

# Conference Agenda

## June 17th

- 8:30am Departure to Lac Seul Events Centre
- 9:30am Opening Ceremonies  
Prayer  
Chief Maud, Lac Seul First Nation - Welcome  
Mayor Lawrance, Municipality of Sioux Lookout - Welcome
- 10:15am **Reconciliation Through Engineering Initiative (RTEI)** - Sonia Molodecky and Shakya Sur
- 10:35am **Approaches to Developing Sustainable Solutions for Housing and Infrastructure** - Dr. Jeffrey Siegel
- 10:55am **Increasing Efficiency in Regional Water, Storm Water and Sewage Distribution Systems, and Hydro Dams** - Dr. Jennifer Drake
- 11:15am **Thirteen Moon Journey and Water Gathering** - Dr. Bonnie McElhinny and Dr. Debby Danard
- 11:35am Q&A
- 12:00pm Lunch
- 1:00pm **High Food Prices and Subsidy Policy in Northern Ontario Communities** - Dr. Tracey Galloway
- 1:20pm **Impact of Air Service Reliability on Community Resilience and Well-being** - Pia Dimayuga and Erik Ohlrogge
- 1:40pm **Promoting Holistic Wellness Through Traditional Teachings and Best Practices: The Indigenous Diabetes Health Circle** - Janet Zanutto
- 2:00pm **Sustainable Energy, Wildfire Impacts, and Bioprocess Engineering** - Dr. Arthur Chan
- 2:20pm Q&A
- 2:45pm Break
- 3:00pm **Current Research and Innovation Projects; Future Areas of Collaboration** - Dr. Andrew P. Dean, Bill Maloney, Taylor Gynane
- 4:30pm Traditional Dinner
- 6:30pm Departure to Sioux Lookout

## June 18th

- 8:30am Departure to Lac Seul Events Centre
- 9:30am **Round Table Open Discussion** – Community Opportunities to Advance
- 10:30am Break
- 10:45am **Prioritize Community Project Partners**
- 11:15am **Land-Based Indigenous Youth Programs** – Elder Whabagoon
- 12:00pm Lunch
- 12:30pm Departure to Sioux Lookout
- 1:30pm **Innovation Station Tour**  
Heritage Railway Station, 49 Front Street, Sioux Lookout



**SIoux LOOKOUT**  
Hub of the North

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## Presentation Summaries

### **Reconciliation Through Engineering Initiative (RTEI)**

***Sonia Molodecky, LLB, Centre for Global Engineering, University of Toronto***

***Shakya Sur, Research Associate, Centre for Global Engineering, University of Toronto***

The Reconciliation Through Engineering Initiative (RTEI) at the University of Toronto's Centre for Global Engineering is a multi-disciplinary initiative taking a community-based approach to addressing challenges faced by Indigenous communities such as: housing, water, wastewater, clean energy, natural food systems, transportation and telecommunication. Indigenous Peoples have been Traditional Knowledge keepers and have been adapting to the land for thousands of years. RTEI thus seeks to harmonize Indigenous knowledge and the expertise of faculty members at the University to co-develop sustainable, practical, cost-effective and long-term solutions to one or more of these challenges.

### **Approaches to Developing Sustainable Solutions for Housing and Infrastructure**

***Jeffrey Siegel, Ph.D., Civil and Mineral Engineering, University of Toronto***

Jeffrey Siegel and the Department of Civil and Mineral Engineering work to educate and research system-based approaches to developing sustainable solutions for housing and infrastructure.

Department-wide research themes around housing and infrastructure development:

- Design of energy efficient buildings
- Building design for seismic resilience
- Piping networks in urban areas
- Restoration and retrofits of ageing infrastructure
- Study of materials with low carbon footprints

### **Increasing Efficiency in Regional Water, Storm Water and Sewage Distribution Systems, and Hydro Dams**

***Jennifer Drake, Ph.D., Civil and Mineral Engineering, University of Toronto***

Jennifer Drake and the Department of Civil and Mineral Engineering work to educate and research system-based approaches to developing water sustainability. Their research interests include flooding, floodplain mapping, ecological flows, low-impact development (LID) and green infrastructure storm water management, watershed planning, water security, green roof testing.

Department-wide research themes around water:

- Biologically active filtration
- Inactivation of emerging pathogens
- Disinfection of reuse waters
- Control of disinfection by-products
- Studying the behavior of organic chemicals in surface water environments such as rivers and lakes, contaminated groundwater, wastewaters, industrial and agricultural effluents

### **Thirteen Moon Journey and Water Gathering**

***Bonnie McElhinny, Ph.D., Department of Anthropology, University of Toronto***

***Debby Danard, Ph.D., Women and Gender Studies, University of Toronto***

#### **SUMMARY**

### **High Food Prices and Subsidy Policy in Northern Ontario Communities**

***Tracey Galloway, Ph.D., Anthropology, University of Toronto***

Despite the addition of a number of remote communities to the NNC subsidy-eligible list in 2017, residents in 31 northern Ontario communities continue to experience food costs that are among the prices for food and other essential household items. Study goal: Support national efforts to convince policy-makers that a new, Indigenous-led cost-containment strategy is needed.

### **Impact of Air Service Reliability on Community Resilience and Well-being**

***Pia Dimayuga, Engineering, University of Toronto***

***Erik Ohlrogge, International Visiting Graduate Student, Department of Anthropology, University of Toronto***

Remote northern communities depend on reliable air transportation for many aspects of daily life. The ability for planes to arrive and leave on time is partly dependent on the quality of airport and community services and equipment. Study goals: 1. To understand how existing airport and community buildings, runways and equipment affect the reliability of air service in northern communities; 2. To understand the impact this has on life in northern communities, from the point of view of people who live and work there.

### **Promoting Holistic Wellness Through Traditional Teachings and Best Practices**

***Janet Zanutto, Indigenous Diabetes Health Circle***

The Indigenous Diabetes Health Circle provides resources, programming and services that support Indigenous people to live a life free of the complications of diabetes. IDHC works in partnership with community members to identify needs and support the work of local organizations by providing culturally relevant training and resources in the areas of Diabetes Management, Foot Care, Gestational Diabetes, and Healthy Lifestyles.



## **Sustainable Energy, Wildfire Impacts, and Bioprocess Engineering**

**Arthur Chan, Ph.D., Chemical Engineering and Applied Chemistry, University of Toronto**

The Department of Chemical Engineering & Applied Chemistry integrates chemistry, biology and engineering through leading edge research and education to drive solutions for global challenges in energy, the environment and health.

Department-wide research themes:

- Environmental Science and Engineering: development of sustainable industrial processes and ecosystems such as the use of bacteria to remediate polluted groundwater, analyses of air contaminants, development of wetlands for water treatment
- Sustainable Energy: biofuels, fuel cells, energy recovery, biogas production from biological treatments of effluents
- Bioprocess Engineering: manufacturing of materials from renewable feedstocks; applications include food processing and preservation, air and wastewater treatment, bioenergy and applications in the pulp and paper industry

## **Current Research and Innovation Projects Between Lakehead University, Sioux Lookout, and Partners; Future Areas of Collaboration**

**Andrew P. Dean, Ph.D., Vice President of Research and Innovation, Lakehead University**

**Bill Maloney, Economic Development and Innovation, Lakehead University**

**Taylor Gynane, Economic Development and Innovation, Lakehead University**

Lakehead University representatives will be presenting on research and innovation projects that they have participated in, in partnership with Sioux Lookout and partners in the region. Lakehead will be engaging to see where future collaborations could occur.

## **Nikibii Dawadonna Giigwag - Land-based Indigenous Youth Program**

**Elder Whabagoon, Nikibii Dawadonna Giigwag, University of Toronto**

Nikibii Dawadonna Giigwag (Flooded Valley Healing) is a participatory employment training program that includes the voices of indigenous youth and Elders/Knowledge Keepers in the planning and designing of green infrastructure. The 2018 inaugural program provided four Toronto high school youth and two University of Toronto graduate students with an opportunity to contribute to the revitalization of Bolton Camp, a 254-acre site 40 km north of the city. More than 30 experts mentored the students through lectures, workshops, design reviews, guided site visits and training in the field. The program challenged the youth to brainstorm design concepts to transform an existing cabin structure at Bolton Camp into a sustainable cabin that will provide indigenous youth, Elders and others with access to future programming and ceremonial space. Phase 2 of the program will begin in spring 2019 and continue to offer participants the opportunity both to explore traditional teachings of the Land, and to learn about potential post-secondary education opportunities and career paths in less familiar disciplines or professional fields.



## Presenter Biographies

### **Sonia Molodecky, LLB: Lead, Reconciliation Through Engineering, University of Toronto President of the Global Indigenous Development Trust**

Sonia is a Canadian lawyer with more than 15 years' experience working in international business, law, human rights and community development. Sonia has worked with two of Canada's largest corporate law firms, the Public Defender's Office in Argentina, the United Nations Development Program in Ukraine and with the President of the Commission of Human Rights and Justice in Mexico. She speaks fluent Ukrainian, English and Spanish.



### **Shakya Sur, Research Associate, Reconciliation Through Engineering, University of Toronto**

Shakya is a research associate with CGEN's Reconciliation Through Engineering Initiative. As part of the Initiative, he is working on facilitating collaborative partnerships between the University's research faculty and Indigenous communities in Canada to address some of the most pressing infrastructure challenges around food security, housing, energy and transportation. Shakya received his MASc in Mechanical Engineering from the University of Toronto in 2017, working with Professor Amy Bilton on developing an aeration system for small-scale pond aquaculture in the Asia-Pacific region.



### **Jeffrey Siegel, Ph.D., Civil and Mineral Engineering, University of Toronto**

Dr. Jeffrey Siegel's research interests involve healthy and sustainable buildings, control of indoor particulate matter, and indoor microbiology, chemistry, and psychology. His recent and ongoing research on housing include investigations of indoor environmental quality in social housing, the role of filters in reducing exposure in particulate matter in homes, the use of portable air and central air cleaners for shelter-in-place, moisture problems in residential environments, and emerging indoor sources.



### **Jennifer Drake, Ph.D., Civil & Mineral Engineering, University of Toronto**

Dr. Jennifer Drake is working to solve the problem of how to sustain our limited water and energy resources while simultaneously continuing to accommodate the growing worldwide demand on these resources. She collaborates with industry and government partners to identify ways to increase efficiency in regional water, storm water distribution systems, and hydro dams. Her work allows for improved prediction of issues before they arise, gauging risk before failures occur, waste reduction, and development of better policies that will lead to a more sustainable future. She is also the Co-Researcher in Hydrology at the Green Roof Innovation Testing Laboratory in the John H. Daniels Faculty of Architecture, Landscape, and Design.



**Bonnie McElhinny, Ph.D., Department of Anthropology, University of Toronto**

Dr. Bonnie McElhinny is of Irish, Slavic, German, French and English ancestry. She holds a Ph.D. from Stanford University in linguistics. She is the Principal of New College, at the University of Toronto. She is associate professor of women and gender studies and anthropology, and former Director of Women and Gender Studies. She currently has an ATLAS (Advanced Teaching and Learning in the Arts and Science) grant to focus on decolonial approaches to land-based pedagogy, with a focus on water. She directs Great



Lakes Waterwork/Water Allies @ New College, with the support of a Faculty of Arts and Science Teaching and Learning Grant ([waterallies.com](http://waterallies.com)). This initiative focuses on decolonial, feminist, queer and anti-racist approaches to environmental justice, with a focus on water. Projects include designing and re-designing a cluster of courses on the Great Lakes, research and teaching collaborations with community partners, designing experiential learning opportunities for students, and curating public events. Her books include *Words, Worlds and Material Girls*, *Filipinos in Canada* (edited with Roland Coloma, Ethel Tungohan, J.P.Catungal and Lisa Davidson) and, most recently, *Language, Capitalism, Colonialism: Toward a Critical History* (with Monica Heller, published by University of Toronto Press in 2017). She teaches courses on water and social justice, unsettling settler colonialism, language and political economy, research methods, and experiential approaches to land-based education (most recently, a birchbark canoe build with canoe builder Mike Ormsby and Wahnipitae First Nation). She is currently supporting Giidaakunadaad/Nancy Rowe (Mississaugas of New Credit First Nation) in the organization of a water gathering with the Credit River for July 2019.

**Debby Danard, Ph.D., Women and Gender Studies, University of Toronto**

Dr. Debby Danard is Anishinaabekwe, sturgeon clan, born in Atikokan Ontario and member of Manitou Rapids, Rainy River First Nations in Northwestern Ontario. She is a traditional knowledge keeper, artist, lecturer, water ambassador, Life promotion activist and Eagle staff ogitch-e-daakwe. She has a Ph.D. in Aboriginal & Indigenous studies in education from the University of Toronto (2016). Her thesis work "Medicine Wheel Surviving Suicide-Strengthening Life Bundle" (2016) focuses on traditional knowledge as a way tried and true (evidence informed practice) to mobilize life promotion community bundles. She has been actively involved working with and within primarily First Nations urban (Friendship Centres, MNO, COO) and several on-reserve communities since 1987. She held a postdoctoral fellowship at the Waypoint Centre for Mental Health Care, and is the owner of Union Star Consulting Life Teachings Lodge. She has completed numerous reports on good governance, life promotion and water teachings for Temagami First Nation, Ontario Federation of Indian Friendship Centres, Chiefs of Ontario, and the Barrie Area Native Advisory Circle. She will be a Provostial Postdoctoral Fellow at Women and Gender Studies Institute/University of Toronto July 1 2019- June 2021.





**Tracey Galloway, Ph.D., Department of Anthropology, University of Toronto**

Dr. Tracey Galloway is a community health scholar whose research addresses the health priorities of northern Indigenous people. Her focus is on reducing chronic disease risk by addressing persistent inequalities faced by remote, northern Indigenous communities. Current projects include evaluation of programs and policies that serve as barriers to health equality including food subsidy programs, health funding structures, and air service reliability. Tracey will be joined at this meeting by graduate students working on these projects.

**Pia Dimayuga, Engineering, University of Toronto**

Pia Dimayuga is a Master's student in Environmental Civil Engineering. Her research is supervised by Dr. Shoshanna Saxe and looks into the relationship between air transportation and community wellbeing in remote northern Ontario communities. Specifically, she is interesting in identifying the key components of transportation system resilience so that the system respond dynamically to stresses and shocks caused by adverse events.



**Erik Ohlrogge, International Visiting Graduate Student, Department of Anthropology, University of Toronto**

Erik Ohlrogge is a Masters student of Global Health program at Vrije University Amsterdam, Netherlands. His internship at the University of Toronto is supervised by Dr. Tracey Galloway and examines the impacts of air service reliability on community wellbeing in remote fly-in Northern Ontario communities. Specifically, he wants to understand how to use Indigenous ways of knowing to research and portray the impacts of air service reliability.



**Janet Zanutto, Indigenous Diabetes Health Circle**

Janet Zanutto is Knowledge Coordinator for IDHC, an organization whose work is based in the knowledge that Indigenous people possess the knowledge, tools and ability to make healthy choices and live free of diabetes, now and in future generations. Grounded in the expertise of Grandmother Renée Thomas Hill and other knowledge keepers, IDHC provides resources and capacity development for front line workers delivering diabetes foot care and gestational diabetes prevention services to Indigenous families.



**Arthur Chan, Ph.D., Chemical Engineering & Applied Chemistry, University of Toronto**

Dr. Arthur Chan's group measures pollutants in air, identify their sources and study the effects on human health. In the last 2 years they have been studying how the 2016 wildfires in Fort McMurray have impacted the environment. They partnered with Fort McKay First Nations and collected dust samples from their homes. They measured pollutant levels from their homes, and identified the source of pollution. In the future, they will continue to work with communities and develop best strategies for minimizing exposure to pollutants from wildfires and other sources. They also study sources of particulate matter in urban atmospheres, indoor air quality, mechanisms of chemical reactions in the atmosphere, and health impacts of organic aerosols.



**Andrew P. Dean, Ph.D., Vice President of Research and Innovation, Lakehead University**

Dr. Andrew P. Dean was born in Kuala Lumpur, Malaysia and moved to Canada in the early 60s. He received his Masters in Mathematics at the University of Waterloo in 1980 and PhD at Queens University in 1986. He was appointed as the Vice-President of Research and Innovation at Lakehead University in 2015 following a well decorated research and teaching career at the University of Guelph, Western University, Bishop's University, and Nipissing University. Dr. Dean has served on a number of advisory boards and committees, including the Executive Committee of the Deans of Science in Canada, Thunder Bay Regional Health Research Institute, Northwestern Ontario Innovation Center and the Chamber of Commerce. In 2013, he started the Aboriginal Mentorship program at Lakehead University for the Faculty of Science, which has since expanded to all Faculty.



**Bill Maloney, Economic Development and Innovation, Lakehead University**

Bill Maloney recently joined Lakehead University as the Director, Industry Research Partnerships. Prior to this position, Bill developed working relationships with many First Nation communities and organizations through his roles at Nishnawbe Aski Nation (NAN) and the Ontario First Nations Technical Services Corporation (OFNTSC). Through NAN in 2008-2012, he visited over twenty of the First Nations in Northern Ontario and met with Chief and Council to assist in advocating for sufficient resources to improve drinking water and wastewater treatment facilities. From 2016-2019, he was the Lead for the Climate Change Program at OFNTSC, he facilitated the development of an energy plan training course, which was used to train representatives from forty First Nation communities in Ontario. In his current role at Lakehead University, Bill continues to build, maintain and foster these relationships, and is focused on expanding partnerships.





**Taylor Gynane, Economic Development and Innovation, Lakehead University**

Taylor Gynane joined Lakehead University in 2017 as a Development Assistant in the Economic Development and Innovation office. Prior to this position, Taylor worked closely with many First Nation communities and organizations in the Robinson Superior Treaty area on economic development, community planning and on-reserve infrastructure development initiatives. As the Development Assistant at Lakehead University, Taylor works to encourage, support, and enhance commercialization of intellectual property and assist in transferring knowledge and technology to those outside the University community. Critical to these goals is the development and maintenance of research and business partnerships, which include industry, government, First Nation communities, and other Universities.

**Elder Whabagoon *Flower Blooming in Spring***

**Lac Seul Nation- Loon Clan-Treaty 3**

**Sioux Lookout**

**Traditional Elder | Keeper of Sacred Pipes | Multidisciplinary Artist**

Elder Whabagoon is an Ojibway Elder, member of the Lac Seul First Nation, born in Sioux Lookout. She is a Keeper of Sacred Pipes, active community member, speaker, land defender and water protector. Whabagoon is a 60’s Scoop survivor and was raised in eastern Ontario along with one sister from a family of 16. Whabagoon’s desire to learn about her heritage prompted her to learn and follow her traditional ways.



Whabagoon has lead the International Women’s Day Parade with Idle No More and is an elder and co-founder of Nikibii Dawadonna Giigwag. The program works with Indigenous youth to re-connect their spirit with the land and the water through the design of green infrastructure, architecture, and land based teachings. Recently, Whabagoon has travelled to Vancouver to present to the Canadian Society of Landscape Architects’ Congress. She has also lead the opening ceremony for the landmark Shanawdithit Indigenous Opera world premiere in Toronto.

Whabagoon has been awarded for her strong commitment to educating the community and working with diverse ages and backgrounds. Never far from water, Elder Whabagoon leads sunrise water ceremonies to hold space for people to share stories about their relationship and connection with water. In her spare time, Whabagoon enjoys writing, singing, drumming, and spending time on the land with her husband of 23 years, Carl, member of Mi’qmaq Nation, Lynx Clan, and her black cat, Theo.

“I honour my ancestors and the teachings of those who came before me.” – Whabagoon

