten-day field school offered to third and fourth year Bachelor of Tourism Management students), this presentation explores how education allows for an opportunity to seek allyship in communities as we work towards a sustainable future in tourism. My focus is on how Indigenous tourism provides a platform to understand the importance of collaboration from the perspectives of policy development, relationship building, stakeholder engagement and planning. This discussion aims to inspire and enlighten future trends towards a model of long-term sustainable growth by building relationships.

Bridget Orsetti, Adventure Studies, borsetti@tru.ca

Indigenous land defence and water protection

Sabina Dennis and Anzel Dennis

Sabina Dennis will share her motivation and intentions behind her involvement in Indigenous land defence/water protection. Sabina is mentoring her eldest daughter Anzel Nature Dennis in her families’ Dakelh practice of Indigenous rights advocacy, Indigenous original law/protocol and land stewardship. Anzel will also share some innovative ways Indigenous youth have adapted to global changes alongside ideas of how to secure our safety. Sabina’s lifelong practice of Dakelh culture and her study of Indigenous relationships to the natural world and to each other, has prompted her to share these observations, teachings, laws, and protocols for others to not only relate but adopt into practice. We believe we can and must assist Mother Earth in her regeneration and healing, Nawhulnah’ (the time is now)!

Sabina Dennis, Dakelh Tseke of the Luksilyoo clan, hereditary land and water protector, Indigenous medicine/massage practitioner, grandmother, activist/musician, Indigenous grassroots warrior/way finder, shmookin@gmail.com

Open Session 4

Making wood structures wildfire resistant

Dale Parkes

Wildfires, exacerbated by climate change, have led to widespread destruction of forests, homes, and communities in British Columbia. The loss of structures can be mitigated by using noncombustible construction, but since the production of concrete and steel contribute significantly to carbon emissions, this may only compound the wildfire problem. As wood is the only structural material that takes carbon out of the carbon cycle, we should look for ways to use this local material. This presentation will look at ways to protect wood-framed structures from fire, while also incorporating higher levels of insulation. This approach will reduce the energy consumption of the structures and further limit carbon emissions.

Dale Parkes, Architectural and Engineering Technology Department, Thompson Rivers University, dparkes@tru.ca

Rainfall partitioning by urban tree canopies and its importance as a component of green infrastructure for stormwater control

Darryl Carlyle-Moses

Cities can exert an important control on surface radiation and heat energy balances which in turn modifies the climates of these urban environments. Climate modification by cities is exemplified by the urban heat island effect, altered precipitation type and intensity, and contrasting atmospheric stability conditions compared to surrounding rural landscapes. Climate modification at the city-scale scale, coupled with global scale climate change, poses a significant risk to the inhabitants of cities. The frequency and severity of heat waves, air pollution events, and flooding are expected to increase due to the combined influence of global climate change and increasing urban-driven climate alteration as cities grow. Green infrastructure has been widely accepted as a management approach to combat adverse meteorological and air quality impacts in urban and peri-urban areas. Street trees and trees comprising other green infrastructure such as rain gardens and bioswales may play an important role in determining the effectiveness of green infrastructure as a stormwater control measure. During rainfall events, trees partition rainfall into interception loss (the fraction of rain intercepted, stored, and subsequently evaporated from the canopy), and the understory rainfall inputs of throughfall (rain passing directly through or dripping from the canopy) and stemflow (rain routed by the canopy to the tree bole and flowing to tree base). This presentation aims to summarize the current state of knowledge of the effectiveness of these canopy water budget components in mitigating urban stormwater runoff and to provide insight into which tree characteristics are most favorable for stormwater control.

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Residential sidewalk snow clearing: Walkability and urban sustainability in Kamloops

Tom Waldichuk

Kamloops promotes itself as an environmentally, socially, and economically sustainable community. Being environmentally sustainable includes the ability to use active transportation infrastructure (i.e., sidewalks) to walk from place to place easily. However, snow and ice in winter can inhibit walking. The purpose of this presentation is to describe a project used in TRU Geog 1100 (Introduction to environmental studies and sustainability), which involves students observing how well snow and ice are removed from sidewalks by residents, who are responsible for clearing them. This research involves making repeat observations of snow being removed from the same residential sidewalks. The project is also an exercise to practice research skills in Geography 1100. In the past, through the financial support of the TRU Research Office, two senior students have been hired as research coaches to assist students with organizing and presenting their research findings, which have been in the form of poster presentations at a TRU research showcase. This presentation describes the steps of the research project using examples of past student posters and reflects on using such active learning projects to teach sustainable development.

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POSTERS

On display throughout the conference in CAC, Rotunda. Authors are encouraged to be available during lunchtimes.

- Social sustainability and housing affordability: The city of Penticton, Temitope **Ayanda** and Ibiwumi **Afolabi**
- A comprehensive analysis on electric car batteries and their future, Damien **Hodsall** and Ruth Solomon **Befikadu**
- Innovations for a sustainable future: Exploring economical and eco-friendly materials for dye-sensitized solar cells, Shaylee **Broadfoot**, Brock **Young**, and Anusha Venkataraman
- Lethbridge: Social sustainability and affordable housing, Ankur **Choudhary**
- Supply and demand for housing in Saskatoon, Saskatchewan, Mitchell **Girling**
- Updating of the British Columbia Conference Center roof, Corbin **Guenther**
- Nanaimo housing affordability, Aminat **Lawal** and Chiamaka **Okwara**
- Analysis of social sustainability and housing affordability in Kamloops, Calli **Lawrence**
- Social sustainability and housing affordability in Abbotsford: An empirical analysis, Juan Felipe **Mejia** and Sofia **Rueda**
- Social sustainability and housing affordability in Prince George, BC, Matthew **Murphy**
- Social sustainability and housing affordability in Kelowna, 2011-2021, B. **Oyindamola** and A. Nji **Mughe**
- Analyzing social sustainability and its impacts on housing affordability in Red Deer, Alberta, Yashasvi Sharma
- A sustainable community development project: Social sustainability and housing affordability in Regina, SK, Mushran **Siddiqui**
- Social sustainability and housing affordability: The community of Victoria, BC, Maude **Simard-Cournoyer**
- An analysis on how to improve the performance of a south oriented two-story curtain wall in Kamloops, BC, Amaia **Zearra**, Sandra **Jasinoski** and Hossein **Banitabaei**