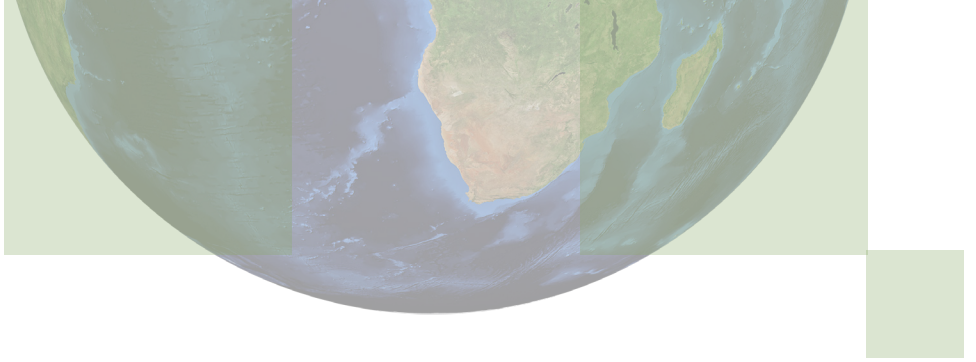


# Sustainability: Transdisciplinary Theory, Practice, and Action

**STTPA Conference 2019** @ University of Toronto Mississauga  
October 16 - 18





# About

## Name

Sustainability: Transdisciplinary Theory, Practice, and Action (STTPA)

## Dates

- Wednesday, October 16, 8:00 - 19:30
- Thursday, October 17, 8:00 - 19:30
- Friday, October 18, 8:00 - 17:30

\*There will also be a Welcome and Registration on Tuesday, October 15 from 15:30 - 17:30.

## Location

University of Toronto Mississauga - All Conference Sessions will take place in the Instructional Centre (IB), Maanjiwe nendamowinan (MN), and Deerfield Hall (DH). Please access <http://map.utoronto.ca/utm> to locate each building.

\*Each day (October 16, 17, and 18) will begin with Registration and Morning Refreshments at 8:00 outside of IB 120, followed by Keynotes at 8:45 in IB 120.

## Contact

If you have any questions, please contact:

- Diana Aldaz ([diana.aldaz@utoronto.ca](mailto:diana.aldaz@utoronto.ca))
- Shashi Kant ([shashi.kant@utoronto.ca](mailto:shashi.kant@utoronto.ca))





# Welcome to the STTPA Conference

*Dear Participants.*

*We hope that you will agree that:*

*Our world is at a tipping point. We have undermined the conditions for sustainable existence, with no choice but to pull ourselves from the brink. We are being challenged by younger generations for their sustainable future. Sustainability is the core challenge of our era. No academic discipline, corporation, country, first nation, government or organization can achieve sustainability alone.*

**We all have a role to play in the path towards sustainability.**

We are thrilled with your participation in the Sustainability: Transdisciplinary Theory, Practice and Action Conference at the University of Toronto Mississauga. We are honoured to welcome you to the campus, and to this three-day dialogue on creating a path to a sustainable future. These three days are a truly special time for individuals to come together from all backgrounds and disciplines to learn, share, exchange ideas, craft partnerships, and contribute meaningful thought, effort and action towards change. Our goal is to create a global sustainability family whose members are committed to moving the world forward in an integrative way, as it is clear that there is no one single person, entity or community that will achieve sustainability in isolation.

It is our greatest hope that from October 16 to 18 you will engage deeply with the sessions and the shared content, and forge strong connections with conference delegates, colleagues and community members. These connections will enable the integration of ideas and schools of thought, which will, we hope, transform in to concrete, actionable pathways to sustainability.

We wish you an inspirational journey, and look forward to maintaining this family long after the conference and into the future.

With love and regards,



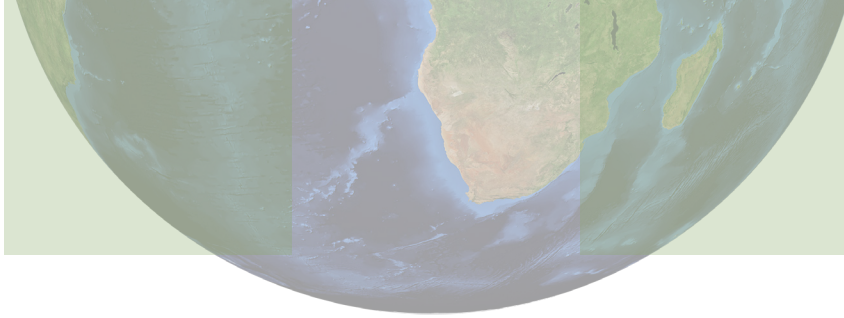
**Professor Shashi Kant**

Chair, Organizing Committee

STTPA Conference

Institute for Management & Innovation | University of Toronto Mississauga

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# Introduction

Sustainability rests on the principle that the biosphere is the foundation for all human activities, and our wellbeing depends on the health of our shared ecosystems. The path towards sustainability is possible only through a **culture of sustainability that promotes the wellbeing of all generations, maintains healthy ecosystems, and fosters regenerative relations between natural, social, and technological systems**. Nurturing a culture of sustainability requires acknowledging that mankind's long-term plunder of natural and environmental resources has brought us to this point, and that we must develop new strategies in theory, practice, and action for engendering our wellbeing and shared ecosystems. Such an ambitious agenda can only be achieved through **critical, holistic, and integrative** thinking that draws upon—but also moves across—the insights and knowledge produced through traditional academic disciplines (such as natural sciences, social sciences, humanities, management, and engineering), transdisciplinary and emerging academic fields, and areas of specialization as well as through practices and actions.

This inaugural **STTPA conference**, in collaboration with all who are committed to sustainability, seeks to bring together academics and students across all disciplines, Aboriginal leaders and scholars, business executives, civil society, policymakers, sustainability professionals and other sustainability lovers to explore innovative forms of theory, practice, and action that can help craft a path towards sustainability.

As a path towards sustainability requires mutual respect and learning from each other, the organizing committee plans to organize three days of innovative, interactive, and unique program designed to create a community of engaged conference participants. The conference program will include plenary sessions, panel discussions, integrated (theory, practice, and action) sessions, concurrent sessions, workshops, poster (research and practice) presentations, exhibits and other formats of communication enabling all stakeholders to learn and contribute meaningfully to the path towards sustainability.

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# Program

## Day 1 | October 16, 2019

**8:00 - 8:45 | Registration and Morning Refreshments | Outside IB 120**

**8:45 - 10:30 | Opening Ceremony and Plenary Session | IB 120**

Chair: Kent Moore; Welcome by: Amrita Daniere, Saher Fazilat, Shashi Kant; Keynote Speakers: Fatima and Amna Sultan, and John Holmberg

**10:30 - 11:00 | Coffee Break | MN Grand Hall**

**11:00 - 12:30 | Sub-Plenary Concurrent Panel Sessions**

**P1: Enhancing Sustainability of Public Transportation through Design Excellence | MN 1170**

Moderator: Ersoy Gulecoglu; Panelists: Nille Juul-Sørensen, Jeff Latto, and Oya Mercan

**P2: Opportunities, Risks, and Challenges developing RNG Projects in North America | MN 1190**

Moderator: Kris Hornburg; Panelists: Robert Dysiewicz, Tej Gidda, and Carlyle Khan

**P3: Committed to GHG Targets: Walking the Talk at U of T | DH 2060**

Moderator: Ron Saporta; Panelists: Andrew Arifuzzaman, Saher Fazilat, Liat Margolis, and David Sinton

**P4: Designing Sustainable Lifelong Learning Communities to Nurture SMART City Ecosystems | MN 2190**

Moderator: Robert Martellacci; Panelists: Catherine Chamberlain, Laura Gini-Newman, Mary Nanavati, and Shawn Slack

**12:30 - 14:00 | Lunch | MN Grand Hall**

**13:00 - 14:00 | Tours of UTM | Leaving from MN Grand Hall**

**14:00 - 16:00 | Concurrent Sessions**

**CA1: Transformative Learning and Sustainability | MN 2100**

Chair: Monika Havelka; Presenters: Elaine Huang, Paul John Meighan, Lisa Mychajluk, and Manuel Valleé

**CA2: Representations of the Environment and Sustainability | MN 2130**

Chair: Brett Caraway; Presenters: Pei-hua Chao, Philippe Crabbé, Peter Graham, Doug Tewksbury, and Rachel Wang



# Program

**CA3: Towards Improved Understanding of Variability in the Water Cycle Behavior and Water Resources | MN 3110**

Chair: Xiaoyong Xu; Presenters: Zoe Bedford, Monique Dosanjh, David Ma, Zarin Mom, and Shadia Zaman

**CA4: Geospatial Data and Analysis for Terrestrial Ecosystem Health | MN 3180**

Chair: Yuhong He, Presenters: Mitchell T. Bonney, Meredith DeCock-Caspell, Connie Ko, and Cameron Proctor

**CA5: Human Health and Wellbeing | MN 3120**

Chair: Jae Page; Presenters: Sparkles Ransom, Paul Eze Eme, Byomkesh Talukder, and Fese Elonge

**CA6: Mixed Analysis of Sustainability | MN 3100**

Chair: Padam Prakash Bhojvaid; Presenters: Brent Wood, Padam Prakash Bhojvaid, Ijeoma Eteng Emeribe, Hetti Arachchige Hemachandra Jayasena, and Mo Zhou

**CA7: Sustainable Food System Pedagogy | MN 2190**

Chair: Michael Classens; Presenters: Leticia Deawuo, Luciana Godoy, Adam McLaughlin, and Jennifer Sumner

**CA8: Animating the Urban: Urban Wildlife Between Encounter and Infrastructure | MN 2110**

Chair: Bronwyn Clement; Presenters: Bronwyn Clement, Susannah Bunce, Leesa Fawcett, Erin Luther, Tracy Timmins, and Susan Riddick

**16:00 – 16:30 | Coffee Break | MN Grand Hall**

**16:30 – 18:00 | Concurrent Sessions**

**CB1: Transformative Learning and Sustainability | MN 2100**

Chair: Monika Havelka; Presenters: Michelle Edwards, Caden Ziegler, Johan Larsson, and Attila Lewis Lendvai

**CB2: Sustainability and the Sacred | MN 3120**

Chair: Stephen Scharper and Hilary Cunningham; Presenters: Paul Grogan, Rose Mary Boissonneau, Annalea Theissen, and Matthew Regan

**CB3: Behavioural Science and Sustainability | MN 3180**

Chair: Jacob Hirsh, Presenters: Parul Rishi, Khushpal Brar, and Erin L. Percival Carter



# Program

**CB4: Social, Economic, Environmental, and Policy Perspectives on Waste | MN 3100**

Chair: Virginia Maclaren; Presenters: Jaime Baxter, Komal Habib, and Jae Page

**CB5: Sustainability at Educational Institutions | MN 3110**

Chair: Anuar Rodrigues; Presenters: Ahmed Azhari, Nicolas Cote, Rutu Patel, Natasha David-Williams, and Verónica E. Solares-Rojas

**CB6: Solution Session: Building Community Resilience with Climate Smart Agriculture | MN 2190**

Facilitators: Amanda Klarer and Bella Lam

**CB7: Solution Session: Solving Unprecedented Global Biodiversity Loss: A Systems Approach | MN 2130**

Facilitators: Mitchel Selby and Rylan Urban

**CB8: Workshop: The Three Real Reasons Businesses Want to Fix Climate Change | MN 2110**

Chair: Bob Willard

**18:00 – 19:30 | Training Workshops**

**T1: Eating the Energy Elephant: Tangible Things to Make Energy Management Manageable | MN 3100**

Facilitators: Jennifer Niece and Julie Kee

**T2: Designing Social Media Campaign for Sustainability | MN 3110**

Facilitator: Radha Mahraj

**T3: Critical Sustainability Education: The Case for the Alternative Campus Tour | MN 3120**

Facilitators: Michael Classens and L. Anders Sandberg

**T4: Psycho-Spirituality and Sustainability Management with a Focus on Changing Climate | MN 3180**

Facilitator: Parul Rishi

**19:30 | End Day 1**





# Program

## Day 2 | October 17, 2019

**8:00 - 8:45 | Registration and Morning Refreshments | Outside IB 120**

**8:45 – 10:30 | Plenary Session | IB 120**

Chair: Soo Min Toh; Keynote Speakers: Gregory Cajete and Ersilia Serafini

**10:30 - 11:00 | Coffee Break | MN Grand Hall**

**11:00 - 12:30 | Sub-Plenary Concurrent Panel Sessions**

**P1: Consuming Sustainability | MN 1170**

Moderator: Josée Johnston; Panelists: Shyon Baumann, Emily Huddart Kennedy, Norah MacKendrick, and Dietling Stolle

**P2: Sustainability Reporting – Trends, Best Practices and New Directions | MN 1190**

Moderator: Wesley Gee; Panelists: Wesley Gee, Tim Faveri, and Whitney McWade

**P3: Whose Water Is It? A Panel Discussion on Nestlé's Water Extraction in Ontario | DH 2060**

Moderator: Neda Maki; Panelists: Mike Balkwill, Robert Case, Susan Glasauer, James Gordon, and Makasa Looking Horse

**P4: Sustainability and IT | MN 2110**

Moderator: Brent Smiley; Panelists: Willa Black, Frances Edmonds, and Robert Santin

**P5: Small Scale Mining and the SGD's in Sub-Saharan Africa | MN 2190**

Moderator: Gavin Hilson; Panelists: Martin J. Clifford, Suleman Dauda, Yanfei Hu, Cynthia Kumah, Joshua Sandin, and Titus Sauerwein

**12:30 - 14:00 | Lunch | MN Grand Hall**

**14:00 -15:30 | Concurrent Sessions**

**CA1: Advancing Sustainable Procurement | MN 3180**

Chair: Frances Edmonds; Presenters: Monica DaPonte, Deborah de Lange, Frances Edmonds, and Fiona A. Miller

**CA2: Sustainability Reporting | MN 2130**

Chair: Yue Li; Presenters: Petra F. A. Dilling, Damla Rurak Usar, Jody Grewal, and Caitlin McHose





# Program

## **CA3: Sustainability and the Sacred | MN 3120**

Chair: Hilary Cunningham and Stephen Scharper; Presenters: Blake Poland, Tanhum Yoreh, Sara Kay Maston, Hilary Cunningham, and Stephen Scharper

## **CA4: Some Thoughts about Sustainability | MN 2100**

Chair: Joan Simalchik; Presenters: Ian Lipton, Robert MacNeil Christie, and Susan Aaron

## **CA5: Sustainability Across Sectors | MN 3110**

Chair: Robert Wilson; Presenters: Robert Wilson, Greg Wegner, Jennifer MacNeil, and Lisa James

## **CA6: Workshop: Is Corporate Sustainability Broken? If it is, then how did we get here? | MN 3100**

Facilitator: Brad Zarnett and Raz Godelnik

## **CA7: Workshop: Carbon Pricing Across Canada | MN 2110**

Facilitators: Michael Berends, Joelle Pang, Rishabh Nanda, and Adi Dunkelman

## **CA8: Workshop: The People Behind the Product: Why Women are Key to a Food Secure Tomorrow | MN 2190**

Facilitator: Amanda Klarer

**15:30 - 17:45 | Poster Presentation Viewing, Industry Display and Reception | MN Grand Hall and North Reception**

**17:45 – 19:30 | Plenary Session | IB 110**

Chair: Shashi Kant; Keynote Speaker: Dr. David Suzuki (LIVE via webcast)

**19:30 | End Day 2**



# Program

## Day 3 | October 18, 2019

**8:00 - 8:45 | Registration and Morning Refreshments | Outside IB 120**

**8:45 - 10:30 | Plenary Session | IB 120**

Chair: Joan Simalchik; Keynote Speakers: Scott Frickel and John Cartwright

**10:30 - 11:00 | Coffee Break | MN Grand Hall**

**11:00 - 12:30 | Concurrent Sessions**

**CA1: Panel: Connecting Spirituality and Sustainability | MN 2110**

Moderator: Mimi Marrocco; Panelists: James Ginther, Robert K. Logan, and Moira McQueen

**CA2: Moving Toward More Sustainable Cities through Transdisciplinary Perspectives | MN 2190**

Chair: Heather MacLean; Presenters: Nadine Ibrahim, Graeme Lang, Tabassam Raza, and Tatiana Trindade

**CA3: Eating Green: The Role of Institutions at Multiple Scales | MN 3100**

Chair: Josée Johnston; Presenters: Donald C. Cole, Tara Immell, Chaiti Seth

**CA4: Far Right Opposition to Environmentalism | MN 3110**

Chair: Ellen Berrey; Presenters: Ellen Berrey, Jordan Besek, and Tom Hilditch

**CA5: Economic Perspectives of Sustainability | MN 2100**

Chair: Pierre Desrochers; Presenters: Vincent Manzerolle, Leslie Meier, Pierre Desrochers, Joanna Szurmak, and Jake Organ

**CA6: Sustainability in Urban Areas | MN 2130**

Chair: Marc Johnson; Presenters: Sharlene L. Gomes, Mark Hengen, Justyna Braithwaite, Victor Perez-Amado, and Camille Payre

**CA7: Migration, Diversity, and Justice in Sustainable Organizations | MN 3120**

Chair: Soo Min Toh; Presenters: Daniel Gulanowski, Ishbel McWha-Hermann, and Marina Schmitz

**12:30 - 13:30 | Lunch | MN Grand Hall**



# Program

## 13:30 - 15:00 | Concurrent Sessions

### **CB1: Carbon Emissions and Trading Schemes | MN 2100**

Chair: Jody Grewal; Presenters: Jody Grewal, Ning Li, and Innocent Onah

### **CB2: Moving Toward More Sustainable Cities through Transdisciplinary Perspectives | MN 2190**

Chair: Heather MacLean; Presenters: Charlotte Glennie, John Lau, Jennifer McKellar, and Aida Mollaei

### **CB3: Eating Green: Growing a Culture of Sustainable Food | MN 3100**

Chair: Josée Johnston; Presenters: Bryan Dale, Sarah Elton, Barbara Seed, and Jennifer Summer

### **CB4: Floods, Storms, and Sustainable Management of Water | MN 2130**

Chair: Harvey Shear; Presenters: Christian Abizaid, Esther Lambert, and Romila Verma

### **CB5: Multiple Dimensions of Global Warming and Sustainability | MN 3120**

Chair: Robert K. Logan; Presenters: Attila Lewis Lendvai, Robert K. Logan, Leah Marajh, and Michael Ross

### **CB6: Sustainable Land Use and Food Systems | MN 3110**

Chair: Laurel Besco; Presenters: Kevin T. Smiley, Leith Deacon, Justin Schupp, and Vivek Arulnathan

### **CB7: Diverse Perspectives on Sustainability | MN 3180**

Chair: Parul Rishi; Presenters: Elaine Huang, Dongmei Chen, Ramazan Caner Sayan, and Thi Loan Phan

## 15:00 – 15:30 | Coffee Break | MN Grand Hall

## 15:30 – 17:00 | Concurrent Sessions

### **CC1: Humanizing Sustainability: What Can Environmental Humanities Bring to Sustainability Thinking? | MN 2100**

Chair: Alexandra Rhar; Presenters: Ben Akrigg, Judith Ellen Brunton, and Sherry Lee

### **CC2: Sustainability and Critical Disaster Studies | MN 2130**

Chair: Steve Hoffman; Presenters: Ryan Hagen and Jacob Remes

### **CC3: Technology, Business, and Sustainability | MN 3100**

Chair: Kira Lussier; Presenters: Colin Campbell, Damla Rurak Usar, Elli Meleti, and Rolando Victoria

### **CC4: Circular Economy or Circular Logic?: Revisiting the Links Between the Economy and the Environment | MN 3120**

Chair: Brett Caraway; Presenters: Brett Caraway, Radha Maharaj, and Kiara Winans



# Program

**CC5: Advancements in Climate Change Law and Policy | MN 3110**

Chair: Laurel Besco; Presenters: Araba Amo-Aidoo, Patrick Braszak, Anureet Kaur, and Mahatab Uddin

**CC6: Workshop: AIESEC | MN 3180**

Chair: Mia Nguyen and Wai Chung Lam

17:00 – 17:30 | Closing Plenary Session | Location TBA

17:30 | End Day 3



# Table of Contents

## Day 1 | October 16, 2019

### Opening Ceremony and Plenary Session (8:45)

K1: Keynote: Fatima and Amna Sultan .....	17
K1: Keynote: John Holmberg .....	18

### Sub-Plenary Concurrent Panel Sessions (11:00)

P1: Enhancing Sustainability of Public Transportation Through Design Excellence.....	19
P2: Opportunities, Risks, and Challenges developing RNG Projects in North America .....	24
P3: Committed to GHG Targets: Walking the Talk at U of T.....	29
P4: Designing Sustainable Lifelong Learning Communities to Nurture SMART City Ecosystems .....	35

### Concurrent Sessions (14:00)

CA1: Transformative Learning and Sustainability .....	41
CA2: Representations of the Environment and Sustainability .....	46
CA3: Towards Improved Understanding of Variability in the Water Cycle Behavior and Water Resources .....	52
CA4: Geospatial Data and Analysis for Terrestrial Ecosystem Health .....	58
CA5: Human Health and Wellbeing.....	63
CA6: Mixed Analysis of Sustainability.....	68
CA7: Sustainable Food System Pedagogy .....	74
CA8: Animating the Urban: Urban Wildlife Between Encounter and Infrastructure.....	79

### Concurrent Sessions (16:30)

CB1: Transformative Learning and Sustainability .....	85
CB2: Sustainability and the Sacred.....	89
CB3: Behavioural Science and Sustainability.....	94
CB4: Social, Economic, Environmental, and Policy Perspectives on Waste .....	98
CB5: Sustainability at Educational Institutions .....	102
CB6: Solution Session: Building Community Resilience with Climate Smart Agriculture.....	107
CB7: Solution Session: Solving Unprecedented Global Biodiversity Loss: A Systems Approach ..	108
CB8: Workshop: The Three Real Reasons Businesses Want to Fix Climate Change .....	109

### Training Workshops (18:00)

T1: Eating the Energy Elephant: Tangible Things to Make Energy Management Manageable ..	110
T2: Designing Social Media Campaign for Sustainability .....	111



# Table of Contents

T3: Critical Sustainability Education: The Case for the Alternative Campus Tour.....	112
T4: Psycho-Spirituality and Sustainability Management with a Focus on Changing Climate.....	113

## Day 2 | October 17, 2019

### Plenary Session (8:45)

K1: Keynote: Gregory Cajete .....	115
K1: Keynote: Ersilia Serafini .....	116

### Sub-Plenary Concurrent Panel Sessions (11:00)

P1: Consuming Sustainability .....	117
P2: Sustainability Reporting – Trends, Best Practices and New Directions .....	123
P3: Whose Water Is It? A Panel Discussion on Nestlé’s Water Extraction in Ontario.....	127
P4: Sustainability and IT .....	134
P5: Small Scale Mining and the SGD’s in Sub-Saharan Africa.....	139

### Concurrent Sessions (14:00)

CA1: Advancing Sustainable Procurement.....	147
CA2: Sustainability Reporting .....	152
CA3: Sustainability and the Sacred.....	157
CA4: Some Thoughts about Sustainability .....	162
CA5: Sustainability Across Sectors.....	166
CA6: Workshop: Is Corporate Sustainability Broken? If it is, then how did we get here? .....	171
CA7: Workshop: Carbon Pricing Across Canada .....	172
CA8: Workshop: The People Behind the Product: Why Women are Key to a Food Secure Tomorrow ....	173

### Poster Presentation Viewing, Industry Display (15:30)

Posters Presentations.....	174
Industry Presentations .....	186

### Plenary Session (17:45)

K2: Keynote: Dr. David Suzuki (LIVE via webcast).....	187
---	-----

## Day 3 | October 18, 2019

### Plenary Session (8:45)

K1: Keynote: Scott Frickel .....	189
----------------------------------	-----



# Table of Contents

K1: Keynote: John Cartwright.....	190
<b>Concurrent Sessions (11:00)</b>	
CA1: Panel: Connecting Spirituality and Sustainability .....	191
CA2: Moving Toward More Sustainable Cities through Transdisciplinary Perspectives.....	196
CA3: Eating Green: The Role of Institutions at Multiple Scales .....	201
CA4: Far Right Opposition to Environmentalism .....	205
CA5: Economic Perspectives of Sustainability.....	209
CA6: Sustainability in Urban Areas.....	213
CA7: Migration, Diversity, and Justice in Sustainable Organizations.....	218
<b>Concurrent Sessions (13:30)</b>	
CB1: Carbon Emissions and Trading Schemes .....	222
CB2: Moving Toward More Sustainable Cities through Transdisciplinary Perspectives.....	227
CB3: Eating Green: Growing a Culture of Sustainable Food .....	232
CB4: Floods, Storms, and Sustainable Management of Water .....	237
CB5: Multiple Dimensions of Global Warming and Sustainability.....	241
CB6: Sustainable Land Use and Food Systems.....	246
CB7: Diverse Perspectives on Sustainability .....	251
<b>Concurrent Sessions (15:30)</b>	
CC1: Humanizing Sustainability: What Can Environmental Humanities Bring to Sustainability Thinking?.....	256
CC2: Sustainability and Critical Disaster Studies.....	260
CC3: Technology, Business, and Sustainability .....	263
CC4: Circular Economy or Circular Logic?: Revisiting the Links Between the Economy and the Environment .....	268
CC5: Advancements in Climate Change Law and Policy.....	272
CC6: Workshop: AIESEC.....	277

## Additional Content

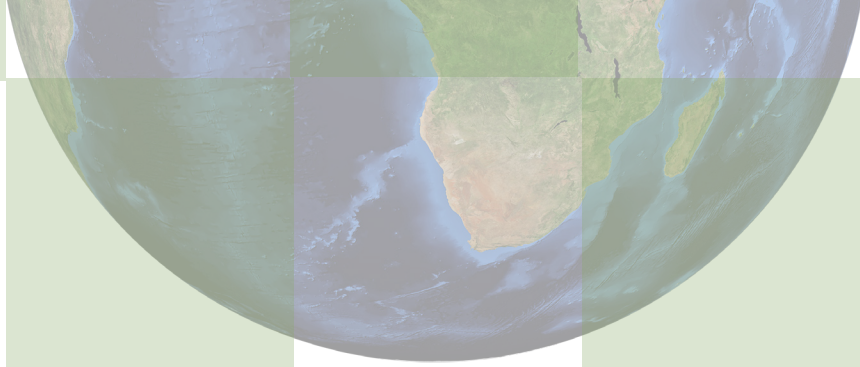
Committee Members .....	278
Partners.....	280
About MScSM, IMI, and UTM .....	281





# Day 1 | October 16, 2019

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Keynote - K1

## Fatima and Amna Sultan Two Sisters on a Mission

Day 1 | Oct. 16, 2019 | 8:45 | IB 120



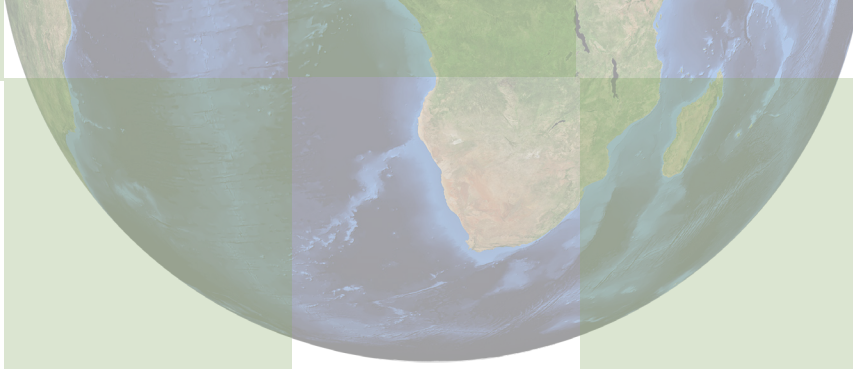
### **Bio:**

Fatima & Amna Sultan are 10 and 8-year-old founders of Two Sisters on a Mission and authors of the book "Anything is Possible". The book has a deeper purpose of inspiring others to follow their dreams regardless of their age. They have faced the Dragons in Dragons' Den (season 14) and inspired thousands through over 40 keynotes in major conferences and business competitions. Their speeches are not about their accomplishments but rather the idea that anything is possible if you care enough about your purpose and are willing to take action on behalf of those that need your help. Canada's Youngest Social Entrepreneurs are on a mission to make a real difference.

**Title:** Anything is Possible with Love and Hard Work

### **Abstract:**

Anything is possible. We all have the power and the responsibility to make a difference. The future of the world depends on it" These were the final thoughts when Fatima & Amna Sultan decided to take action at the age of 10 and 8 and do their part. They are now authors and successful founders of the social entrepreneurship Two Sisters on a Mission. They faced the Dragons in Dragons' Den and have inspired thousands around the world through 40 keynotes in major business. Their speech is not just about their journey but rather the idea that we all have the power to make a difference.



Keynote - K1

## Prof. John Holmberg

CHALMERS UNIVERSITY OF TECHNOLOGY,  
SPACE, EARTH AND ENVIRONMENT

Day 1 | Oct. 16, 2019 | 8:45 | IB 120

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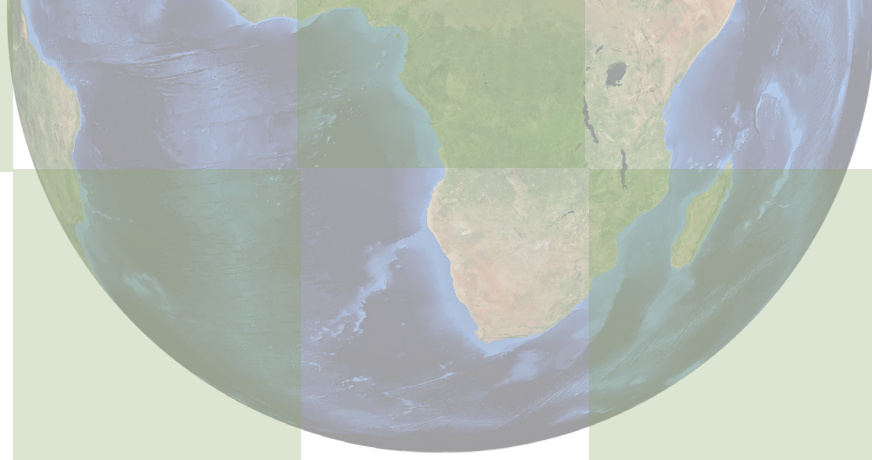
**Bio:**

John Holmberg is a professor of physical resource theory and he also holds Sweden's first UNESCO chair in education for sustainable development. His background is in physics and in his doctoral dissertation he developed principles for a sustainable future, which received international dissemination through the Natural Step Foundation. His current research focuses on sustainability transitions and he is one of the founders of Chalmers Initiative for Innovation and Sustainability Transitions.

**Title:** Leading Universities towards a Sustainable Future — Cruise Mode

**Abstract:**

At the end of UNESCO's world conference in Aichi-Nagoya, Japan, 2014, summarizing the UN decade for education for sustainable development, it was suggested that the overall mission of higher education should be revised from mainly contributing to development to instead contributing to sustainable development. This raises two questions: 1) Can the Agenda 2030 inform us about what such a change in orientation will imply and 2) might this also signal a need to revise the mode of leading our universities? What can it imply for research, education, innovation and outreach? How can the cruise mode operation of these activities be enhanced by brave expeditions and why is it important?



Panel Session - P1

## Enhancing Sustainability of Public Transportation Through Design Excellence

Day 1 | Oct. 16, 2019 | 11:00 | MN 1170

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### **Abstract:**

The Panel will share with participants how the sustainability landscape is changing in Canada and more specifically in Ontario in the area of public transportation through good design principles.

Panel members will share not only global best practice examples but will also discuss unique sustainability, demographic and new mobility challenges and opportunities we face in Ontario and how we overcome them through specific strategies, tactics and design solutions from the multi-billion-dollar Eglinton Crosstown Light Rail program, the GO Expansion Regional Express Rail, and Metrolinx's Transit Oriented Development initiative.

Participants will engage through questions, and learnings will be in sustaining and adapting to future through innovative design excellence thinking and applications.



## Enhancing Sustainability of Public Transportation Through Design Excellence

### Ersoy Gulecoglu, Metrolinx

#### Moderator

#### Bio:

Ersoy led the sustainability and innovation teams at Metrolinx, Canada's largest public transit organization, for over four years and is currently leading program interface and program coordination efforts for planning in large capital projects including the multi-billion-dollar GO Expansion program. Ersoy and his team developed and executed Metrolinx's first sustainability strategy, a multi-million dollar energy management program and the climate adaptation and resilience strategy. He previously had senior leadership roles in sustainability in private organizations. Ersoy is a licenced professional engineer in Ontario.

### Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Enhancing Sustainability of Public Transportation Through Design Excellence

### Nille Juul-Sørensen, ARUP

#### Panelist

#### Bio:

Nille Juul-Sorensen has been the Global Leader for Architecture for Arup since 2014. Nille hold a Master of Architecture form the Royal Danish Academy of Fine Arts, Copenhagen and have been practicing architecture globally during in his 15-year career at Arup. Nille has been responsible for design of many award-winning buildings including the Copenhagen Metro and Malmo Citytunnel Stations. He is currently leading the Arup architect team on Cityringen's 17 stations in Copenhagen. Nille is deputy Chair of the Architecture School of Aarhus and has been awarded The Royal Danish Academy of The Arts,

Eckersberg Medal (equal RIBA GOLD Medal) and Kasper Salin Prize in Sweden.



## Enhancing Sustainability of Public Transportation Through Design Excellence

### Jeff Latto, Metrolinx

#### Panelist

##### Bio:

Jeff Latto is currently Senior Manager, Design Standards, Architecture and Urban Design at Metrolinx. He is a registered architect with the Ontario Association of Architects and has 25 years of practice experience and an additional 10 years of experience as a client with both Metrolinx and the Toronto District School Board. Award-winning projects that he has been involved with include Mississauga City Hall, Stratford Festival Theatre Master Plan, Royal Opera House (UK), Brookside Lower School at Cranbrook Education Community (USA), University of Toronto Graduate House Residence, New Bus Terminal, Venice (Italy); Eatonville Public Library; and

Killbear Provincial Park Visitor Centre. Jeff graduated from McGill University with a Masters of Architecture History and Theory, and a professional degree from Carleton University.





## Enhancing Sustainability of Public Transportation Through Design Excellence

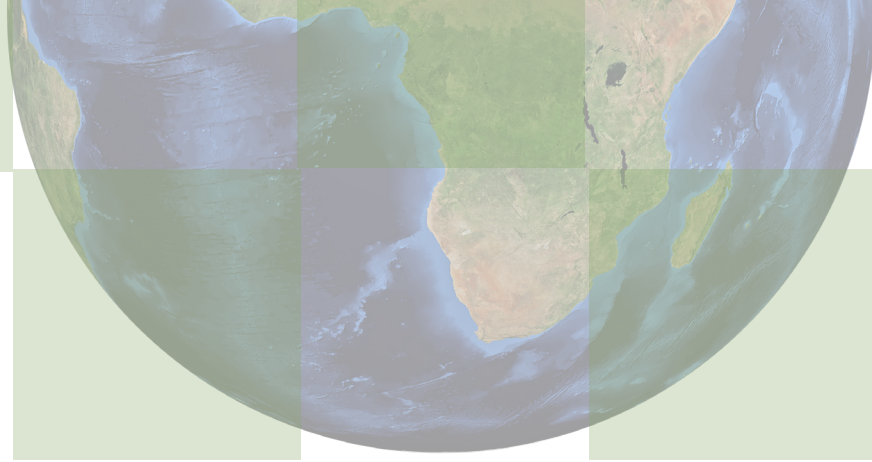
### Dr. Oya Mercan, University of Toronto

#### Panelist

#### Bio:

Dr. Oya Mercan is an Associate Professor in the Department of Civil and Mineral Engineering at the University of Toronto. She received her Ph.D. in Civil Engineering from Lehigh University in 2007. Dr. Mercan's research interests are in developing and implementing real-time testing methods that couple computer simulation and physical testing, with applications to the dynamic behaviour of complex structures, vibration mitigation and structural control, modular steel structures and wind loading under climate change. She is also the director of the newly established centre at the University of Toronto:

Climate Science for Engineering  
(CSE).



Panel Session - P2

## Opportunities, Risks, and Challenges developing RNG Projects in North America

Day 1 | Oct. 16, 2019 | 11:00 | MN 1190

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### **Abstract:**

The purpose of this panel is to provide a holistic overview of the benefits, considerations, and opportunities related to renewable natural gas, with a particular focus on how to bring these complex infrastructure programs forward. Renewable natural gas is the lowest carbon, commercially available fuel in existence today, with lower well-to-wheel emissions than electric vehicles. In addition, the waste/wastewater sectors within government have yet to fully appreciate and commodify this resource, which can lead to significant economic and environmental benefits. While the technology to create and use renewable natural gas is not new, and has been utilized extensively in Europe, North America has been slower to transition and as such investing in partnerships to drive these infrastructure programs should be seen as an obvious strategy. With experts from municipal government, consulting and engineering firms, and the private utility sector, this panel will seek to provide an overview of the importance of how to set up these partnerships, the benefits that each must derive from this new opportunity, and a candid examination of some of the challenges presented throughout.



## Opportunities, Risks, and Challenges developing RNG Projects in North America

### Kris Hornburg, Manager, Program & Strategic Initiatives, City of Toronto

#### Moderator

**Bio:**

Kris Hornburg is the Manager of Strategic Initiatives & Workforce Planning for the City of Toronto, Solid Waste Management Services Division. Kris started his career working for the Ministry of Environment & Climate Change before moving to the City of Toronto through the Toronto Urban Fellows Program in 2014. During his time at the City, Kris has led a number of environmental sustainability projects including the transition away from electricity generation to renewable natural gas, solar panel installations, and revenue generation through green initiatives. He holds a Master of Public Administration and Master of

Arts in Legal Studies.



## Opportunities, Risks, and Challenges developing RNG Projects in North America

### Robert Dysiewicz, Sr. Manager, RNG Business Development, Enbridge Gas Inc.

#### Panelist

**Bio:**

Robert Dysiewicz is currently the Sr. Manager, RNG Business Development at Enbridge Gas Inc. in Toronto, Canada. In his current role, he is responsible for market development of clean fueling and alternative energy technologies including; the application of natural gas in transportation and Renewable Natural Gas (RNG). Rob and his team work closely with Ontario businesses and Municipalities in assisting them with the deployment of these and other technologies to reduce their overall energy costs while at the same time lowering their GHG emissions.

Rob is known as an accomplished problem solver with proven market transformation strategies for the evolving North American energy landscape. He is a graduate of York University in Toronto with a Degree in Urban Planning.



## Opportunities, Risks, and Challenges developing RNG Projects in North America

### Tej Gidda, Vice President at GHD

#### Panelist

##### Bio:

Tej Gidda has fifteen years of experience in the consulting industry, specializing in transformational changes occurring in the waste management area for the production of new energy and value-added products. Heavily-invested in alternative project delivery and new technology development and deployment across the North American landscape as part of an industry-facing position. He leads an expert team in the area and maintains technical involvement in project work while providing a strategic plan for the business, and managing a large group. Tej has a Ph.D in the soil remediation space,

with an interest in developing closer ties between the academic and consulting spaces to improve the quality and efficiency of projects for clients while developing innovative new approaches.



## Opportunities, Risks, and Challenges developing RNG Projects in North America

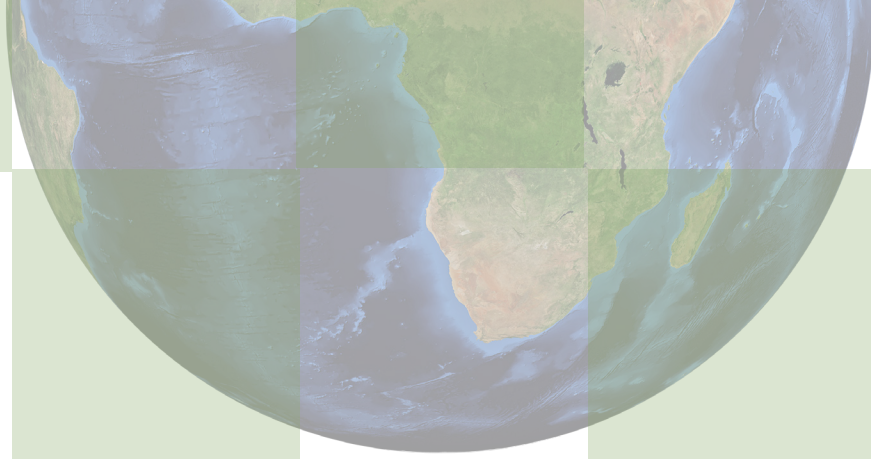
### Carlyle Khan, Director, Infrastructure & Resource Management, Solid Waste Management Services, City of Toronto

#### Panelist

##### Bio:

Since joining the City of Toronto in 2013, as a Director in Solid Waste Management Services, Carlyle Khan has been responsible for the stewardship and state-of-good-repair of assets valued at over \$600M. This portfolio contains key infrastructure assets, such as transfer stations, yards, organics processing facilities, fleet and other rolling stock, flares, and leachate and gas collection systems at various closed landfills. Carlyle holds a Master of Management Analytics from Queens's University, a Bachelor's of Business from York University and Chemical Technology Diploma from Seneca College of Applied Arts and

Technology.



Panel Session - P3

## Committed to GHG Targets: Walking the Talk at U of T

Day 1 | Oct. 16, 2019 | 11:00 | DH 2060

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### **Abstract:**

Through the University Climate Change Coalition (UC3) we committed to reducing our tri-campus GHG emissions to 37 per cent below 1990 levels by 2030; more than 65,000 tonnes less eCO<sub>2</sub> in 10 years.

Our Low-Carbon Action Plan, developed to achieve the target, focuses on awareness, cleaner production, carbon capture, efficient distribution, and reduced consumption. The Plan highlights the use of technologies, R&D and engaging our university community to achieve low carbon sustainable campuses.

Meeting this goal requires coordinated commitment, planning and dedication with staff, faculty and students. This session will describe how we are "walking the walk" to meet our goals.





## Sustainability at U of T: Talk The Talk and Walk The Walk

Ron Saporta, COO, Property Services & Sustainability, UofT

Moderator

**Bio:**

Ron is the Chief Operating Officer at the University of Toronto. His primary expertise is in large-scale capital redevelopment, campus operations, and sustainability. He is a Professional Engineer with both an undergraduate and masters degree in Civil Engineering, as well as a Master's in Business Administration. Ron has spearheaded development of successful sustainability programs, receiving recognition and the provincial, national and international stages through awards such as the Recycling Council of Ontario, the Natural Resources of Canada for Energy Efficiency and the British Medical Journal.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

STTPA Conference 2019 @ University of Toronto Mississauga



## Sustainability at U of T: Talk The Talk and Walk The Walk

### Andrew Arifuzzaman, Chief Administrative Office, UTSC

#### Panelist

##### Bio:

Andrew Arifuzzaman is the Chief Administrative Officer at U of T Scarborough (UTSC).

Throughout his career, Andrew has led teams in a wide range of business disciplines including operations, finance, marketing and communications, information technology, research, partnerships, government relations, capital development and strategy.

As Chief Administrative Officer at the University of Toronto Scarborough (UTSC), Andrew has spearheaded the development of the Campus's Strategic and Master Plans and

brand strategy. He has also fostered partnerships across the public and private sectors that have brought together diverse groups and built innovative new programs and opportunities including the creation of the Toronto Pan Am Sports Centre.



## Sustainability at U of T: Talk The Talk and Walk The Walk

### Saher Fazilat, Chief Administrative Officer, UTM

#### Panelist

##### Bio:

Saher Fazilat is the Chief Administrative Officer at the University of Toronto Mississauga and has over 20 years of leadership experience in public and academic settings.

Saher has a wealth of knowledge having held positions with the City of Toronto as project manager and the Town of Oakville as division head of new construction and major renovations. She has also held positions at Western University as Executive Director of Facilities, Development and Engineering and most recently at Ryerson University as Assistant Vice-President, Facilities

Management and Development. She is a recognized expert in design and construction. Her accomplishments have been recognized by award of a Queen's Diamond Jubilee Medal for design and construction of green buildings and has received the Federation of Canadian Municipalities Community Sustainability Award.

Saher holds an undergraduate degree in Civil Engineering, a Master in Building Engineering and Management and an MBA.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Sustainability at U of T: Talk The Talk and Walk The Walk

**Liat Margolis, Director, Master of Landscape Architecture,  
Associate Dean, Research**

### Panelist

#### Bio:

Liat Margolis is Associate Professor of Landscape Architecture at the John H. Daniels Faculty of Architecture, Landscape, and Design at U of T, the Director of the Faculty's Master of Landscape Architecture program, and Assistant Dean of Research. Margolis is also the Director of the Daniels Faculty's Green Roof Innovation Testing Laboratory (gritlab). She holds a Masters of Landscape Architecture from Harvard Graduate School of Design (GSD), and a Bachelor of Fine Art in Industrial Design from the Rhode Island School of Design (RISD).

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STTPA Conference 2019 @ University of Toronto Mississauga



## Sustainability at U of T: Talk The Talk and Walk The Walk

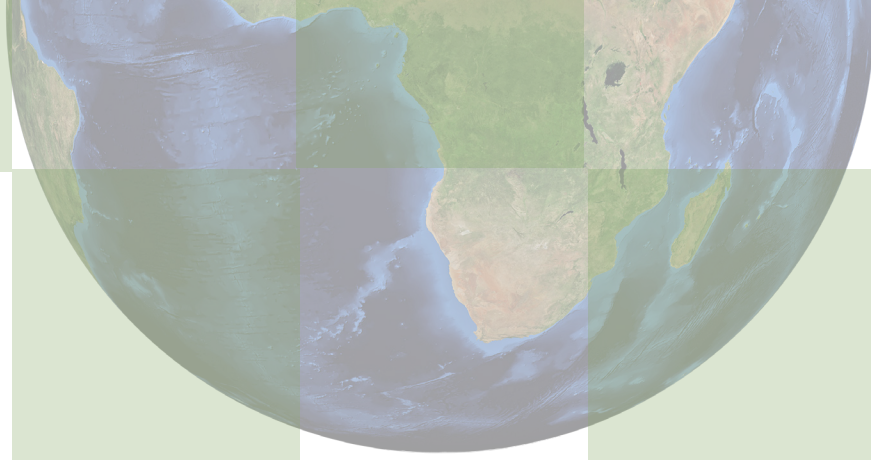
### David Sinton, Professor, Mech Engineering, Canada Chair in Microfluidics and Energy

#### Panelist

##### Bio:

David Sinton is a Professor in the Department of Mechanical & Industrial Engineering at the University of Toronto. He is the Canada Research Chair (Tier 1) in Microfluidics and Energy. The Sinton group develops fluid systems for applications in energy. The group is application-driven and is developing fluid systems to produce renewable fuels from CO<sub>2</sub>. Prof. Sinton leads the U of T NRG COSIA XPrize team in collaboration with Prof. Ted Sargent. The Sinton group previously developed a library of industrial fluid testing systems to improve chemical performance in the energy industry, now commercialized through the

startup Interface Fluidics Ltd. Prof. Sinton was selected to be an NSERC E.W.R. Steacie Memorial Fellow in 2016. He is also a Fellow of the Canadian Society for Mechanical Engineering, a Fellow of the American Society of Mechanical Engineers, a Fellow of the Engineering Institute of Canada, a Fellow of the American Association for the Advancement of Science, and a Fellow of the Canadian Academy of Engineering.



Panel Session - P4

## Designing Sustainable Lifelong Learning Communities to Nurture SMART City Ecosystems

Day 1 | Oct. 16, 2019 | 11:00 | MN 2190

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### **Abstract:**

The SMART Cities movement is growing at a rapid pace around the globe. The promise of ubiquitous internet access and AI focused solutions to enhance the lives of big city residents and reduce traffic congestion is compelling. Vital to the SMART Cities movement is nurturing an integrated and seamless sustainable learning community that carries with it essential supports to promote the notion of seamless lifelong learning, in an increasingly complex world. This session will explore global competencies and related skills, the need to think critically and creatively both locally and globally, and the importance of well-being to nurture success through building community.



## Designing Sustainable Lifelong Learning Communities to Nurture SMART City Ecosystems

### Robert Martellacci, MA EdTech, Founder & CEO, MindShare Learning Technology

#### Moderator

#### Bio:

As founder and president of international award winning MindShare Learning Technology, Robert is recognized as one of Canada's foremost EdTech thought leaders. He's a champion for igniting student success through innovative solutions and partnerships in Canadian schools. Often referred to as the 'connector,' Robert specializes in forging mutually beneficial partnerships between education and technology solution providers.



## Designing Sustainable Lifelong Learning Communities to Nurture SMART City Ecosystems

### Catherine Chamberlain, Erin Mills Connects

#### Panelist

#### Bio:

Catharine Chamberlain has dedicated her career to communicating the advantages of people working together. She spent 20 years in the co-operative sector before starting her own business to promote non-profits and others in the social, sustainable economy. She has her MA from Western University in journalism. Catharine has been a leader in the creation of Erin Mills Connects, a new kind of collaborative – uniting agencies and educators with the grassroots clients they serve. Together they take action to improve well-being in the Erin Mills community.





## Designing Sustainable Lifelong Learning Communities to Nurture SMART City Ecosystems

### Dr. Laura Gini-Newman, Consultant, The Critical Thinking Consortium, Co-Founder of FlourishCo.

#### Panelist

##### Bio:

Laura Gini-Newman is a retired educator who worked with the Peel District School Board for over 20 years, both as a classroom teacher and in various leadership capacities in the Curriculum and Instruction Support Services Department. Prior to teaching, Laura worked as an economist and chartered accountant. She is currently a consultant with The Critical Thinking Consortium. She has co-authored several textbooks. Laura is a co-founder of FlourishCo, dedicated to supporting individuals and organizations to learn how to flourish in today's world.



## Designing Sustainable Lifelong Learning Communities to Nurture SMART City Ecosystems

### Mary Nanavati, Co-Founder, Erin Mills Connects and FlourishCo.

#### Panelist

**Bio:**

Mary Nanavati, with 30 years in education, is a recently retired principal with the Peel District School Board. Mary is also a Program Lead for the Mentoring Qualification Program with the Ontario Principals' Council and a professionally certified coach. Mary is a co-founder of Erin Mills Connects and also a co-founder of FlourishCo, dedicated to supporting individuals and organizations to learn how to flourish in today's world.



## Designing Sustainable Lifelong Learning Communities to Nurture SMART City Ecosystems

### Shawn Slack, MBA Director of Information Technology and Chief Information Officer

#### Panelist

**Bio:**

Shawn Slack is the Director of Information Technology and Chief Information Officer for the City of Mississauga, the 6th largest City in Canada.

He led the City's mandate to provide all City services online, implemented the City's first Customer Service Strategy, Open Data Policy, Bring Your Own Device Policy and is actively leading the Digital Transformation of city services. Shawn is very active with public safety working on the Public Safety Broadband Network initiative with an objective to implement a public safety cellular network across Canada.

Currently, Shawn is engaged in many great Smart City initiatives guided by the City's IT Master Plan and Smart City Master Plan focussed on enabling a connected and engaged city, a Smart City for Everybody!



Themed Session - CA1

# Transformative Learning and Sustainability

Chaired by: Monika Havelka

Day 1 | Oct. 16, 2019 | 14:00 | MN 2100





## What Would a Just and Sustainable Society Look Like? A Participatory Scenario Development Approach to Education for Sustainable Development

- Ying-Syuan (Elaine) Huang, Dr. Blane L. Harvey

### Bio:

Ying-Syuan (Elaine) Huang is a doctoral candidate in the Department of Integrated Studies in Education at McGill University. She holds a Bachelor's degree in Engineering at National Taiwan Normal University and a Master of Arts degree in Education and Society at McGill University. Her research focuses on policies and practices related to K–12 science education, teacher education, and sustainable development. For her doctoral study, she examines Taiwan's policy initiatives for implementing UNESCO's Education for Sustainable Development framework.

### Abstract:

Scholars of transformative learning have urged us to "restore a civic pedagogy" to empower communities in the face of uncertainty and global sustainability challenges (Huckle & Wals 2015, p.493).

Yet, how such social learning pedagogy might be grounded in existing civic spaces remains underexplored. This presentation will discuss the lessons learned from recent research on the implementation of UNESCO's Education for Sustainable Development (ESD) in Taiwan. Our study suggests that a lack of collective vision and agreed-upon pathways to change paralyzes us from acting on the transformations required for developing sustainable societies. To respond to this challenge, we propose bringing Vervoort's (2015) concept of "worldmaking as a framework for pluralistic, imaginative scenario development" into ESD as a way to co-construct socially just pathways for change while recognizing the reality of ecological boundaries (p.62). This presentation will be of relevance for anyone interested in education and collective learning for sustainable futures.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Transformative Learning and Sustainability



## The Transferrable Learning Circle (TLC): Five Principles to Sustainable and Holistic Lessons

- Paul John Meighan

### Bio:

Paul comes from a Scottish-Irish Gaelic background and has more than 10 years of international experience as an English and foreign language instructor in Europe, Asia and North America. He has a PGCE in Education, a Masters in TESOL, and is currently a PhD student in Educational Studies at McGill University. He has also been a professor with the School of ESL at George Brown College and currently works as a Curriculum Developer and TEFL Teacher Trainer in Toronto. His research is centered on decolonizing pedagogies in language education, ecopedagogy, sustainability in education, and indigenous language revitalization.

### Abstract:

Learners needs in the 21st century classroom are complex. First, there is a need to reflect language as a holistic,

meaning-carrier unit which is not decontextualized. Second, many of our learners use technology in their daily lives which transcend traditional print literacy and place an importance on multiple modes of meaning (i.e., multimodality). Third, there is a need to address the most complex and pressing issue facing our learners and all life: climate change. An incorporation of real-life experiences and issues in the classroom is fundamental for our learners' journey through the English language and its Eurocentric, human-centered worldview (Halliday, 1990). This presentation introduces the Transferrable Learning Circle (TLC) and its five principles as a method to enable our learners to be more empowered, pose problems to the status quo, and take meaningful action: (i) a holistic approach, (ii) schema activation, (iii) multimodality, (iv) critical literacy, and (v) sustainability.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Transformative Learning and Sustainability



## "Learning sustainability" in the ecovillage - early findings of a multiple case study of participation, praxis and transformative learning in four North American ecovillages

- [Lisa Mychajluk](#)

### Bio:

Lisa Mychajluk researches opportunities for transformative sustainability learning in ecovillages, and how these learning experiences could support system and societal transformations to 'one planet living'. Her research is influenced by a multi-disciplinary academic background in environment and sustainability studies, combined with studies in adult education and community development. Prior to her current dissertation research, Lisa investigated the social competencies and cooperative skills needed to live and work together in eco-communities. Her academic research has been enriched through three years of practical experience residing in an ecovillage in Ontario - a cooperative live/work environment.

### Abstract:

This paper presents early thoughts and findings on research in progress. My dissertation research, which began in

October 2018, is an exploration of 'learning sustainability' through participation and praxis in four North American ecovillages. The research explores the 'what' (e.g. skills, knowledge) and 'how' (i.e. process) of ecovillage-based sustainability education and learning, as experienced by both visitor/students and ecovillage residents. Comparative analysis across cases will identify similarities and differences, including trends, patterns and common themes. Furthermore, the ecovillage itself is considered as a learning environment, and whether it is socially and ecologically supportive of the development of a sustainability practice. This research project is framed by broader questions about the potential for ecovillages to enable a transformative sustainability learning, to 'learn our way out' of unsustainable ways of living (Serrano, 2000; Finger and Asún, 2001), and 'learn our way in' (Sumner, 2003; Wals, 2011) to 'one-planet living'.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Comparing Universities to Foster Sustainability

### - Manuel Vallée

#### **Bio:**

Manuel Vallée is an award-winning teacher at the University of Auckland, in New Zealand, whose regular teaching duties include Environmental Sociology, Sociology of Science, and Sociology of Health & Illness. As well, he regularly contributes to interdisciplinary courses on sustainability (Global Issues, Sustainable Futures) and social sciences for public health, and has recently co-developed a three-course interdisciplinary module on sustainability. His research areas include the social construction of pesticide use, the social production of environmental knowledge, efforts to green university curricula and campuses, as well as developing innovations to enhance the teaching and learning of environmental issues.

#### **Abstract:**

An important objective in my Environmental Sociology course is to help students develop a more critical attitude toward universities. While universities are often seen as the

critical conscience of society, they exert profound ecological impacts, through the resources they consume, as well as the waste and pollution they produce. They also impact ecosystems through the systems of ideas, values and practices they impart upon the next generation. While this cultural influence could significantly reduce the next generation's ecological impact, many argue the overarching ideological effect of most universities is to perpetuate the dominant growth-oriented paradigm. To help my students foster a more critical attitude vis-à-vis universities, they study their university's efforts to lower its ecological footprint and they compare those efforts against a recognized leader on the issue. This assignment produces numerous benefits aimed at understanding and enhancing sustainability efforts. This presentation will introduce the assignment, elucidate six benefits associated with it, and discuss how students have responded to it.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





Themed Session - CA2

# Representations of the Environment and Sustainability

Chaired by: Brett Caraway

Day 1 | Oct. 16, 2019 | 14:00 | MN 2130





## Blogging for “Happy Family in Nature”: Parental Visitors’ Representation of Nature, Family Leisure, and Ideal Parenthood in Taiwan

- Pei-hua Chao, Ho-chia Chueh

### Bio:

Pei-Hua Chao is a doctoral candidate at the Department of Bio-Industry Communication and Development, National Taiwan University, Taiwan. She obtained a MA degree from the Department of Recreation, Parks and Tourism Studies at Indiana University, USA. She also holds a MBA in Communication Management and a BA in Japanese Language and Culture. Her research interests include environmental communication, environmental education, nature-based tourism, ecotourism, family tourism, and destination marketing. Drawing on her past studies and personal experiences, her current research is primarily focus on the representation of nature environment in the context of recreation and tourism.

### Abstract:

This study aimed to examine how nature environment is represented on social media

and its influence on the perceptions of human-nature relationship, in the context of family leisure in Taiwan. Family leisure is viewed as an important practice of parenting in modern society. Through critical discourse analysis of Taiwan family travel blogs, which are popular source of information for parental visitors, this research further explored how the concepts of “nature” and “family leisure” are mixed and embedded in the description of parenthood. The result revealed that nature environment is usually represented as space where families do things together, and family leisure could be regarded as an example of “commercialization of intimate life.” Consequently, for parents in Taiwan, nature has become a mean of representing themselves as good parents and their family as a happy one on social media, which reflected the anthropocentric view “seeing nature as others.”

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Representations of the Environment and Sustainability



### Laudato si', Four Years Later

#### - Philippe Crabbé

##### **Bio:**

Taught at University of Ottawa and published in natural resources, environmental economics and systems science. Co-edited one of the first multidisciplinary books on resources and environment in Canada. Became director of a multi-disciplinary institute, which obtained one of the large Green Plan research grants dealing with the Saint-Lawrence ecosystem (Cornwall area). Through a CURA grant dealing with climate change and groundwater resources in the same ecosystem, co-authored an article in a prominent climate journal. Co-authored a cost-benefit analysis of tile drainage in the same ecosystem. Interested in religion, domain in which he published a book, as motivator for environmental action.

##### **Abstract:**

Laudato si' was officially released in the

Spring (May 24) of 2015 and was generally well received, with a few exceptions among which one finds neo-classical economists, colleagues to whom I give my divided allegiance.

The content and internal (Christian) and external (Civil society) contexts of this ecological document were examined in my book published in French in 2018.<sup>1</sup> As it is for all multi-disciplinary work in a prominent area for research (ecology or, to-day, geology), a complete review of the literature is high impossible.

Therefore, an update is necessary especially in the area of the Anthropocene, in which there exists an abundant literature already. This area has been dominated by the evidence provided by the natural and physical scientists but, recently, somewhat claimed or reclaimed partially by social science and humanities' researchers.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Material Culture and (Un-) Sustainability: Beneath Representation

- [Peter Graham](#)

### Bio:

Peter Graham, an interdisciplinary social scientist and sustainability theorist, recently completed his doctoral studies at Queen's University in Kingston and is currently a part time faculty at Concordia University in Montreal. His doctoral thesis, *Traces of (Un-) Sustainability: Towards a Materially Engaged Ecology of Mind*, will be published shortly by Peter Lang.

### Abstract:

Ideologies are always materialized in artefact. The directionality of that relationship is however often mistaken due to the implicit Western emphasis of the mental over the material. Building on Material Engagement Theory, this paper challenges the view that the

line of causality always begins with preformed ideas expressed through design processes to result in material inventions. The idea that material artefacts, whether toothbrushes or topiaries, can be interpreted and read like a text can be incomplete. Beneath their role as representations of ideology, material artefacts also operate as co-constitutive elements of extended, distributed, mediated, and dynamic minds. We think with materiality, in other words, and not just about it. The materiality of the cultural landscape is as much a driver of unsustainability as it is the passive recipient. Without recognizing the loop structure of this relationship, sustainability is likely to remain enigmatic at best.



## Representations of the Environment and Sustainability

### Petro-Nostalgia and Conspicuous Pollution: Social Media Representations of Anti-Environmentalism Communities

- Doug Tewksbury

**Bio:**

Doug Tewksbury is Associate Professor of Communication and Media Studies at Niagara University in Lewiston, NY.

His research focuses on digital cultures, new media technologies and platforms, and online activist and political communities. Dr. Tewksbury studies the democratic possibilities of social media platforms and user-generated content, in addition to analyzing social problems that have emerged from these technologies. He has conducted ethnographic fieldwork with several grassroots social movements, including the 2014 Ferguson protests, the Quebec Student Strike, the Occupy Movement, and other democratic actions. His work is increasingly focused on issues of climate change, and on communities of climate-change deniers and activists.

**Abstract:**

This paper is a discourse analysis of user-generated, social media representations of anti-environmentalism and pro-fossil-

fuel confrontational practices. These representations include 'Rolling Coal' videos, where fossil-fuel activists modify their diesel pickup trucks to bellow dense, black clouds of exhaust smoke that is then targeted at Toyota Priuses and electric cars, environmentalists, protesters, bicyclists, pedestrians, and women. But, most interestingly, at coal-rollers, themselves, intentionally blowing black exhaust soot into their faces as a celebration of their anti-environmental credibility and value system. I argue that these representations function as a form of 'conspicuous pollution', a mediated conservative discourse of anti-environmentalism and identities built around climate change denial. As an exercise of what Daggett (2018) calls 'petro-nostalgia,' these mediations become a backward-looking shorthand against the norms of environmentalism by reinforcing a cultural hegemony of fossil fuel dominance through a nostalgic remembrance for a time when traditional constructions of privileged subjects (white, male, hetero, capitalist,

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Representations of the Environment and Sustainability

### The role of Hip Hop Music in the Environmental Movement

#### - Rachel Wang

**Bio:**

Rachel Wang is the Founder of Evoke Creatives - a social enterprise in Toronto with a mission to bring more racialized youth to the frontlines of the environmental movement. Prior to this venture, Rachel was working with organizations like WWF-Canada, WWF-South Pacific and ECO Canada. With a lens on racialized youth and pedagogy, Rachel now focuses on understanding media culture as a medium for mobilizing knowledge around environmental justice and action. This also extends to her work as Facilitator for the United Nations and British Council's Active Citizens Program and Founding Member of Environmentum's Motivational Interviewing Community of Practice.

**Abstract:**

Since the late 1960's, studies have shown the impact of popular music on social and cultural protest movements. In particular, hip hop music has been demonstrated as a vehicle to fight for social justice and political reform in the black community. Recently, this genre has become

commoditized by big labels and is now often criticized for its perpetuation of misogyny, violence and homophobia. However, these songs and artists comprise a small percentage of the genre. It is the sensationalization of media culture that threatens the original identity of hip hop music.

Evoke Creatives is working to elevate more voices in the hip hop community with a lens on environmental racism. The environmental ideology in the media paints the picture of a hippie woman, hugging a tree, with a sign that says "Go Vegan". However, it is racialized communities that live with a disproportionate share of environmental impacts, such as living proximity to industrial land use. As a result, Evoke Creatives 1) hosts workshops for artists and songwriters to tell their stories, and 2) works with hip hop music festivals to engage their patrons in environmental sustainability. Through these initiatives, Evoke works towards its vision of seeing more racialized communities on the frontlines of the environmental movement in Toronto.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA3

# Towards Improved Understanding of Variability in the Water Cycle Behavior and Water Resources

Chaired by: Xiaoyong Xu

Day 1 | Oct. 16, 2019 | 14:00 | MN 3110





## Towards Improved Understanding of Variability in the Water Cycle Behavior and Water Resources

### Mapping Wetland Bathymetry in the Credit Valley Watershed

- Zoe Bedford, Yuhong He

#### Bio:

Zoe Bedford is a fourth year undergraduate student currently studying Environmental Science at University of Toronto. Zoe is the recipient of the Undergraduate Student Research Award granted by the Natural Science and Engineering Research Council (NSERC) for the summer of 2019. Her project focused on utilizing satellite imagery to determine the bathymetry of lakes and wetlands in the Credit Valley watershed. Zoe has a leadership role in the Geography Department's academic society and has aspirations of completing graduate studies.

#### Abstract:

Since the late 1960's, studies have shown the impact of popular music on social and cultural protest movements. In particular, hip hop music has been demonstrated as a vehicle to fight for social justice and political reform in the black community. Recently, this genre has become commoditized by big labels and is now often criticized for

its perpetuation of misogyny, violence and homophobia. However, these songs and artists comprise a small percentage of the genre. It is the sensationalization of media culture that threatens the original identity of hip hop music.

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## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





## Towards Improved Understanding of Variability in the Water Cycle Behavior and Water Resources

### Spatial and Temporal Trends in Lake Bathymetry in the Credit Valley Watershed

- Monique Dosanjh, Yuhong He

#### Bio:

Monique Dosanjh is an undergraduate student at the University of Toronto Mississauga (UTM). She will be entering her fourth year this fall and is majoring in Environmental Science, and minoring in both Geographic Information Systems (GIS) and Environmental Management. She completed a project exploring the temporal changes in wetland bathymetry using satellite remote sensing this summer through the Research Opportunity Program at UTM under the supervision of Professor Yuhong He. Monique hopes to continue to expand her knowledge in remote sensing to monitor and find solutions for environmental problems.

#### Abstract:

In a period characterized by rapid urbanization and climatic change, many

conservation authorities are now focusing their efforts on the protection of wetlands; important ecosystems that provide a range of benefits for a variety of species. A vital characteristic of wetlands is their areal extent; it is a factor impacting their ability to provide habitat for different species of flora and fauna. This project attempts to quantify annual and seasonal changes in areal extent for wetlands in the Credit Valley Watershed. A time series of Landsat satellite images are classified to identify the wetlands under study. Ground data and aerial photos are used to delineate reference polygons for validation. Change detection is performed to identify changes in areal extent of at-risk wetlands and aquatic ecosystems. Information regarding wetland area will aid conservation authorities to identify and prioritize wetlands for restoration and protection.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Towards Improved Understanding of Variability in the Water Cycle Behavior and Water Resources

### Hydrological Assessment of Multiple Precipitation Products

- [David Ma](#), [Christinne Lasam](#), [Elfatih Idris](#), [Sarah Lutka](#),  
[Xiaoyong Xu](#)

#### Bio:

My name is David Jing Ma, a fourth-year biomedical physics specialist program student at UTM. From my interest in physics, I worked as part of the Research Opportunity Program under Dr. Xu over the summer regarding the hydrological assessment of multiple precipitation products. Specifically, I worked on ERA5, one of the climate reanalysis datasets and analyzed its performance seasonally and annually. For future research, I am interested in investigating on how other variables (ex. temperature, pressure level) contribute to the performance and uncertainties induced in hydrological models.

#### Abstract:

Concerns regarding the sustainability of water resources under climate change and human activities has engendered demand for more accurate predictive tools such as hydrological models. Precipitation is the most crucial hydrological driver. In this work, daily gridded precipitation data derived

from the Canadian Precipitation Analysis (CaPA), the fifth generation of ECMWF reanalysis (ERA5), and the second Modern-Era Retrospective analysis for Research and Applications (MERRA-2) are evaluated over the Great Lakes basin, which contains the largest body of surface fresh water and is critically important to the society, ecosystem, and economy of the United States and Canada. The reference precipitation observations are taken from the Environment and Climate Change Canada (ECCC) weather station network and the Michigan Automated Weather Network (MAWN). Moreover, the performance of the three gridded precipitation products for driving a hydrological model (WATFLOOD) are also evaluated. Findings from this study will be useful for a better understanding of potential uncertainties induced via forcing data into the hydrologic model output and an objective selection of gridded precipitation products for use in future hydrological modelling activities.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Towards Improved Understanding of Variability in the Water Cycle Behavior and Water Resources

### Integration of Remote Sensing and Drainage Modeling for Improving Urban Stormwater Management

- Zarin Mom, Xiaoyong Xu

#### Bio:

I am Zarin Mom, a passionate third year UTM student majoring in GIS and Human Geography. I carry great interest in urban planning studies which has led me to seek an outstanding research opportunity with professor Xiaoyong Xu. The research is heavily focused on integrating drainage modelling (SWMM) and remote sensing to better manage stormwater runoff in urban catchments. The aim of this research is to prevent urban flooding and damage caused by stormwater runoff, which will definitely serve my interest to sustain the urban environment.

#### Abstract:

Urban stormwater management is crucial to urban sustainability. Due to the effects of climate change on the hydrological cycle, the frequency of extreme precipitation events is expected to rise. This has

added urgency to the need to improve our capability to manage stormwater and control their environmental effects in urban/suburban catchments. In this study, we explored the integration of high resolution satellite remote sensing information with urban drainage modelling system. An urban drainage modeling system was developed by integrating high-resolution satellite imagery-derived land cover information with a Storm Water Management Model (SWMM). The study catchments are located within the City of Mississauga, Ontario. Overall, the modelling is able to effectively capture the observed stormwater runoff, although the performance varies with the drainage network system. The developed drainage simulation system can be used to estimate effects of increased stormwater runoff on urban environments in support of better urban stormwater management.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Towards Improved Understanding of Variability in the Water Cycle Behavior and Water Resources

### Evaluation of Remotely Sensed Soil Moisture Over the Great Lakes Region

- [Shadia Zaman](#), Yun Zhi, Joseph Lee, Xiaoyong X

#### Bio:

Shadia Zaman is a fourth year undergraduate student working towards an Honours Bachelor of Science degree. She is majoring in Geographic Information Science and History of Religions, at the University of Toronto Mississauga. She is very inserted in understanding patterns and relationships based on spatial information. This interest has led her to work with Professor Xiaoyong Xu on a research project. The research project is about evaluating remotely-sensed soil moisture over the Great Lakes region.

#### Abstract:

Satellite remote sensing holds the capability to provide large-scale spatially distributed soil moisture information. In this study, we compared the soil moisture data collected through in-situ and satellite remote sensing methods over the Great Lakes region. The in situ soil moisture measurements are

taken from field observations, the Fluxnet-Canada Research Network, the Michigan Automated Weather Network, and the Soil Climate Analysis Network. Satellite products under evaluation include the soil moisture retrievals derived from the NASA Soil Moisture Active Passive (SMAP) satellite and the ESA Climate Change Initiative (CCI) passive and active soil moisture products. To evaluate the satellite remotely sensed soil moisture data sets, a series of metrics such as correlation, anomaly correlation, bias, RMSE (Root Mean Squared Error), and MAE (Mean Absolute Error) have been calculated. The results can provide guidance for the application of these satellite products in hydrological and meteorological studies for this region. Soil moisture affects precipitation patterns across a range of spatial and temporal scales and is a key state variable linking the land surface and the atmosphere.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA4

# Geospatial Data and Analysis for Terrestrial Ecosystem Health

Chaired by: Yuhong He

Day 1 | Oct. 16, 2019 | 14:00 | MN 3180



## Geospatial Data and Analysis for Terrestrial Ecosystem Health



### Monitoring Changes in Forest Growth-Decline Across a Suburbanizing Landscape: Extracting Useful Information from Nearly 50 Years of Landsat Imagery

- Mitchell T. Bonney, Yuhong He

**Bio:**

Mitchell is a 3rd year PhD candidate in the Department of Geography at the University of Toronto Mississauga. He completed his undergraduate degree at the University of Toronto and his MSc at Queen's University, where he studied subarctic vegetation change due to climate warming. Mitchell's doctoral research involves using long-term remote sensing datasets, such as aerial photography repositories and the Landsat archive, to monitor forest change in southern Ontario. He collaborates closely with Credit Valley Conservation and the Region of Peel to ensure that his results can be of direct use to local decision makers.

**Abstract:**

Rural landscapes surrounding cities are in flux, primarily due to the replacement of farmland with suburban developments.

Forests in these areas are similarly dynamic, with losses in some locations (e.g., removal for development, storms, invasive pests) and gains elsewhere (e.g., growth in abandoned fields, urban tree planting). In this study, we quantify this change across space and time in a suburbanizing area west of Toronto, Canada. Landsat imagery (1972- ) is harmonized through time and then temporally segmented in Google Earth Engine to build the longest possible standardized change record. In situ ground validation relates satellite spectral change with real change in canopy closure. We finally split changes into gain-loss classes and quantify yearly spatial pattern metrics to understand the spatio-temporal dynamics of forest growth-decline. This work has been done in collaboration with local policy makers, who will use this information to better understand their forest environments.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Geospatial Data and Analysis for Terrestrial Ecosystem Health



### Using Visualization Techniques as a Tool for Knowledge Translation

- Meredith DeCock-Caspell, Liette Vasseur

#### Bio:

Meredith is a Master of Sustainability Candidate in the Sustainability Science and Society program at Brock University in St. Catharines, Ontario. She obtained her BSc in Environmental Sciences at the University of Calgary. Meredith worked as an Environmental Scientist in Calgary, Alberta for nearly five years. At Brock, she is part of the research team working on a climate change adaptation project seeking to co-generate adaptation strategies with the Town of Lincoln, Ontario. Her research focuses on visualizing the evolution of the shoreline as a knowledge mobilization tool to increase community engagement and action.

#### Abstract:

Breaking down barriers to climate change action requires effective communication of complex scientific information. The use

of visualization tools increases knowledge translation by visualizing changes and lived experiences. The research seeks to evaluate how climatic and non-climatic drivers of change may contribute to coastal evolution of the Town of Lincoln, located on Lake Ontario. Using historical aerial photographs, the rate of coastal change will be measured to identify areas and time frames of significant change. A land-based photograph comparison of the coastline will be integrated with the coastal evolution map in an interactive web application. This visualization tool is to be used as a vessel for social learning in the larger project that aims to co-generate climate change adaptation strategies for the Town. The combined visualization technique will increase communication of the research results to the community and provide a technique that can be generalized to other local-scale case studies.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Tree Species Classification with Deep Multi-Task Learning

- Dr. Connie Ko, Dr. Jungwon Kang, Dr. Gunho Sohn

### Abstract:

The use of LiDAR data for tree species classification has proven effectiveness in many research with high accuracy. However, the major bottleneck of these studies is the limited number of classes that are differentiable by traditional machine learning algorithms that depend on user-defined classification features. This is normally due to the lack of training data and the difficulty in designing classification features that are able to differentiate the subtle differences between tree species. We propose a Multi-task deep learning method for training 25+ different species located on York University Campus, Toronto, Ontario. The design

of the Multi-Task network is unique to tree classification through the introduction of concurrence loss (Lcd) term. The term regulates the overall network performance by minimizing the inconsistencies between species classification and binary (coniferous-deciduous) classification. LiDAR data are collected by two scanners (Titan and Galaxy) provided by Teledyne Optech.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Geospatial Data and Analysis for Terrestrial Ecosystem Health



### Can Remote Sensing Detect Changes in the Decomposition Process? Implications for Carbon and Nitrogen Cycling

- Cameron Proctor, Yuhong He

#### Abstract:

Decomposition is a critical ecosystem process that recycles carbon (C) and nitrogen (N) into the air, soil, and water, yet there are numerous pathways that influence the composition and magnitude of decomposition products flowing into these pools. A complex system of microbial decomposers and environmental factors result in a wide range of decomposition states. Decomposition is challenging to quantify accurately in the field since it is temporally and spatially heterogeneous, yet the large field of view offered by remote sensing is well poised to quantify the average decomposition state. Utilizing close

range hyperspectral imagery, this study investigates whether remotely sensed decomposition can be linked to metrics of decomposition (e.g. C:N ratio, CO<sub>2</sub> flux). As the decomposition process is sensitive to soil moisture and temperature patterns, the historical remote sensing record may offer insights into whether climate change has altered the decomposition process and its ecological implications.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA5

# Human Health and Wellbeing

Chaired by: Jae Page

Day 1 | Oct. 16, 2019 | 14:00 | MN 3120





## Understanding the impact of legalization of Marijuana: A literature Review

- Sparkles Ransom, Whitney M. Young Jr.

### Bio:

Sparkles L. Ransom is a Licensed Clinical Social Worker (LCSW) from San Francisco, CA. She obtained an MSW from Barry University School of Social Work. Ms. Ransom has over 13 years of experience working with children and families, Medicaid, Substance Abuse, and varied populations. She is currently a 3rd year Ph.D. social work student, attending Clark Atlanta University in Atlanta, GA, where her dissertation focus is the legalization of marijuana. Ms. Ransom is a member of the Pi Gamma Mu Honor Society. She is also an Emergency Room Social Work Supervisor at Grady Health Systems Level 1 Trauma Center.

### Abstract:

This review of literature seeks to evaluate and discuss research to understand the impact of the legalization of marijuana. Specifically, it will examine the history of the legalization of marijuana and its significant impact of the sustainability of state-level economy, healthcare, and the ability to obtain employment to provide for families. The following areas will be discussed, the historical perspective of marijuana; historical policy, medicinal vs. recreational and its state-level economic impact, custody vs. citation, and labor laws.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Review of Methodologies for Assessing Sustainable Diets and Potential for Development of Harmonised Indicators

- Paul Eze Eme, Jeroen Douwes, Nicholas Kim, Sunia Foliaki, Barbara Burlingame

### Bio:

Mr. Paul Eme is a currently a PhD student of the School of Health Science, Massey University, New Zealand. His doctoral research is on developing, harmonizing, validating sustainable diets methodologies and metrics of Sustainable food systems in Pacific Island Countries. He has been involved in some health researches in Nigeria and Kiribati. His email address is paul.eme@vuw.ac.nz.

### Abstract:

The underlying values and priorities that drive policy responses depend largely on the constructs that researchers and decision makers select to measure and the metrics used. Despite much recent attention being given to sustainable diets and food systems and to the importance of clearly measuring sustainability to meet targets, to achieve goals, and to appraise dietary and environmental policies, it is not commonly agreed how the different indicators of sustainable diets are assessed. The evidence base for assessment of these indicators are frequently weak, fragmented, and

arbitrary. The aim of this paper was to compare a range of published methods and indicators for assessing sustainable diets and food systems in order to harmonise them. Keyword and reference searches were performed in PubMed, Scopus, CAB Abstracts, and Web of Knowledge. Fifty-two studies (21 proposed methods and 31 used methods) that combined environment, nutrition and health, and socioeconomic aspects of sustainable diets were reviewed. The majority (over 90%) of the studies focused on high-income countries. Twenty-eight studies assessed the environmental effects of different dietary practices, eight of the studies examined the nutrition and health indicators used for assessing sustainable food systems, and seven studies assessed the social and economic costs of diets. A classification of the elements was developed, and common elements are proposed for standardizing. These elements were categorized into nutrition and health indicators, environment indicators, and socioeconomic indicators. Standardized or harmonized indicators can be used for consistency and applicability purposes and to support,

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Land Transformation and Human Health

### - Dr. Byomkesh Talukder

#### **Bio:**

Dr. Byomkesh Talukder is the inaugural Planetary Health Fellow at the Dahdaleh Institute for Global Health Research, York University, Canada, where he works at the intersection of health, sustainable development, climate change, food and agriculture. Dr Talukder also works on modelling the health impacts of climate change related extreme weather events. His past research applies a complexity science approach to designing sustainability assessment models of food and agricultural systems in Bangladesh. Dr. Talukder also has over 15 years of interdisciplinary field and training experience.

#### **Abstract:**

Human health depends on land systems in many ways, but land systems are being continuously transformed by human activities. Transforming land systems is not only leading to ecological degradation,

but also resulting in serious threats to human health and wellbeing. The transformation of land is associated with many communicable diseases. However, this association is very complex, as has been documented in many scientific papers. To understand this complex association in a structured way, a systematic literature review is carried out using the system of systems approach to identify the cause and effect of transforming land and human health. The preliminary result of the literature review shows that transforming land is affecting communicable disease in many ways, such as a strong influence in relation to the spread of malaria and other mosquito-borne diseases. The results of this review help to explain the linkage between land transformation and associated communicable disease, which can be helpful for land use planning and prevention of communicable disease.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Understanding the Impact of Social Policy on Immigrants' Access to Health Care: A Theoretical Framework

- Fese Elonge

### Bio:

Ms. Fese Elonge obtained a Master of Social Work from Clark Atlanta University. Ms. Elonge is currently pursuing a Ph.D. in Social Work from Clark Atlanta University, to function as an advocate for immigrant communities. Ms. Elonge is a recipient of the 2019 Dean's Fellow Award. Ms. Elonge is also a member of the Pi Gamma Mu Honor Society. She has a plethora of clinical experience working with diverse populations. Ms. Elonge is currently working at Emory University Hospital as a Board Certified Surgical Oncology Social Worker (LMSW, OSW-C), providing enhanced psychosocial services to individuals with cancer, their families, and caregivers.

### Abstract:

Immigrants' healthcare accessibility is a contentious issue that affects many immigrants in the United States. Pereira et al.(2012), report that although foreign-born

adults have high employment rates and stable economic status, they are more likely to work low wage occupations and less likely to have health insurance coverage through their employers as compared to native-born adults. Disparities in healthcare access are present that impact immigrants' which many scholars state is due to the implementation of federal and state policies.

To understand immigrants' healthcare access, this paper will: (1) examine the phenomenon variables, access to healthcare and social policy separately to clearly conceptualize the foundations of each; (2) provide a theoretical framework comprised of the following: the Andersen's Health Behavior Model, General systems theory, Social justice concept, and the Macro-structural concept; (3) discuss an immigrant-specific conceptual model which will present recommendations to address the disparities present in immigrants' healthcare accessibility.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA6

# Mixed Analysis of Sustainability

Chaired by: Padam Prakash Bhojvaid

Day 1 | Oct. 16, 2019 | 14:00 | MN 3100





## Words and Stories as Ironic Barriers to Adaptation

### - Brent Wood

#### **Bio:**

Brent Wood has taught in the Department of English and Drama at UTM since 2003, focusing on poetry, creative writing and Canadian literature. He is the editor of *Listening for the Heartbeat of Being: The Arts of Robert Bringhurst* (McGill-Queens 2015), and author of *The Tragic Odes of Jerry Garcia and the Grateful Dead* (Routledge 2019) as well as many articles on poetry, performance, and music. He has pursued ecological activism in various capacities on the community level in Peterborough, Ontario for the past 20 years and recently joined the Sustainability Advisory Board at UTM.

#### **Abstract:**

Ingrained discursive habits constrict

the ability of North Americans to revise the mental models through which they understand the world at large and their actions within it. Figures of speech, euphemisms, Newtonian-age conceptual frameworks, and romantic narratives work against the best intentions of activists, academics and average working people alike, ironically undermining efforts to change behaviour and decision-making patterns. This presentation will draw attention to some typical cases of this phenomenon, including basic terminology used throughout this conference, and offer some suggestions of how critical awareness of our discursive habits can enable genuine opportunities for social and economic adaptation necessary to human survival.





## Timbre Minesto Community Forests: an example of application of Transdisciplinary Theory and action for Sustainability

- [Padam Prakash Bhojvaid](#)

### Abstract:

It was during colonial rule that organized scientific forest management was first established outside Europe in 19th century. While the advent of colonial forestry was marked by timber primacy, revenue generation and sustained yield; the forestry in vogue in these erstwhile Independent colonies is characterized by ecological security, landscape approach to management, conservation of biodiversity with people's participation and oriented towards achieving Sustainable Forestry. Moreover, in the last five decades, one has also witnessed the evolution of more than 25 International Instruments that

are associated with realizing management imperatives for forestry. This paper will deliberate on some transdisciplinary interacting agents of change that are shaping forest sustainability in erstwhile colonies such as India and subsequently reflect on some of the new forest conservation agendas that have begun to both build upon global externalities.



## Feminized Poverty and the Challenges of Operationalizing Sustainable Development Goal 5 in Nigeria: An NGO Experience

- Ijeoma Eteng Emeribe

### **Bio:**

Rev. Mrs. Emeribe, Ijeoma is the founder and president of Women Africa - International. Since 2016, she has put together and supervised more than 20 successful empowerment projects targeting vulnerable women and children in Nigeria, Kenya and many other parts of Africa. She is a multiple award winning philanthropist and change advocate. She is also an ardent advocate for localizing the Sustainable Development Goal in Nigeria.

### **Abstract:**

This study presents the challenges of operationalizing the United Nations Sustainable Development Goals (UNSDGs) goal 5 in Nigeria as experienced by an international NGO named Women Africa International. Four of the major projects were selected for a closer analysis: Alter of Mercy (three days women and girls empowering program, 10th – 13th April, 2019); Women's Camp Calabar (three days women and girls empowering program 22nd – 25th February, 2018); Women Africa Empowerment Conference, Abuja (1st – 3rd June, 2017); and Vocational Skill Training Program, Abuja (20th – 23rd February, 2016). Apart from the assessment of the four focused projects, other short

term individual projects such as women relieve outreaches delivered to improve the lives of the community between years 2016 to 2019 were also included as results. These projects were examined based on an open ended interviews which was conducted with four respondent groups namely; i) "Development Experts" from outside the NGO; ii) general participants of the programs including men; iii) volunteers and workers of Women Africa International and iv) beneficiaries of the different projects of the NGO. The interpretation of the data gathered reveals that women and girls are vulnerable in Nigeria due to a complex of factors, among which patriarchal norms, poor level of education, lack of vocational skills plays a significant role in their vulnerability to the prevailing feminized poverty and it deepens the existing gender inequality. Also, the poor knowledge of the concept of sustainability itself was prevalent among the beneficiaries as demonstrated by consistent preference for immediate hand-outs without considering long term sustainability. Thus, this paper present a replicable framework developed by Women Africa International to approach the identified challenges for effective operationalization of the SDG 5 in Nigeria and developing countries with similar socio-cultural context.



## Necessity of indigenous water governance to achieve SDG 6 under climate change in Sri Lanka

- Hetti Arachchige Hemachandra Jayasena, S. Vithanage, M.G.P.N. Chandrasena, B. Hettiarachchi, H.A.H. Jayasena, E.D.P. Perera, N. Nagabhatla

### Bio:

Prof. Hetti Arachchige Hemachandra Jayasena is a Chartered Geologist from the University of Peradeniya, Sri Lanka. He received Fulbright and IAEA fellowships to pursue postgraduate studies in the US. He served as the Team Leader/technical expert for water projects ranging from 20-210 Million USD in Canada, US, Japan, Iraq and Sri Lanka. He was a sought-after consultant for many IEE, EIA and ESA Phase I, II & III projects. His research covers hydrology, geology, climate change and SDG 6 targets on the total environment. He has authored 55 peer-reviewed articles, 21 research reports and 60 abstracts with over 190 citations and earned an impact of 20.17. He was a recipient of Presidential awards for 2007, 2008, and 2014.

### Abstract:

Sri Lanka has moderate water stress (on a scale of 5), with sector wise scores for agriculture (3.10), domestic (2.28) and industry (2.65). The expected climate change

scenarios (1.2-1.6°C increase), however, aggravates water for agriculture (paddy 13-23% increase) and industry requirements (6.42% increase). Since IPCC suggests degrading water quality, a study was performed on historical irrigation systems. The results show evidence of sustainable household and farm-level water management as inherited from the well-endowed indigenous knowledge, though 85% were aware of water shortage due to drought coupled with climate change. In agricultural areas 40% discharge their wastewater to the household plants however no such use in townships but 50% to open areas. Modern irrigation with ad hoc policies resulted in invasive plants, reduction of annual discharge, increasing sedimentation/erosion and 85% see lower quality water due to agrochemicals. The outcome necessitates the need to reevaluate the indigenous practices in water governance as a multifaceted approach in achieving SDG 6.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Substitution, forest species diversity, and timber market volatility

- Mo Zhou

### Bio:

Dr. Zhou has a Ph.D. in Forest Economics and Management from the University of Wisconsin-Madison. She has held faculty positions at the University of Alaska-Fairbanks and West Virgin University and is currently an Assistant Professor of Forest Economics and Management at Purdue University. She is also the lead economist of the Global Forest Biodiversity Initiative. Her research interest lies in optimal forest management under risk and uncertainty, and economics of biological conservation. Dr. Zhou's work has appeared in journals such as Science, Nature, Proceedings of the National Academy of Sciences, and the Journal of Environmental Economics and Management.

### Abstract:

Biodiversity promotes ecosystem services and enhances ecosystem resilience as an "insurance policy", but there lacks consensus on its economic values and little is known of its impacts on the resilience of the economic counterpart. To lend some theoretical support to this debate, we use an economic model of multi-species timber market to illustrate that species-rich forests are also economically beneficial because they reduce market volatility caused by natural disturbances and demand shocks. The hypothesis provides theoretical support, from the economic perspective, for preserving species diversity in biological conservation and restoring mixed-species forests in plantation forestry and reforestation projects.



Themed Session - CA7

# Sustainable Food System Pedagogy

Chaired by: Michael Classens

Day 1 | Oct. 16, 2019 | 14:00 | MN 2190





## Engaging and Empowering Diverse Communities through Sustainable Food Education

- Leticia Deawuo

### Bio:

Leticia Deawuo is the Director of Black Creek Community Farm. She is a long-time resident of Jane-Finch Community and mother of two children who has been a leading social activist in Jane-Finch area of Toronto and across the City of Toronto for the past 10 years. As a community resident and organizer, Leticia has been instrumental in the development and formation of a number of prominent community groups and initiatives including Jane Finch On The Move, Jane Finch Action Against Poverty, Jane Finch Political Conversation Café, Black Creek Food Justice Network, and Mothers-In-Motion. She is currently also perusing a Masters in Environmental Studies at York University.

### Abstract:

Black Creek Community Farm (BCCF) is an 8-acre urban agricultural centre in Toronto, Ontario dedicated to serving community and inspiring the next generation of leaders through food justice, healthy food, and hands-on training and learning experiences. This presentation will provide a summary of BCCF's experiential learning programs, which are designed to provide learning experiences to assist teachers and families seeking to enrich children's sustainability focused learning through food. The presentation will offer insights into (1) the challenges and opportunities of animating sustainability education from within the non-profit sector; and (2) the challenges and opportunities of working collaboratively with others in the non-profit, public, and academic sectors.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Teaching Sustainability to Culinary Students: Graduating Sustainability-Minded Chefs?

- [Luciana Godoy](#)

### Bio:

Luciana Godoy is a doctoral candidate at Trent University in the Cultural Studies program. She holds a Master of Arts in Adult Education and Community Development with a collaborative specialization in Environmental Studies from University of Toronto. She is also a Red Seal professional chef and a culinary professor at George Brown College in Toronto. Her master's thesis focused on teaching sustainability to culinary students. As a chef and educator, she is committed to promoting change in the culinary industry showcasing to students the interconnectedness of the food system pertaining to social, economic and political aspects.

### Abstract:

In 2016, The Ministry of Training, Colleges and Universities mandated that culinary colleges across Ontario implement sustainability into their required program outcomes. Positioning the potential impacts of a chef's actions on food production, consumer choice and food service operations' management is crucial in assisting students to develop a sustainable mindset as future culinary leaders. This paper will explore "The Sustainable Chef" course, offered by one of Toronto's main culinary colleges, to assess the potential of future graduates to contribute to more sustainable food systems by making informed and responsible decisions as members of the food industry.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Sustainable Food System Pedagogy

### Tales of a Wiser and Appreciative Graduate Student: Movements towards an Understanding of the Social Sustainability of Civic Agriculture

#### - Adam McLaughlin

##### **Bio:**

Currently completing an MA in Sustainability Studies at Trent University, Adam's thesis project; Civic Agriculture: A means to and an expression of social sustainability? An analytical exploration and defense, is a theoretical investigation of the ways that civic agriculture intersects with social sustainability. More specifically, Adam's research seeks to demonstrate that civic agriculture can be both a manifestation of, and a driver for, social sustainability because civic agriculture is understood as being fundamentally about community problem solving. In this way, Adam's research is also an attempt to provide a way by which we can avoid undertheorizing the social dimension associated to sustainability and by extension sustainable agriculture. Beyond his research, Adam has a deep passion for food production and gardening and has worked and managed a small-scale farm operation located on Trent University's Experimental Research Farm. In addition, Adam has many years of work experience

in food retail and various trades, and these life experiences have provided him with an understanding of the complexities related to agrifood systems which have greatly influenced his thoughts on his current research. When combined, his research and life experiences fuel Adam's desire to become a civic agriculturalist.

##### **Abstract:**

This paper presents itself as a set of reflections on my time as an M.A. student in the Sustainability Studies program at Trent University. It offers an account of my experiences learning about sustainability and my eventual turn towards researching the social sustainability of civic agriculture. By discussing the multiplicity of ways we can think about sustainability, along with the opportunity to do sustainability (that is to put into practice what I was learning), the paper explains why this holistic approach to pedagogy is pivotal in developing the necessary transdisciplinary lens required to explore something as complex as the social sustainability of civic agriculture.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





## Diet for a Sustainable Planet: Working at the Intersection of Sustainable Food Systems, Pedagogy and Transformative Change

### - Jennifer Sumner

#### **Bio:**

Jennifer Sumner is a Lecturer in the Adult Education and Community Development Program of the Ontario Institute for Studies in Education at the University of Toronto. Her main research interests focus on food and food systems, sustainability, critical pedagogy, the social economy and rural communities. She is the author of *Sustainability and the Civil Commons: Rural Communities in the Age of Globalization* (2007, University of Toronto Press), editor of *Learning, Food and Sustainability: Sites for Resistance and Change* (2016, Palgrave Macmillan), and co-editor of *Critical Perspectives in Food Studies* (2nd edition 2017, Oxford University Press).

#### **Abstract:**

This paper will set the context for this session by exploring its main concepts. Drawing from the literature, it will describe sustainable food systems based on the work of Gussow (1999), Levkoe, Lefebvre and Blay-Palmer (2017), and Sumner (2011). From this baseline, it will follow the "pedagogical turn" in the realm of food proposed by Flowers and Swan (2012) and incorporate the critical perspective laid out by Koç et al (2017). The paper will then add transformative change to this mix by encompassing the social-emancipatory approach of Paulo Freire (1996). It will conclude with a heuristic example of sustainable food system pedagogy.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA8

# Animating the Urban: Urban Wildlife Between Encounter and Infrastructure

Chaired by: Bronwyn Clement

Day 1 | Oct. 16, 2019 | 14:00 | MN 2110



Animating the Urban: Urban Wildlife Between  
Encounter and Infrastructure



## Regulating Fear in the City: Managing and Policing Coyotes in Toronto

- Bronwyn Clement, Susannah Bunce

**Bio:**

Bronwyn Clement is a PhD student in Human Geography in the Department of Geography & Planning, University of Toronto under the supervision of Dr. Sue Ruddick and Dr. Sue Bunce. Her research interests focus on access and use of public space; queer geographies; and imaginaries of urban nature. Past research projects have focused on: urban Indigenous place-making; media representations of LGBTQ2S issues in suburbs; and encounters with urban wildlife. She is a research assistant with Crossing Boundaries: Encounters with urban wildlife in the GTA.

**Abstract:**

Coyote sightings in Toronto have produced a discourse of fear in which coyotes are portrayed as urban invaders – stealing family pets and disrupting the social fabric of residential areas. Our paper traces how this discourse has been crafted through reports of human encounters with coyotes, connecting to broader assumptions about human security in cities. Through a study of the City of Toronto's Coyote Response Strategy, interviews with public servants, and observations at community meetings, we explore how coyotes are regulated and managed and contemplate the question of coexistence and building commons for and with more-than-human animals.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

STTPA Conference 2019 @ University of Toronto Mississauga

## Animating the Urban: Urban Wildlife Between Encounter and Infrastructure

### Convivial Cohabitation: Bats in Toronto

- Leesa Fawcett

**Bio:**

Leesa Fawcett is an Associate Professor in the Faculty of Environmental Studies at York University in Toronto, Canada, where she forged the study of critical human-animal studies. She teaches courses in animal studies, environmental philosophy and advocacy, environmental education, political ecology and natural history. Current projects include a multi-year, collaborative study of human-wildlife encounters in the Greater Toronto Area, and community Indigenous experiential learning.

**Abstract:**

In the city, displaced and

dispossessed beings, such as bats, can readily be cast as un-inhabitants and can be made killable. To lose the opportunity and capacity to 'speak' with other animal bodies is a form of (slow) violence against life. This work focuses on two listed endangered bat species to consider what bodily imperatives the knowledge of their population vulnerability calls forth in us and what convivial co-habitation could look like. The Urban Bat Project in High Park is explored as an example of applied ethics leading to richer, more communicative worlds of encounters and informal learning.

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STTPA Conference 2019 @ University of Toronto Mississauga

## Animating the Urban: Urban Wildlife Between Encounter and Infrastructure

### Between Bio and Philia: Managing Affect in an Urban Institutional Assemblage

- [Erin Luther](#)

**Bio:**

Erin Luther is a PhD candidate in Environmental Studies at York University, specializing in human-animal relations and environmental communication. She has also worked in environmental communications in the NGO sector, and is the author of a resource book for community educators on resolving human-wildlife conflicts.

**Abstract:**

Within contemporary work on green design, Beatley's (2010) proposal for biophilic cities stands out for its emphasis on facilitating humans' affective connections to urban nature. This paper examines the

conceptual and material tensions in designing for biophilia, both in how this guiding mandate can shape the lives of urban wild animals in complex ways, and how it impacts the organizations involved in mitigating urban human-wildlife encounters. I explore how the work of wildlife organizations is entangled in the labour of valuing life and disciplining modes of 'connection' and how considering this work can contribute to a biophilic cities manifesto.

## Animating the Urban: Urban Wildlife Between Encounter and Infrastructure

### What about the Squirrels? Sustainable Development Goal 11, Urban Sustainability, and the Eastern Grey Squirrel Population of Toronto

- Tracy Timmins

#### **Bio:**

Tracy Timmins is a doctoral candidate in the Faculty of Environmental Studies, York University, under the supervision of Dr. Justin Podur. She is investigating relationships between humans and free-living urban animals and opportunities for developing interspecies ethics and practices in cities. She completed her MSc in Geomatics at the University of Calgary and her BSc (Hons) at the University of Cape Town. Tracy's doctoral research has been supported by York University, the Ontario Graduate Scholarship, the Donna and Adrienne Pocock Memorial Award and SSHRC Insight Grant: Crossing Boundaries: Encounters with Urban Wildlife in the Greater Toronto Area.

#### **Abstract:**

Sustainable Development Goal 11 aims to build cities that are inclusive, safe, resilient and sustainable – yet the framework's objectives are anthropocentric. Drawing on the work of ecofeminist Val Plumwood and political philosopher Will Kymlicka, this paper explores the possibility of integrating animals – a frequently overlooked urban population group – into SDG 11. Using a case study of eastern grey squirrels in Toronto I examine whether the development of sustainable cities align with support for the wellbeing of urban wildlife and the need for an interspecies ethics and basic protections for urban wildlife.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

STTPA Conference 2019 @ University of Toronto Mississauga

Animating the Urban: Urban Wildlife Between  
Encounter and Infrastructure



## Struggles over value: affect and avian encounters in the Greater Toronto Area

- Susan Riddick

### Bio:

Sue Ruddick is a Professor in the Department in Geography and Planning at the University of Toronto. Her research expertise include philosophies and geographies of human-nature relations; human-wildlife conflicts in Greater Toronto Area; concepts of value related to threatened species; settler colonial imaginings of wildlife; commons literatures from the Global South; urbanization and the Anthropocene. She is the principle investigator for Crossing Boundaries: Encounters with urban wildlife in the GTA, research supported by a multi-year SSHRC Insight Grant.

### Abstract:

This work is about struggles along the dull edge of extinction: about a bird, a building, a lawsuit, and caring for something as priceless (and worthless) as a bird. This story traces the circulation of affect and its effects through the activities of the Fatal Light Awareness Program and an eco-justice law firm in struggles over – and opening glitches in – the hegemonic concept of value that circulate through the city, through encounters with living and dead birds, careful categorization and display of the corpses, art and song, and through legislation and reshaping the material landscape of the city.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CBI

# Transformative Learning and Sustainability

Chaired by: Monika Havelka

Day 1 | Oct. 16, 2019 | 16:30 | MN 2100







## An Exploratory Study of Environmental Training Programs for Incarcerated Populations

- [Michelle Edwards](#), [Caden Ziegler](#)

### Bio:

Michelle L. Edwards is an assistant professor of sociology at Texas State University. Her research interests are related to environmental concerns, risk perceptions, and social inequality. Her work with Caden Ziegler explores the views of those who design and implement environmental programs in prisons. She also has a project with Briana Luna and Hannah Edwards on how the National Environmental Policy Act process is implemented for immigrant detention centers. Caden Ziegler is attending his second year at Texas State University, pursuing a B.S. in sociology and a minor in mass communication. He has an interest in environmental sociology, social stratification, and political sociology.

### Abstract:

Environmental training programs, such as the Master Naturalist program, have become a popular way for regions to promote environmental stewardship and sustainability

principles through providing participants with informal environmental education, volunteer opportunities, and citizen science experiences. Typically, program participants in the United States are white, older, from higher income backgrounds, and often with a prior interest in environmental issues. By contrast, incarceration in the United States is disproportionately experienced by people of color, and those from lower income and educational backgrounds. Though research has demonstrated the positive impacts of nature on well-being, prisoners are often restricted from experiencing nature. To counter this, some individuals have developed environmental training programs in a variety of prisons across the United States as transformative learning experiences. With this exploratory study, we use semi-structured, in-depth interviews to examine the experiences of individuals who are engaged in designing and implementing these types of environmental training programs.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Transformative Learning and Sustainability



## Challenge Lab – Transformative Learning in Transdisciplinary University-Society Interaction for Navigating Sustainability Transitions

- Johan Larsson, John Holmberg

### Bio:

I am a doctoral student in Physical Resource Theory at Chalmers University of Technology in Gothenburg, Sweden. I work inter- and transdisciplinary in the field of sustainability transitions research. Emphasis in my research is on methodological development for navigating transitions, building on backcasting from principles and transformative social learning. I am part of developing and running 'Challenge Lab' at Chalmers as a strategic whole-of-institution approach for sustainability transformations. At the lab, space is created for master students from different cultural and educational backgrounds to engage with complex sustainability challenges together with stakeholders in society.

### Abstract:

Challenge Lab is a space and process for transdisciplinary university-society interaction for navigating sustainability transitions. It creates space for students from different

disciplinary and cultural backgrounds to develop sustainability transition leadership capabilities. The students apply a backcasting-from-principles methodology and related tools including values-clarification, dialogue, systems thinking and co-creation. The students' work is oriented around leverage point interventions grounded in a complex sustainability challenge at the local/regional level, often identified as 'in-between questions', that no actor in society can govern through their own activities. Building on theories of transformative learning, this presentation will provide an overview of the Challenge Lab methodology, including (i) its way of contributing to sustainability transitions in society; (ii) its 'whole-of-university' approach being an integrator of main university functions of research, education and utilization, and; (iii) its way of bringing students from different disciplines and backgrounds together in transdisciplinary co-production and associated conditions and mechanisms of learning.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Love, Learn, Live: Analogous Ultimate Methodology of Ecosystems in Micro Environments teaches Authentic Sustainability in Macro Environment

- Attila Lewis Lendvai, Atlas Allux

**Bio:** Attila is a social entrepreneur, consultant, coach and author with over 20 years marketing, branding and communications experience with start-up ventures. While acquiring his MBA in 2002, he was diagnosed with adult-onset epilepsy & related depression. After getting nowhere with allopathic healthcare, he turned to the Analogous Ultimate Methodology (AUM). Within a short period of time his seizures stopped. Today he lives seizure-free and dedicates his life to The Atlas Project, including YouMethod, Gno\*U and PeapodLife, practical solutions focused on helping humanity work with the AUM of Life to cope better with the world's problems.

**Abstract:**

Genuine knowledge comes from experience. But what experience leads to 'transformative learning and sustainability?' Many who are passionate about the

subject have witnessed firsthand the wonder (and/or suffering) of the natural world, yet most have never lived in a high-order ecosystem. Most of us live, work and study in toxic spaces. Is it any wonder why sustainability is so difficult? How do we expect to synthesize sustainability in an unsustainable crucible? The Analogous Ultimate Methodology of Life is the means by which life, self-evident experiential knowledge of its highest expression (ecosystems), and what sustainability really means emerges. By incorporating high-order ecosystems into the design of microenvironments (creating Advanced Human Habitat where we live, work and learn) the means to authentic sustainability in the macroenvironment will emerge as self-evident. We'll only ever really know what sustainability means if we know what daily life in a high-order ecosystem means to us.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CB2

# Sustainability and the Sacred

Chaired by: Stephen Scharper and Hilary Cunningham

Day 1 | Oct. 16, 2019 | 16:30 | MN 3120





## Sacredness and the Anthropocene: How could mindful awareness advance the future prospects of Homo sapiens?

- Paul Grogan

### Bio:

Paul Grogan is a professor of plant and terrestrial ecosystem ecology at the Department of Biology, Queen's University, Kingston, Ontario. He is interested in how the plants, animals and soil organisms of terrestrial ecosystems interact with each other and with their physical environment. Humans and human activities are an inherent part of ecosystems, and therefore ecosystem-level ecological perspectives are critical to understanding recent global change. Furthermore, Dr. Grogan is keenly interested in elucidating the fundamental root causes of our civilisation's current environmental and social predicaments. What can Biology tell us about our future, and how we ought to be living?

### Abstract:

Humans are influenced by the same base genetically-endowed traits for growth, survival and reproduction that all species

share. Biological expression of those traits results in resource use (and waste production), resource accumulation, and population increases respectively... and has ultimately led us to the Anthropocene. However, we have also evolved a distinctive consciousness trait that allows us to be aware of our activities' environmental impacts, the root biological causes, our profound dependence on the rest of nature, and our overall existential predicament - the inherent suffering and impermanence of each human existence on a small planet in a vast universe.

Deep contemplative awareness of these features' sacred aspects could allow Homo sapiens to at last realise its full potential – wise humans. I will suggest ways to achieve this fundamental change in mindset that would tame our base genetic drives, and prioritise a more mature lifestyle focussed on realism, compassion and wisdom.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## The Sacred Relationship Among God, the Land and the People in the First Testament: The Israelite Covenant as a Biblical Model of Socio-ecological Justice and Sustainability

- Rose Mary Boissonneau

### **Bio:**

R. A. Boissonneau holds a Master of Theological Studies degree from the University of St. Michael and a Certificate of Specialization in Theology and Ecology from the Elliott Allen Institute for Theology and Ecology. Her areas of study are ecotheology, Scripture and social justice. Ms. Boissonneau is currently pursuing an M.A. in Theological Studies co-jointly with the University of St. Michael and the University of Toronto. She is also a socio-ecological justice activist working with ClimateFast, Fridays For Future, the Global Catholic Climate Movement and several other groups in Toronto.

### **Abstract:**

Through its narratives, law codes and prophetic texts, the First Testament expresses the Israelite covenant as a tripartite relationship among God, the people of Israel and the land that God promised them. This sacred bond acts as a socio-ecological justice framework by which humans are obliged to treat the Earth as a divine gift in accordance with God's command to ensure the flourishing of both the land and the people. In this way, the Israelite covenant is a biblical model of a spirituality of the land which fosters sustainability as a mutually enhancing and sacred relationship between humans and the rest of the Earth community.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

STTPA Conference 2019 @ University of Toronto Mississauga



## Cultivating and Sustaining Place as Relational

- [Annalea Theissen](#)

### Bio:

Originally from Nelson, BC, I completed my BA at UTM in 2018 in History of Religions (Judaism, Christianity). I am currently pursuing an MA at Yale Divinity School, concentrating on Religion and Ecology, with a philosophical-theological approach to this intersection. I am most interested in the underlying frameworks within which we think and act, especially in relation to the earth, and I am thereby primarily focused on the triad relationship between God, the human, and nature/the earth. In this paper, I address how "place" is a phenomenon of lived experience, dependent on relationality and interconnectedness.

### Abstract:

I will draw upon the phenomenological insights of Edward Casey and Tim Ingold

to consider the inherent relationality of place. The larger aim of this framing is to offer a reorientation of the body's relation to land, or the human's relation to the earth. Emphasizing the interdependence and interconnection between the human and place may revitalize a deeper sense of responsibility to tend and nurture that very relation in a mutually life-giving way, in opposition to the general conception that the human body is a separate entity from the land, a position which has led to grievous degradation of the earth. Building from both Casey's and Ingold's thoughts on place as bodily, relational, and non-static, I conclude that a recognition of these elements of place is needed to rethink the relationship between body and land in a way that cultivates and sustains the life of both.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## For the Benefit of All Beings: Using Buddhist Ethics as a Framework for Sustainable Development

- Matthew Regan

### **Bio:**

Matthew R.G. Regan is a PhD candidate at the University of Maryland, where his research focuses on democracy and culture in Southeast Asia, sustainable development, and applications of Buddhist ethics. He also serves as the secretary of the International Buddhist Committee of Washington DC.

### **Abstract:**

While significant progress has been made in the way we understand the interdependence of human societies and the environment, the normative values with which we defend policy choices remain firmly rooted in perspectives developed

in the early nineteenth century. If sustainable development efforts are to succeed, they must be rooted in a new set of normative values, one that replaces the atomistic outlook of utilitarianism with one that incorporates interdependence, adaptation, and complex causality. Luckily, we need not begin from square one. Buddhist thinkers have utilized a system-centered analysis of moral actions and justifications for more than 2500 years. This paper argues that Buddhist Ethics can form the basis of a new, secular approach to global ethics that incorporates both the human and environmental dimensions in a way that utilitarian forms of analysis find difficult, if not impossible.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





Themed Session - CB3

# Behavioural Science and Sustainability

Chaired by: Jacob Hirsh

Day 1 | Oct. 16, 2019 | 16:30 | MN 3180





## Stakeholders' Perceptions about Urban Green Spaces and Subjective Wellbeing in Bhopal City of India – Towards Inclusive and Sustainable Urban Growth

- Parul Rishi, Miloni Misra

**Bio:**

Prof. Parul Rishi, PhD -Psychology, Indian Institute of Forest Management, Bhopal, specialises in the areas of psychological /behavioural perspectives of environmental issues and sustainability with particular reference to climate change and corporate social responsibility. She has worked on twenty research projects/consulting assignments, published ninety papers in international/national journals and three books and conducted forty management development programmes along with being the Editor in Chief of "Journal of Organisations & Human Behaviour". She has also been the recipient of several international and national awards and fellowships and has visited fourteen countries on various academic assignments/ conference presentations/keynote lectures/FDPs.

**Abstract:**

Green spaces can provide holistic health outcomes by promoting certain behaviours that boosts well-being like physical activity, social interactions and enhancement of psychological self-esteem. However achieving the above in a city, which has been the victim of industrial disaster in the past, with inequitable distribution of developmental parameters and diverse socio-cultural setting, poses a challenging situation for local governance. Motivated by the above, a need to explore the

perceived value of Urban Green Space (UGS) in sustainable Green Growth (SGG) and Subjective Wellbeing (SWB) among urban dwellers of Bhopal city of India, a victim of historic Bhopal Gas Tragedy, was felt. Two hundred twenty city dwellers were administered Urban Sustainability Perception Scale (USPS), and Subjective Well-being (SWB) Scale to explore this relationship and to make predictions regarding the relationship between variables. Statistically significant relationships were found between the use of urban open green spaces and self-reported perceptions of wellbeing. The results further suggested that the more a person visits urban open green spaces, the less often he or she is likely to report stress-related problems and hence, green spaces may be of importance in managing stress by providing health-promoting environments to city dwellers.

The results highlighted the need for more inclusive urbanisation through protection and enhancement of the natural green space of cities, thereby improving its ecosystem which then supports the wellbeing of the human population. The study has universal implications for promoting UGS in cities in order to promote sustainable green growth on the one hand and promoting subjective wellbeing on the other as UGS has been found to be instrumental in reducing stress levels among residents.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Commuter Behaviour Change

### - Khushpal Brar

#### **Bio:**

Khushpal is motivated by the possibilities of meeting our everyday needs through sustainable solutions. With an education in environmental science and background in conservation, Khushpal is passionate about growing a transportation system that offers practical, holistic and enjoyable travel options. As program manager at pointA, she supports commuters along their journey from A to B through customized transportation solutions.

#### **Abstract:**

pointA is a non-profit that envisions sustainable transportation options that benefit the environment, the economy and the well-being of our communities. Our organization incorporates behaviour change science to better understand

the rationale behind commuter habits in order to reduce reliance on single occupant vehicles. We focus on meeting commuters wherever they are at in their decision-making journey and creating more targeted, personalized services that seek to expand the choices individuals have in how they get to work or school. Customizing our interventions across a diverse range of workplaces has proven to be the most efficient and effective method for shifting travel behavior and encouraging commuters to make long lasting changes in the way they get around. The application of behaviour change science to support the strides made in mobility choice availability, transportation planning, and infrastructure improvements provide concrete results to better understand and change habits.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## The Pursuit of Imperfection: How Flawed Products Can Reveal Valuable Process Information

- Erin L. Percival Carter, A. Peter McGraw

### Bio:

Erin Percival Carter, Ph.D. is an Assistant Professor of Marketing at the University of Maine Business School. Erin uses behavioral experiments to examine how people think about authenticity, well-being, and morality. Specifically, her recent work examines: when and how flaws can improve consumer evaluations of products, how what people think is important for well-being changes as they age, and when the vulnerability of other consumers affects perceptions of price fairness. Erin completed her doctoral education at the Leeds School of Business at the University of Colorado, Boulder and her undergraduate work at the University of Wyoming.

### Abstract:

Consumers who seek out sustainable products care about not just what a

product is but how it came to be. When consumers care about how a product originated, they seek out process information. Process information, however, may be scarce or difficult to verify. Thus, sustainability-minded consumers act as detectives, using the clues available to them to infer the likelihood a preferred process produced a given product. Although flaws typically hurt product evaluations, we find that flaws have the opposite effect when they provide clues that a product was produced via a desired production process. Minor blemishes on an apple, for example, can increase consumer's willingness to believe that the apple was grown without pesticides. We suggest that whether a flaw signals a desired process or not is dependent on the consumers' causal understanding of how the flaw originated. We test this theory in five studies.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CB4

# Social, Economic, Environmental, and Policy Perspectives on Waste

Chaired by: Virginia Maclaren

Day 1 | Oct. 16, 2019 | 16:30 | MN 3100





## How Energy From Waste Facilities Impact Waste Diversion Behavior

- Jaime Baxter, Virginia Maclaren, Jason Bayne

### Bio:

Jamie is a social environmental geographer and professor with long standing interest in how people perceive potentially harmful technology (e.g., pesticides, hazardous waste) particularly as manifest in local communities (e.g., wind turbines, waste incinerators). He investigates why various groups of people view the same hazards/ technologies differently. His studies integrate qualitative and quantitative methods to understand the social construction of risk, environmental justice, renewable energy transitions, facility siting, and the implications of environmental policies and practice in everyday life. He has received multiple grants for this work, including several from the Social Sciences and Humanities Research Council of Canada (SSHRC).

### Abstract:

This paper addresses the problem of

residential diversion. We report results from a survey (n=324) conducted in the GTA, Ontario concerning self-reported diversion behavior. We find support for three hypotheses: H1) knowing discards will end up in an energy from waste (EFW) facility will significantly predict self-reported diversion; H2) attitudes towards impacts of EFW facilities will predict self-reported diversion and; H3) these two relationships will be robust in a regression model that includes known predictors of waste diversion (e.g., convenience, environmental worldviews. Overall the findings lend support to the idea that an EFW waste regime (EFW incinerator in particular), may interact with the attitudes of individuals to negatively impact diversion efforts. Reductions in organics diversion in EFW regimes maybe be a particular concern, but further research is needed to tease out nuances.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Social, Economic, Environmental, and Policy Perspectives on Waste

### Food Waste Profile of Canadian Households

- Sohani Withanage, Goretty Dias, Komal Habib

**Bio:**

Dr. Habib studied resource dependency of clean energy technologies such as wind turbines and electric vehicles under current and future framework conditions, where her primary focus has been on critical resources such as rare earth elements. Her research work comprised resource criticality assessment in technology perspective, mapping the flows and stocks of critical resources, and evaluating the processing efficiencies of waste electrical & electronic equipment (WEEE) treatment facilities. Her current research interests include: resource and waste management, material and energy flow analysis from micro- to macro-scale and exploring resource dependency of future clean energy systems.

**Abstract:**

In Canada, it is estimated that 58% of the total food produced gets lost or wasted annually. The monetary value of avoidable

food waste alone is \$49.5 billion, which was equal to 3% of the country's GDP in 2016. This study is aimed at conducting weight and composition based waste audit at household level to generate a comprehensive food waste inventory for the Region of Waterloo. The green bin waste from residential areas in the three cities, Kitchener, Waterloo, and Cambridge was sampled independently during two consecutive weeks and analyzed for the proportion of avoidable, possibly avoidable and unavoidable food waste. The main categories of food, which are frequently wasted, were identified based on the categorization whether it was processed/unprocessed and animal based/plant derived. This study addressed the existing knowledge gaps on the quantities and composition of food waste at household level in Southern Ontario. The preliminary results will be presented during the conference.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Social, Economic, Environmental, and Policy Perspectives on Waste

### Planetary Sustainability and the Earth's Orbital Plane

- Jae Page, Laurel Besco

**Bio:**

I am a graduate of the Master of Science in Sustainability Management (MScSM) program and I am currently pursuing a PhD in the Geography department at UTM. My research primarily focuses on the role of the law in normalizing human interactions and perceptions of spaces, and the corresponding sustainability challenges. Prior to my studies, I worked for various non-governmental organizations as an underwater videographer and scuba diving professional. My work primarily focused on documenting the impacts of overfishing and climate change on coral reef ecosystems.

**Abstract:**

Acknowledged as critical infrastructure by the European Commission and the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) ,

space-based systems have increased in popularity worldwide and the growing number of commercial entrants has led to concerns regarding the long-term sustainability of celestial resources and outer space activities . As a result, in June of 2018, UNCOUOS released its voluntary "Guidelines for the long-term sustainability of outer space activities." While these guidelines may be a step towards a cooperative and sustainable regime, issues pertaining to the active removal of orbital debris have considerable political, economic, and legal dimensions that appear to impede the willingness of States to pursue more binding agreements. The following paper examines these dimensions and the various impediments to sustainability in the finite outer space natural environment and considers options for collaborative governance regimes.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





Themed Session - CB5

# Sustainability at Educational Institutions

Chaired by: Anuar Rodrigues

Day 1 | Oct. 16, 2019 | 16:30 | MN 3110



## Sustainability at Educational Institutions



## UTM's New Science Building: Innovations in Laboratory Building Design

- Ahmed Azhari, Chelsea Dalton

### Bio:

Facilities & Energy Management are some of Ahmed Azhari's primary skills. Professionally, he manages the design of progressive disciplinary building systems; oversees the installation, operation and maintenance for the safe, comfortable, and environmentally friendly operations of buildings at the University of Toronto Mississauga. Ahmed delivered designs that play significant role on the sustainability and energy demand of buildings while utilizing renewable energy, sustainability, low carbon technologies, LEED strategies, and energy management techniques. Ahmed is registered with PEO as a Professional Engineer, with CaGBC as a Leadership in Energy and Environmental Design Accredited Professional, and with AEE as Certified Energy Manager.

### Abstract:

Laboratory and research spaces are historically extremely energy-intensive.

High levels of required ventilation, energy-intensive equipment, and fume hoods combine to make labs typically the highest energy consumers on university campuses. UTM's newest research building, due to break ground in summer 2020, aims to re-imagine how laboratory spaces are designed, constructed, and operated. The New Science Building took over a year to design. With the design now complete, we will be sharing the design process and how this building will transform the way we undertake research. Designed to LEED Gold, the building will feature a geothermal heating and cooling system, solar panel array, and energy-efficient mechanical systems. The building will emit significantly less GHGs than a comparable building without sacrificing user comfort or the ability to perform cutting-edge research. This presentation will focus on the innovative features that will make this building a high-performance, high-sustainability research facility.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Sustainability at Educational Institutions



## Integrative Sustainability Initiatives at the University of Toronto, University of Edinburgh (U of E) and Utrecht University (UU)

- Nicolas Cote, Rutu Patel

### Abstract:

In the summer of 2019, two interns for the University of Toronto (U of T) Committee on the Environment, Climate Change and Sustainability were sent for two weeks to the University of Edinburgh (U of E) and Utrecht University (UU), respectively to learn from their sustainability initiatives. Through a multiple case study of these three universities, we argue that developing sustainability in Higher Education Institutions relies on the integration between teaching, research and community impact, with the support and involvement of campus operations. Teaching and research have long been the top missions of universities, with community impact being a recent addition as the 'third mission', sometimes still contested. We found that this integrative approach, in addition to being key to sustainability commitment, also facilitates

the delivery toward each of these three missions, as well as towards the institution's operational goals. Ways to further that integration are demonstrated through several initiatives at the three universities: campus as living laboratory initiatives at U of E and U of T, Pathways to Sustainability research at Utrecht, sustainability curricular pathways at U of T St George. This paper brings a particular focus on the different geographical and institutional contexts in which these three universities operate to bring about these integrative sustainability initiatives. Through identifying key features in these case studies, this paper seeks to secure insight on how modern universities can work towards institutionalizing a holistic approach that could more effectively address the complex and ambiguous character of sustainability issues.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Exploratory Review of Trauma-Informed Strategies: Building resiliency

- [Natasha David-Williams](#)

### Bio:

Natasha L. Davis-Williams is a Licensed Clinical Social Worker (LCSW) from the state of New York. She obtained a MSW from Columbia University School of Social Work, and specialized in families and children. Mrs. Davis-Williams has over 20 years of clinical and supervisory experience working with varied populations. She is currently a 3rd year PhD social work student at Clark Atlanta University where her dissertation research focus is childhood trauma and resiliency. Mrs. Davis-Williams is a member of the Pi Gamma Mu Honor Society. She also works as a supervisor for the Department of Veterans Affairs in Atlanta, Georgia.

### Abstract:

For a significant period, resiliency was believed to be derived innately, or that protective factors reinforced its development. However, as resiliency continues to have increased interest, recent studies have

provided innovative insight with the use of educational curricula and trauma-informed techniques that promotes resiliency. This study is aimed to explore the strategies to facilitate resiliency in students with adverse childhood experiences (ACE's; e.g., physical, verbal/emotional abuse, parental domestic violence, and parental substance abuse). Consequently, as millions of children are adversely affected by abuse, these individuals become adults with mental health, substance abuse, and repeated cycles of re-victimization.

In conclusion, the literature review will examine trauma-informed resilience curriculum and the advantage of resilience building. The research further explores social policies and its conflicts with further expansion. The discussion will address adverse childhood experiences and its consequences, social policies influence, trauma-informed resilience curriculum, and the outcomes.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Sustainability at Educational Institutions



## Identifying trends and gaps in sustainability research focused on the SDGs: How is the National Autonomous University of Mexico?

- César A. Ríos-Muñoz, Héctor G. Vázquez-López, Verónica E. Solares-Rojas, Ayari Pasquier, M. C. Arizmendi, Ken Oyama

### Bio:

Verónica Solares is a Master of Science in Sustainability at the National Autonomous University of Mexico (UNAM). Her work has focused on ecosystem services and food security, 2030 Agenda and the development of sets of environmental indicators. She currently works in the University Coordination for Sustainability, in the area of bonding. She worked in the Ministry of Environment and Natural Resources of Mexico in the conceptualization and development of the National System of Environmental Indicators and in the preparation of reports and diagnoses of the environment in Mexico as a support for the development of environmental policies.

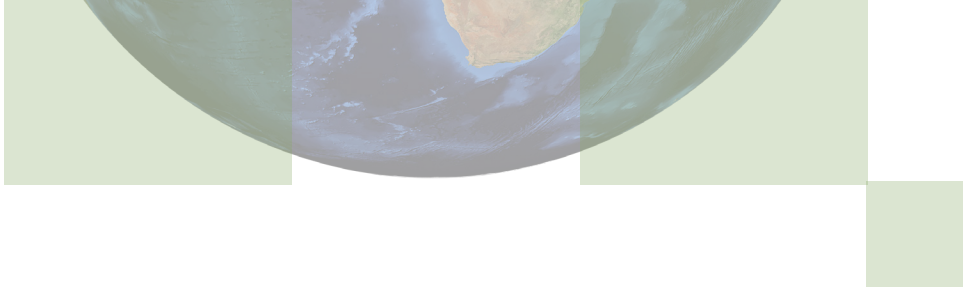
### Abstract:

Scientific research is fundamental to understand socio-environmental problems,

build alternatives and to know the impact of implemented initiatives. We present an analysis based on the academic research program by the National Autonomous University of Mexico (UNAM), considering the SDG proposed in the Agenda 2030. The main goal is to identify research areas where the university is generating greater contributions, the more relevant transversal topics and those areas where it is necessary to improve. The analysis was based on a group of classified keywords and a machine learning method that categorized and ranked the sustainable research projects based on the SDG. The diagnostic allowed us to recognize how research agenda is built at the UNAM, and how the inter and transdiscipline have been approached based on the SDGs. The research priorities identified will be considered to improve the research agenda at UNAM, expecting it will become a reference at national level.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Solution Session - CB6

# Building Community Resilience with Climate Smart Agriculture

Facilitated by: Amanda Klarer and Bella Lam

Day 1 | Oct. 16, 2019 | 16:30 | MN 2190

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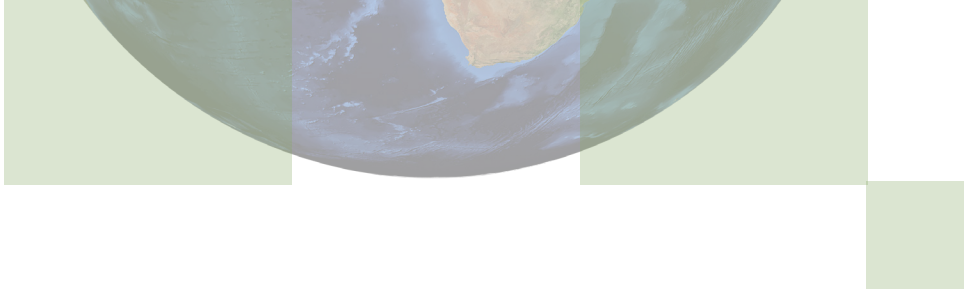
**Bio:**

Bella Lam has two decades of experience in international development. She has worked extensively with civil society organizations and state actors in Latin America, Asia, and Sub-Saharan Africa. Her current focus is on community-centred conservation, engaging local stakeholders to have a positive impact on their environment while meeting their needs. Her experience in program management incorporates a strong focus on monitoring, evaluation and learning, local ownership, and gender equality, while promoting a rights-based approach to sustainable development. Bella holds a Master of Science in Environment and Development, and is currently the Director of Programs at the Jane Goodall Institute of Canada.

Amanda Klarer manages the value chain enrichment programs at Marcatus including the award-winning Marcatus Mobile Education Platform – a gender-inclusive educational program designed to reach and empower smallholder farmers to adopt sustainable practices and improve their yields. Using examples from her work, ranging from cacao farming in Cameroon, pepper farming in Malaysia, to vegetable production in India, Amanda will discuss how the private sector can play a key role in creating a food secure tomorrow. Marcatus, a Toronto-based global agri-food end-to-end solutions partner, works to add value across supply chains by building sustainable partnerships with companies, suppliers and farmers.

**Abstract:**

Smallholder farmers are one of the most vulnerable populations to climate change. JGI Canada supports community-centred conservation by focusing on the interconnectedness of people, animals and the environment. The adoption of climate-smart agriculture (CSA) by smallholder farmers can create a more sustainable eco-system and improve livelihood resiliency. However, simply providing access to CSA technologies does not guarantee an uptake of the innovation by farmers. What conditions and factors trigger behavioural changes of smallholder farmers that could lead to the adoption of CSA? In this interactive session, participants will co-create sustainable system solutions to this question through a multi-disciplinary lens.



Solution Session - CB7

## Solving Unprecedented Global Biodiversity Loss: A Systems Approach

Facilitated by: Mitchel Selby and Rylan Urban

Day 1 | Oct. 16, 2019 | 16:30 | MN 2130

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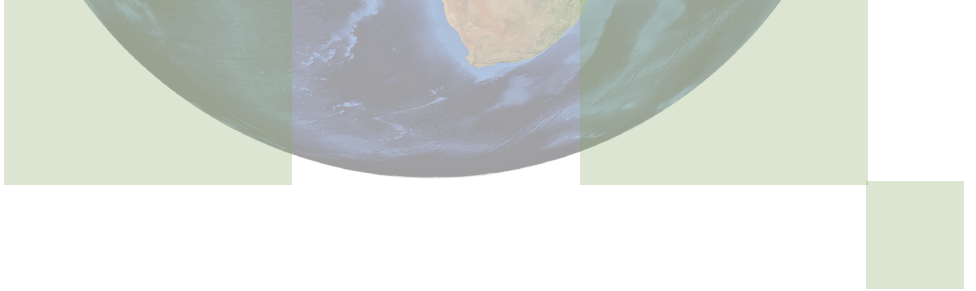
### **Bio:**

Mitchel Selby is a second-year graduate student in the Master of Science in Sustainability Management Program at the University of Toronto Mississauga. This summer, Mitchel completed an internship with Shopify, helping them develop their sustainability strategy. Mitchel is interested in anything and everything sustainability.

Rylan Urban is a second-year graduate student in the Master of Science in Sustainability Management Program at the University of Toronto Mississauga. This summer, Rylan completed an internship with Navigant Consulting, working on various projects in the energy and sustainability sectors. Rylan is also the founder of energyhub.org and is passionate about sustainability education and communications.

### **Abstract:**

This engaging and interactive session will aim to solve one of the world's most pressing sustainability issues: the unprecedented rate of global species loss. Building on the 2019 IPBES Global Assessment Report on Biodiversity and Ecosystem Services, participants in this session will be guided through a systems thinking approach and encouraged to explore the many ways that they interact with and impact nature before converging on solutions to the problem,



Workshop - CB8

# The Three Real Reasons Businesses Want to Fix Climate Change

Chaired by: Bob Willard

Day 1 | Oct. 16, 2019 | 16:30 | MN 2110

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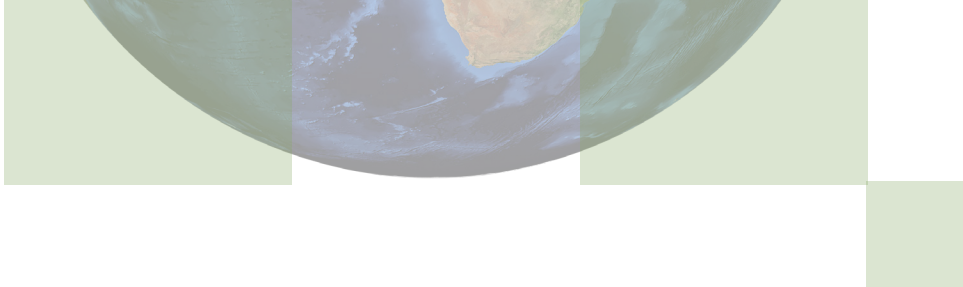
**Bio:**

Bob is a leading expert on quantifying and selling the business value of corporate sustainability strategies and has given over a thousand presentations to corporate, government, university, and NGO audiences. His six books, two DVDs, business case toolkits and extensive Master Slide Decks provide further capacity-building resources for sustainability champions. He previously worked 34 years with IBM Canada, "retiring" in 2000. He serves on the board of the Future-Fit Foundation and the B Corp Standards Advisory Council. He was inducted into the International Society of Sustainability Professionals (ISSP) Hall of Fame in 2011, received Clean50 awards in 2015 and 2017, and earned "Best for the World - Overall" awards for certified B Corps in 2013, 2014, 2017 and 2018. He is an ISSP Certified Sustainability Professional and has a PhD in sustainability from the University of Toronto. His mission is to ensure his three children and three grandchildren's quality of life is at least as good as he has enjoyed.

**Abstract:**

You and I want to avoid climate destabilization for the sake of our families' futures. Unfortunately, that justification for action doesn't work well in boardroom and executive suites. So, why have companies finally decided to collaborate with NGOs, governments, academics and each other to address climate change and not wait others to fix it for them? This talk will reveal the three behind-the-scenes forces that are mobilizing for-profit enterprises to roll up their sleeves and help us address the biggest existential threat to human civilization on our fragile planet ... and it has nothing to do with the plight of polar bears.





Training Workshop - T1

## Eating the Energy Elephant: Tangible Things to Make Energy Management Manageable

Facilitated by: Jennifer Niece and Julie Kee

Day 1 | Oct. 16, 2019 | 18:00 | MN 3100

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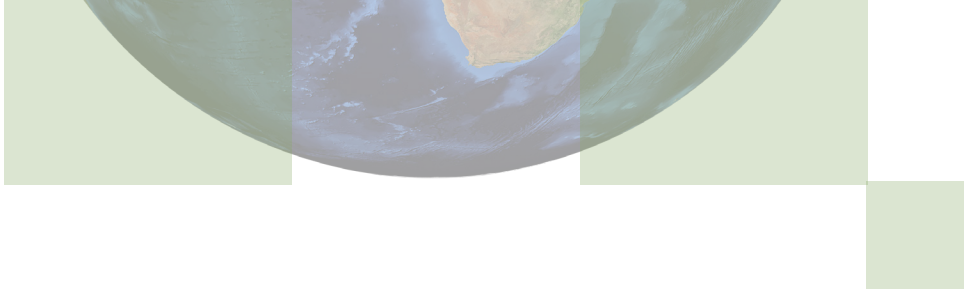
### **Bio:**

Jennifer Niece is the Director Sustainability & Client Services at 360 Energy. Jennifer has a passion for helping companies do well by doing good. Before joining 360 Energy's client services team, she helped launch the sustainability program at a major public agency. Energy management became the foundation from which to secure stakeholder support for broader sustainability planning.

Julie Kee is an Account Manager at 360 Energy. Julie has over 9 years of experience coaching 360 Energy's clients in both the manufacturing and greenhouse sectors, to help them embed energy efficiency and energy cost savings into their business cultures. Julie understands energy management from both the conservation and energy market perspectives, and how smart companies use the knowledge of both to maximize benefits.

### **Abstract:**

Climate change is happening, and if we don't slow it down, nothing else within the umbrella of "sustainability" matters. Participants in this hour-long workshop will learn tangible measures they can take to understand the source of their energy-related GHG emissions, how to best prioritize action to reduce, and how to calculate the emissions and cost savings from their actions. Strong savings in energy and emissions can be the catalyst to launch broader sustainability planning.



Training Workshop - T2

# Designing Social Media Campaign for Sustainability

Facilitated by: Radha Maharaj

Day 1 | Oct. 16, 2019 | 18:00 | MN 3110

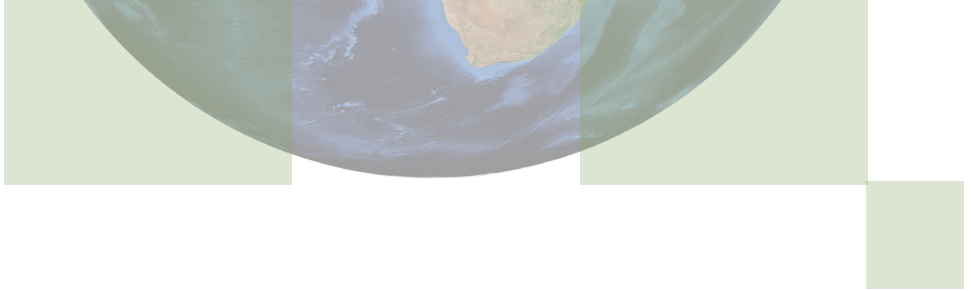
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**Bio:**

Radha Maharaj has a PhD in Economics and teaches finance at the Institute of Communication, Culture, Information and Technology (ICCIT) at the University of Toronto Mississauga (UTM). Her current research focuses on financial education as a medium for effecting change in three major aspects of the economy: consumption patterns, savings rate, and the production process. Her theory is that if financial education is done effectively, it can have a profound effect on the individual consumer. This can result in a fundamental paradigm shift backed by behavioural changes which have the ability to lead to a more equitable socio-economic structure.

**Abstract:**

The goal of the workshop is to design a social media campaign to combat consumerism with a specific call to action. Consumerism is a threat to sustainable development. The pattern and level of consumption directly impact the success of sustainable programs and policies. The workshop provides the participants with the tools required to develop a social media campaign to motivate consumers into making more environmentally positive consumption choices. The workshop will harness participants' creativity to extract lessons and inspiration from previous social media sustainability campaigns. This will be used to facilitate the design of a new consumer focused social media campaign that can be shared on multiple platforms. A key ingredient in the design of a successful social media campaign requires understanding the nature of the target audience. Participants will be introduced to the four categories of consumers. They will tap into personal narratives, emotions and values to craft a social media campaign that is engaging and fosters commitment from the respective target audience.



Training Workshop - T3

## Critical Sustainability Education: The Case for the Alternative Campus Tour

Facilitated by: Michael Classens and L. Anders Sandberg

Day 1 | Oct. 16, 2019 | 18:00 | MN 3120

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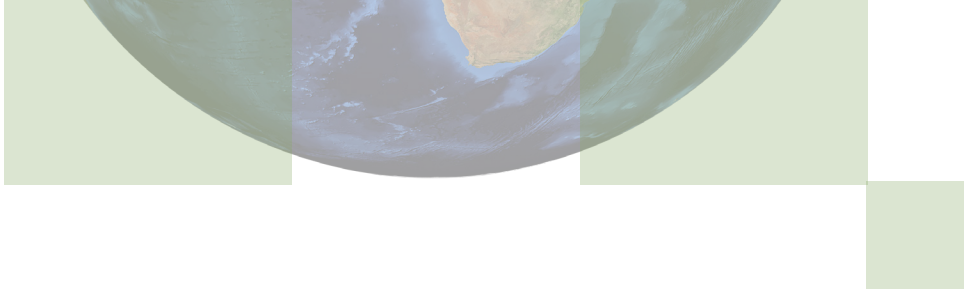
**Bio:**

Michael Classens is an Assistant Professor in the Trent School of the Environment at Trent University. Michael is broadly interested in areas of social and environmental justice, with an empirical emphasis on food, agriculture, soil and energy. As a teacher, researcher and learner, he is committed to connecting theory with practice, and scholarship with social change.

L. Anders Sandberg is a Professor in the Faculty of Environmental Studies at York University. He has conducted an Alternative Campus Tour at York University for many years and he is now working to add more Indigenous content to the tour. He is also collaborating with the Huron-Wendat to call attention to, acknowledge, and build a relationship with one of their ancestral village sites that is located south of the campus. His most recent book, co-edited with Jocelyn Thorpe and Stephanie Rutherford, is *Methodological Challenges in Nature-Culture and Environmental History Research* (Routledge 2017).

**Abstract:**

Campus tours are motivated by a variety of objectives, including student recruitment and retention, and often curated with 'official' narratives designed to reinforce institutional self-image and enhance institutional brand. The Alternative Campus Tour (ACT) project refracts the campus tour methodology through a critical pedagogy lens in service of the broader project of critical sustainability education. Drawing from over a decade of experience, this training workshop will outline the positive impacts of the ACT project, and provide participants with insight and guidance on how to introduce an ACT on their own campus.



## Training Workshop - T4

# Psycho-Spirituality and Sustainability Management with a Focus on Changing Climate

Facilitated by: Parul Rishi

Day 1 | Oct. 16, 2019 | 18:00 | MN 3180

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### **Bio:**

Prof.Parul Rishi, PhD -Psychology, Indian Institute of Forest Management, Bhopal, specialises in the areas of psychological /behavioural perspectives of environmental issues and sustainability with particular reference to climate change and corporate social responsibility. She has worked on twenty research projects/consulting assignments, published ninety papers in international/national journals and three books and conducted forty management development programmes along with being the Editor in Chief of "Journal of Organisations & Human Behaviour". She has also been the recipient of several international and national awards and fellowships and has visited fourteen countries on various academic assignments/conference presentations/keynote lectures/FDPs.

### **Abstract:**

Psychological responses to climate distress and adaptation are essential concepts in the broader sphere of sustainability management. Although both awareness and insight in the importance of mitigation and adaptation have increased significantly in the last few decades; there is still a need to enhance the capacity of professionals in these vulnerable areas further to boost the behavioural adaptation process.

The world is the home of multiple religions, and diversified spirituality harmoniously coexisting across cultures. Hence, spirituality is also having diversified explanations across the globe but strongly considered as a religion-neutral concept, widely applicable in differing perspectives. Spiritual intelligence and belief systems are considered to be actively instrumental in framing the psychological subset of attitudes across cultures, which subsequently determine the way sustainability management in society takes place. Current concern over global climate change stems, in part, from the predominant evidence that its causes are anthropogenic, i.e. the result of human behaviour.

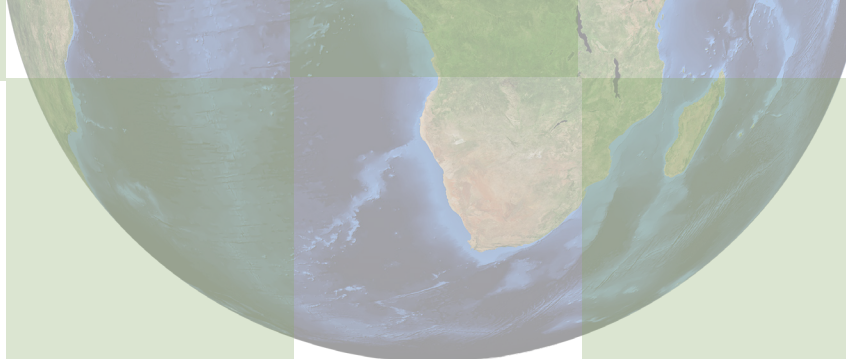
Psycho-spirituality contains the underpinning assumption that the psychological mindset creates, or strongly influences spirituality and suggests that one can learn to adapt with the changing climatic scenario through spiritual modes like mindfulness, behavioural restraint and positive existential transcendence in order to manage the sustainability of planet earth. It can subconsciously control materialistic urges leading to ecologically unsustainable growth and development on one hand and development of positive motivations and emotions towards changing climatic scenario on the other.

In this regard, the proposed training workshop aims at strengthening behavioural adaptation to changing climatic scenario, by overcoming the psychological barriers to sustainability management, enhancing the knowledge base in psycho-spiritual systems and developing the capacity to address climate change linked adversities through mindfulness and other socio-behavioural techniques.



# Day 2 | October 17, 2019

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## Keynote - K1

### Prof. Gregory Cajete UNIVERSITY OF NEW MEXICO, NATIVE AMERICAN STUDIES

Day 2 | Oct. 17, 2019 | 8:45 | IB 120

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**Bio:**

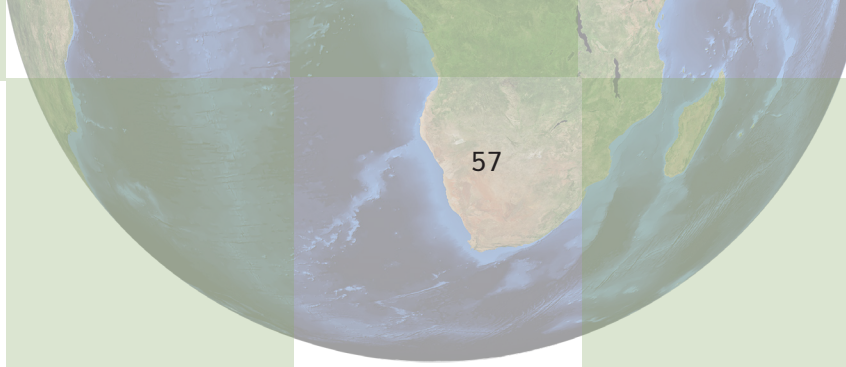
Gregory Cajete is a Native American educator whose work is dedicated to honoring the foundations of Indigenous knowledge in education. He is a Tewa Indian from Santa Clara Pueblo, New Mexico. He has pioneered reconciling indigenous perspectives in sciences with a Western academic setting. His focus is teaching "culturally based science, with its emphasis on health and wellness. He has served as a New Mexico Humanities scholar and as a member of the New Mexico Arts Commission. He worked at the Institute of American Indian Arts in Santa Fe, New Mexico, for twenty-one years, and is a practicing ceramic, pastel, and metal artist. He is the former Director of Native American Studies and currently a Professor in the College of Education at the University of New Mexico.

**Title:** Foundations for Sustainable Indigenous Education and Community Re-Vitalization in Response to Global Climate Change

**Abstract:**

There is a crisis of "sustainability" which has evolved as a result of the global application of the Western development paradigm of "progress" through unfettered growth with little thought for social, cultural and ecological consequences. The Western development paradigm and its focus on material economic indicators as the sole measure of development perpetuates a distorted vision of what is in fact a multi-dimensional and multi-contextual socio – cultural process. This is especially problematic when attempting to create strategies to address the effects of global climate change on Indigenous communities.

The key goals of this search have been efforts to find sustainable, culturally responsive, and community based models which help to "build Indigenous communities" rather than continue to perpetuate their long standing social or cultural issues.



## Keynote - K1

# Ersilia Serafini

## PRESIDENT OF SUMMERHILL

Day 2 | Oct. 17, 2019 | 8:45 | IB 120



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### **Bio:**

Ersilia Serafini has been President of Summerhill since 2009. Ersilia leads a team of over 100 individuals across Canada and focuses Summerhill's commitment to deliver impactful, results-oriented programs that achieve measureable reductions in energy use.

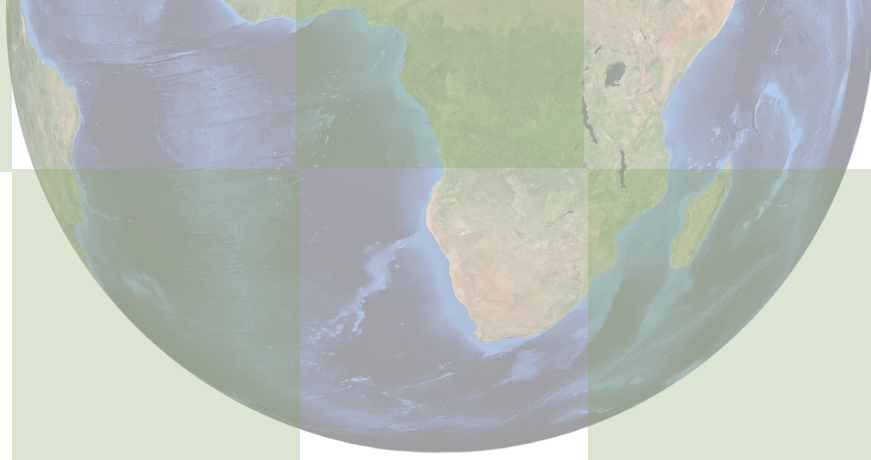
At the community level, Ersilia acts as the President for the Clean Economy Fund; is a former Director of the Board of Ontario's Independent Electricity Systems Operator (IESO); is an active member and Regional Forum Officer for the Young Presidents Organization. She also volunteers her time with the Parent Council at St. Cecilia Catholic School and the Foundation for Prader-Willi Research Canada.

**Title:** Sustainability – From Theory to Action!

### **Abstract:**

As a proud alumna of UTM's Environment program, Ersilia will share her story of how multi-disciplinary coursework in sustainability shaped her career path and lead her to becoming CEO of Summerhill. She will share examples from her business that demonstrate the value of approaching sustainability in what some may consider non-traditional ways. Ersilia will be provocative and engage the audience to consider if they want results or if they want to be right? She will highlight her experience in taking action to achieve impactful results rather than spending time making sure everyone agrees with her philosophy.





Panel Session - P1

## Consuming Sustainability

Day 2 | Oct. 17, 2019 | 11:00 | MN 1170

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### **Abstract:**

This session will address the theme of sustainability from the perspective of consumers, consumer culture, and consumer politics. The practice of green consumption has significantly expanded over the past decades, leading some activists to wonder if it has become a meaningless form of greenwashing. Panelists in this session will avoid pat responses to green consumption that either simplistically praise, or straightforwardly condemn these practices. Instead, they will struggle with questions like the following: how can green consumption lead to political engagement or awareness on environmental issues? How does the presence of green consumption options obfuscate the need for state regulation on environmental issues? How are green consumer practices linked to class inequality? The panel will demonstrate how social science works to study green consumption in a way that a) appreciates everyday forms of political engagement and environmentalism that occur through consumption tasks, often assigned to women, while b) considering larger structural reforms required to address pressing sustainability challenges.





## Josée Johnston, Professor, Department of Sociology, University of Toronto

### Moderator

#### Bio:

Josée Johnston is Professor of Sociology at the University of Toronto. She is the co-author of *Foodies* with Shyon Baumann, as well as *Food and Femininity* with Kate Cairns. She has published recent articles in venues such as *Social Forum*, *Journal of Consumer Culture*, *Theory and Society*, and *British Journal of Sociology*. Her major substantive interest is the sociological study of food, which is a lens for investigating questions relating to consumer culture, gender, sustainability and inequality.



## Shyon Baumann, Professor, Department of Sociology, University of Toronto

### Panelist

#### Bio:

Shyon Baumann is a professor of sociology at the University of Toronto. His research focuses on questions of cultural evaluation and classification. He has investigated these questions in relation to the Hollywood film industry, television and print advertising, and the production and consumption of food. In current research, primarily with Josée Johnston, on the meat industry he investigates the motivations and barriers for small-scale meat producers to operate outside the industrial production system, as well as how consumers make choices about eating meat. In other research he is investigating how cultural

consumption preferences and behaviours are class stratified.



## Emily Huddart Kennedy, Assistant Professor, Department of Sociology, University of British Columbia

### Panelist

#### Bio:

Emily Huddart Kennedy is an assistant professor in the Department of Sociology at the University of British Columbia, with substantive interests in environmental sociology and the sociology of consumption. Her current research is focused on understanding how environmental values and ethical consumption are related to social status and inequality. Some of Dr. Kennedy's recent publications can be found in *Agriculture and Human Values*, *The British Journal of Sociology* and *Social Forces*.



## Norah MacKendrick, Associate Professor, Department of Sociology, Rutgers University

### Panelist

#### Bio:

Norah MacKendrick is Associate Professor of sociology at Rutgers University. She studies gender, environmental risk and consumer culture. She is the author of *Better Safe Than Sorry: Consumers Navigate Exposure to Everyday Toxics*. Her research has been published in *Gender & Society*, *Sociological Forum*, *Signs: the Journal of Women in Culture and Society*, *Journal of Consumer Culture*, and *Food, Culture and Society*.



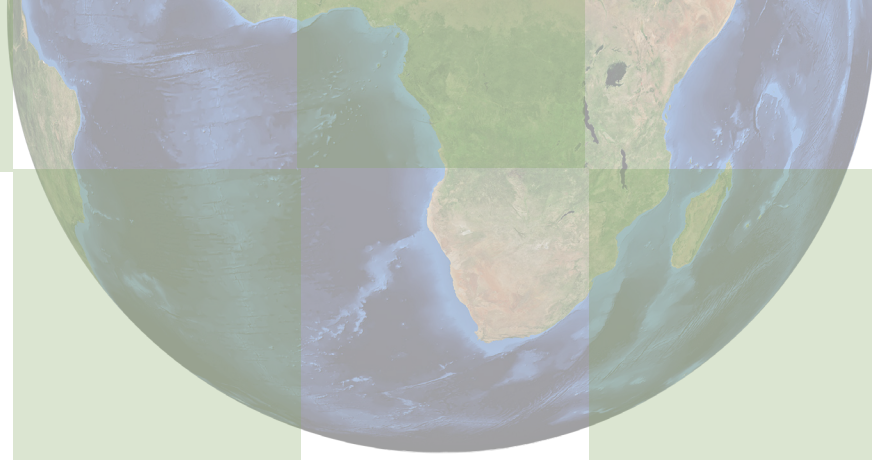
## Dietling Stolle, Professor, Department of Political Science, McGill University

### Panelist

#### Bio:

Dietlind Stolle is James McGill Professor in Political Science at the Department of Political Science McGill University and the Director of the Inter-University Centre for the Study of Democratic Citizenship (CSDC). She conducts research and has published on voluntary associations, trust, social capital, collective action, ethnic diversity and new forms of political participation. One of her latest books is "Political Consumerism—Global Responsibility in Action" (2013) by Cambridge University Press (with Michele Micheletti). She was co-PI for the Canadian Election Survey (CES). Her new research projects are about the consequences of populism and

attitudinal democratic backsliding in comparative perspective.



Panel Session - P2

## Sustainability Reporting –Trends, Best Practices and New Directions

Day 2 | Oct. 17, 2019 | 11:00 | MN 1190

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### **Abstract:**

Now entering our eighth year, The Works has conducted annual research on sustainability communications and reporting. Our research involves reviewing reporting (e.g., PDF, website, social media) from over 100 companies headquartered across the globe, and covers eleven, topics, ranging from materiality and global frameworks, to storytelling and digital strategy. For frameworks, for instance, our research covers trends and best practice relating to the Sustainable Development Goals (SDGs), Taskforce on Climate-related Financial Disclosures (TCFD) Recommendations, GRI Standards, and the Integrated Reporting (IR) Framework.



## Sustainability Reporting –Trends, Best Practices and New Directions

### Wesley Gee, Director of Sustainability, The Work Design Communications Ltd.

#### Moderator/Panelist

##### Bio:

Combining academic expertise with extensive professional experience, Wesley leads the sustainability practice at The Works Design Communication Ltd. Drawing on his background as a sustainability consultant, he provides guidance on stakeholder engagement, materiality and sustainability communications/ reporting to leading companies including Newmont Goldcorp, Manulife, Maple Leaf Foods, BMO Financial Group and Export Development Canada. Noted for his practical perspective, Wesley contributed to the development of the GRI Guidelines, has served on sector working groups with the Sustainability

Accounting Standards Board, co-authored two publications with CPA Canada, and has been a judge for the CPA Canada Corporate Reporting Awards. Wesley is a lecturer at for the MScSM and Sustainability Certificate programs at the University of Toronto. Before joining The Works, he was Senior Sustainability Consultant at Stantec and Senior CSR Advisor at Canadian Business for Social Responsibility. Wesley is a graduate of the Master's in Sustainable Business program from the University of Leeds, holds a post-graduate Certificate in Cleaner Production and Sustainable Development at Lund University and has a Bachelor of Commerce from Dalhousie University.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Sustainability Reporting –Trends, Best Practices and New Directions

### Tim Faveri, Vice President, Sustainability and Shared Value, Maple Leaf Foods

#### Panelist

##### Bio:

Tim Faveri is Vice President, Sustainability & Shared Value at Maple Leaf Foods. In this capacity, Tim leads the execution of the strategy and initiatives that deeply embed sustainability into Maple Leaf's culture and business. Sustainability and shared value are the framework for Maple Leaf's purpose – Raise the Good in Food. Tim is a seasoned business and sustainability professional with over 20 years' experience. His specialties include sustainability and environmental strategy development and implementation; corporate reporting / disclosure; stakeholder engagement; and, supply chain risk

assessment and verification. Prior to joining Maple Leaf, Tim was Director, Sustainability and Responsibility at Tim Hortons Inc., one of North America's largest publicly-traded restaurant chains and iconic Canadian companies. Tim holds a Bachelor's degree (Biology) from Queen's University and a Master's of Health Science degree from University of Toronto.





## Sustainability Reporting –Trends, Best Practices and New Directions

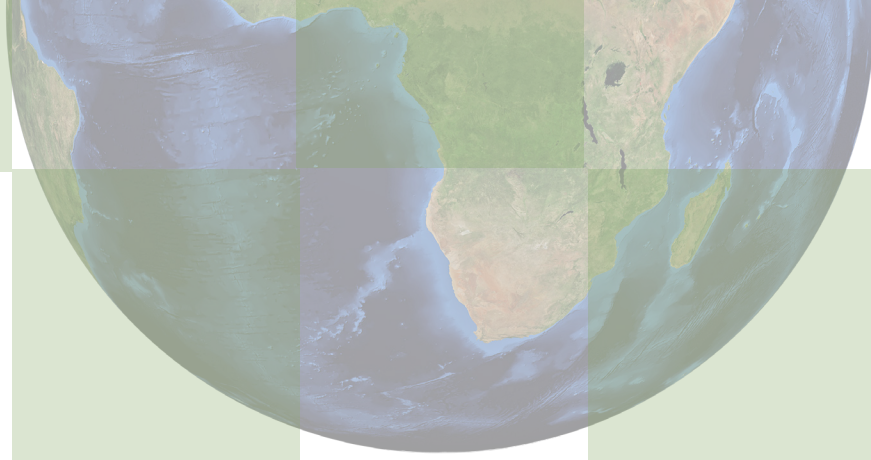
### Whitney McWade, Senior Advisor, Sustainability Strategy, Disclosure and Impact Measurement, BMO Financial Group

#### Panelist

##### Bio:

Whitney is a sustainability and ESG subject matter expert accountable for managing BMO's sustainability performance disclosure and impact measurement. She plays an advisory role on emerging sustainability issues and trends and develops strategies that enhance BMO's sustainability agenda. Prior to joining BMO, Whitney played a leading role on Canadian Tire's strategic sustainability agenda. She has also held consulting positions at PwC and Trucost, where she helped clients understand and address the sustainability issues most relevant to their organizations' operations, supply chains and investment

portfolios. She holds an MSc in International Management from King's College, University of London (UK), and a BA in International Development Studies from McGill University.



Panel Session - P3

## Whose Water Is It? A Panel Discussion on Nestlé's Water Extraction in Ontario

Day 2 | Oct. 17, 2019 | 11:00 | DH 2060

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### **Abstract:**

This panel discussion features representatives from Six Nations of the Grand River, the Wellington Water Watchers, and Guelph City Council who have been involved in the contentious debate surrounding Nestlé's water extraction from wells situated around Guelph, Ontario. The inadequate federal and provincial regulation regarding groundwater extraction in Ontario has led to corporations like Nestlé extracting clean groundwater and bottling it for sale all over North America. This roundtable brings together academics, activists, and First Nations leaders to discuss a series of urgent questions across disciplines and across the narrow bounds of the university: Whose water is it, anyway? How can it be sustainably managed? How is Nestlé dealing with First Nations' inherent right to land and water? How is groundwater currently regulated in Ontario and what legal and political avenues are activists and corporate actors pursuing in this contentious struggle over groundwater? What is the science of groundwater, and to what degree can aquifers be measured? What are the ways forward?



## Whose Water Is It? A Panel Discussion on Nestlé's Water Extraction in Ontario

### Neda Maki

#### Moderator

#### Bio:

Neda Maki is a PhD candidate in Anthropology with a Collaborative Specialization in Indigenous Health at the Dalla Lana School of Public Health at the University of Toronto. Her doctoral project explores childcare health services available to Nunavummiut families in remote communities of Nunavut, Canada. In her MA studies, Neda conducted archival research at the National Centre for Truth and Reconciliation at the University of Manitoba exploring Nunatsiavut residential school survivors' narratives in response to their exclusion from the 2006 Indian Residential School Settlement Agreement and the 2008

Harper apology.



## Whose Water Is It? A Panel Discussion on Nestlé's Water Extraction in Ontario

### Mike Balkwill, Campaign Director, Wellington Water

#### Panelist

#### Bio:

Mike Balkwill has worked as a community organizer and campaign organizer for more than thirty-five years. He is currently working as Campaign Director with Wellington Water Watchers but also supports a number of other grass roots groups in their campaign to protect water. Mike is also campaign organizer for the 'Say No To Nestlé' - a campaign to stop Nestlé's water taking in Wellington County. Nestlé has permits to take water in Aberfoyle (where is also operates a bottling plant) and in Hillsburgh. Nestlé is seeking permission for a third well – Middlebrook – in Elora. Mike Balkwill is the co-author of the Campaign

Planning Handbook which can be downloaded [here](#).



## Whose Water Is It? A Panel Discussion on Nestlé's Water Extraction in Ontario

### Robert Case, Associate Professor, Department of Social Development Studies, University of Waterloo

#### Panelist

##### Bio:

Robert Case is an Associate Professor at the Department of Social Development Studies at the University of Waterloo. His areas of specialization include social welfare policy, community based activism, community resilience, social development and the environment and social ecology. He has published extensively on groundwater protection and bottled water extraction in Wellington County, as well as on community engaged scholarship. Professor Case has been involved in local water issues for many years and is currently the Chair of the Wellington Water Watchers.



## Whose Water Is It? A Panel Discussion on Nestlé's Water Extraction in Ontario

### Susan Glasauer, Associate Professor, School of Environmental Sciences, University of Guelph

#### Panelist

##### Bio:

Susan Glasauer is a Associate Professor in the School of Environmental Sciences at the University of Guelph. She investigates the role of natural and treatment wetlands in controlling water quality in mining-impacted and agricultural environments. Her research focuses on bacterial-metal interactions, specifically, how microbial activity mobilizes elements of concern in ways that are increasingly recognized as linked to global geochemical cycles. Professor Glasauer has been a member of the Board of Directors of Wellington Water Watchers since 2018.



## Whose Water Is It? A Panel Discussion on Nestlé's Water Extraction in Ontario

### James Gordon, Canadian Songwriter, Playwright, Musician, Producer, and Community Activists

#### Panelist

##### Bio:

James Gordon is a Canadian songwriter/playwright/musician/producer and community activist. He was the co-founder of the Wellington Water Watchers, first president of the Guelph Civic League, and first artistic director of the Hillside Festival. He toured the country with his satirical play "Stephen Harper: the Musical" and is launching his latest theatre work this fall called "James Gordon's Climate Emergency Musical". His new album "The Heritage Hall Sessions" on Borealis Records is receiving rave reviews. Often referred to as a "poetician", James is a city councillor in his home town of Guelph Ontario.



## Whose Water Is It? A Panel Discussion on Nestlé's Water Extraction in Ontario

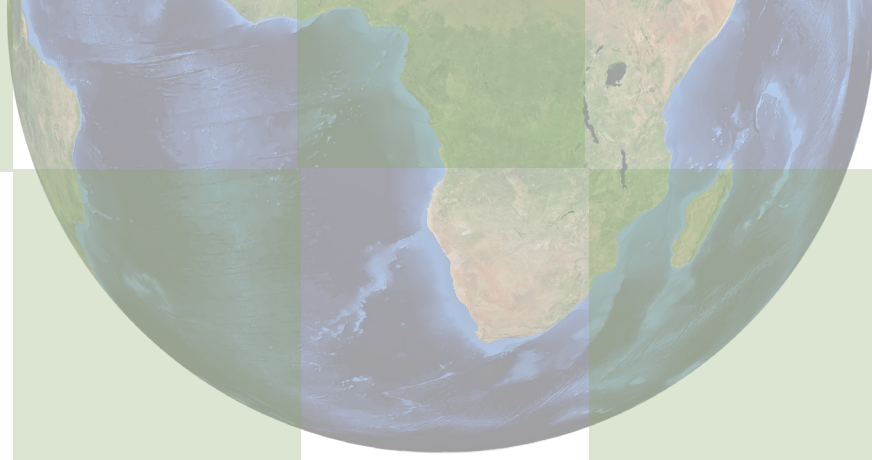
### Makasa Looking Horse, Youth Leader and Indigenous Activist, Six Nations

#### Panelist

##### Bio:

Makasa Looking Horse was home birthed at Six Nations. She has completed rites of passage through Lakota and Mohawk ceremony known as Ishnati and Oheron:kon. She attended Longhouse throughout her life and immersion school at Kawani:io. She has been a Sundance leader for the women for 11 years, and known in Six Nations work on water and taking on the issue with Nestle. She completed Traditional Medicine Practitioners course and continues her studies at McMaster. She has presented at World Peace and Prayer Day 2017/2018 and led ceremony in Hawaii, Oregon, Ohiyo and interfaith world Summit in Utah.





Panel Session - P4

## Sustainability and IT

Day 2 | Oct. 17, 2019 | 11:00 | MN 2110

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**Abstract:**

2019 is being hailed as "The Year of Sustainability". Compugen's IT Asset Disposition program, Green4Good would be pleased to host a panel of industry experts to discuss how Sustainability and IT-eWaste are becoming inseparable. We will use real life examples to show how requirements around sustainability have pushed the IT industry to take action to positively impact the Environment, while advances in IT help further sustainability progress and initiatives.



## Brent Smiley, Director of IT Asset Disposition, Compugen Finance Inc.

### Moderator

#### Bio:

Brent Smiley is the Director of Compugen Finance's Green4Good™ IT Asset Disposition (ITAD) Program. Brent has been in the IT industry for over 10 years and has focused on providing ITAD solutions for enterprise sized clients, both private and public sector. Brent is passionate about reducing the environmental impact IT hardware can have by closing the loop on the circular economy through responsible reuse and recycling.



## Willa Black, Vice President, Corporate Affairs, Cisco

### Panelist

#### Bio:

As Vice-President, Corporate Affairs and CSR for Cisco Canada, Willa Black is responsible for strategies to drive Cisco's brand relevance and transformational impact. She leads CSR programming with a focus on Education and Healthcare, building strategic partnerships and reinforcing the company's commitment to social innovation working with governments, non-governmental organizations, and communities across Canada.



## Frances Edmonds, Head of Sustainability at HP

### Panelist

#### Bio:

Frances Edmonds BSc.(Hons), Dip. H&S, CRSP is the Head of Sustainable Impact for HP Canada. In her role as head of Sustainable Impact, Frances Edmonds is responsible for overseeing HP's full suite of corporate social responsibility programs including strategic partnerships with key nonprofit organizations and an industry leading volunteer program. Under Frances's leadership, HP became the most sustainable technology company in Canada in 2018.

Frances works closely with HP's many partners to drive sustainable practices across HP's business and throughout Canada. From being a founder of WWF's Living Planet @ Work and Living Planet @ Campus programs to her TEDx talk demonstrating the power of collaboration, Frances seeks new and innovative ways to leverage the power of HP to create meaningful change across Canada.

Frances also has a passion for environmental

education developing and implementing global environmental education and volunteer programs for HP. She is frequently featured in the news as an expert resource for media on sustainable impact.

Frances received her second Clean 50 award in 2017 recognizing her as one of Canada's top sustainability professionals. She sits on the boards of Learning for a Sustainable Future and the Schulich Centre for Responsible Business advisory council.

Frances started her career with the UK Government as an enforcer of environmental health and safety requirements followed by her role as manager of environmental health and safety in Canada's chemical and pharmaceutical industries. Frances has a degree in Environmental science from Bradford University (UK), a post graduate diploma in Occupational Health and Safety and is a Canadian Registered Safety Professional (CRSP).

## Sustainability: Transdisciplinary Theory, Practice, and Action

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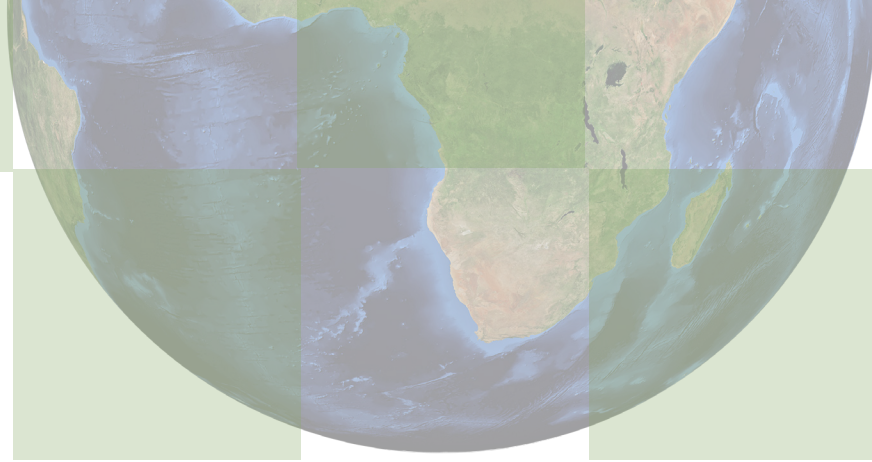
## Robert Santin, Director, OEM Development (Microsoft Authorized Refurbisher Program), Microsoft Canada

### Panelist

#### Bio:

Robert Santin has been in the IT industry for over 30 years in a number of roles from Finance, Business Operations to Sales. Currently focused on developing the Microsoft Authorized Refurbisher (MAR) program in Canada. Along with his partners he is focused on the virtuous cycle of helping the environment by providing a 2nd life to computing devices, and providing these devices to communities that might not otherwise be able to have them. The MAR program has been in existence for over 10 years, and last year MAR partners refurbished 4 million devices providing these to Consumers, Small Businesses,

Charities, and underserved communities.



Panel Session - P5

## Small Scale Mining and the SGD's in Sub-Saharan Africa

Day 2 | Oct. 17, 2019 | 11:00 | MN 2190

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### **Abstract:**

In sub-Saharan Africa, artisanal and small-scale mining (ASM) – low-tech, labour-intensive mineral processing and extraction – provides direct employment to an estimated 25-30 million people and has created many millions of other income-earning opportunities in the downstream and upstream industries it has spawned. Research conducted over the past two decades has captured in considerable detail the sector's economic importance in sub-Saharan Africa, including how it dovetails subsistence agriculture; is largely poverty-driven, employing people who have few, if any, alternative income-earning opportunities; and how, it has fast become the region's most important rural non-farm activity. Most ASM activities found in sub-Saharan Africa, however, are found in the informal economy, which makes it challenging to make the sector a centrepiece of policies and programs implemented in the region in line with the Sustainable Development Goals (SDGs). The presentations delivered on this panel will both showcase ASM's importance in sub-Saharan Africa, and underscore how, if formalized and properly supported, the sector could alleviate significant poverty and catalyze economic development region-wide, in the process, helping to fulfill a number of lofty targets linked to the SDGs.



## Small Scale Mining and the SGD's in Sub-Saharan Africa

### Gavin Hilson, Professor, Surrey Business School

#### Moderator

#### Bio:

Gavin Hilson is Professor and Chair of Sustainability in Business at the Surrey Business School, University of Surrey. He carries out research on the environmental and interrelated social impacts of artisanal and small-scale mining in developing countries, and has published over 300 papers, book chapters and reports on the subject. He has also consulted for the donor community (USAID, World Bank, the UNDP, UNECA, GIZ and DFID), the private sector (Newmont Gold Mining and Gold Fields) and the NGO community (OXFAM America, IIED and WWF) on various topics related to the sector, including formalization, child

labour and mercury contamination. Professor Hilson received Bachelor's and Masters degrees from the University of Toronto, and his PhD from the Imperial College of Science, Technology and Medicine.



## Small Scale Mining and the SGD's in Sub-Saharan Africa

### Martin J. Clifford, Center for Energy and Environmental Policy, University of Delaware

#### Panelist

##### Bio:

Martin J. Clifford is a Postdoctoral Researcher at the University of Delaware's Department of Geography. He is an interdisciplinary researcher with an interest in natural resource management. His research focuses mainly on the environmental and social impacts of large-scale and artisanal mining activities, particularly in developing countries. He holds a Bachelor's degree from the University of Edinburgh, a Masters degree from the University of Manchester, and a PhD from the University of Reading.





## Small Scale Mining and the SGD's in Sub-Saharan Africa

**Suleman Dauda, Surrey Business School, University of Surrey, United Kingdom**

### Panelist

#### **Bio:**

Suleman Dauda is a PhD Researcher at the Surrey Business School, University of Surrey, sponsored by the Ghana Education Trust Fund. His research is on Corporate Social Responsibility (CSR) in the mining industry in sub-Saharan Africa, with a focus on mineral exploration companies.



## Small Scale Mining and the SGD's in Sub-Saharan Africa

### Yanfei Hu, Surrey Business School, University of Surrey, Guildford

#### Panelist

**Bio:**

Yanfei Hu is Lecturer of Sustainable Enterprises at the Surrey Business School. Her research investigates the process of social innovation and social change in various fields, with a focus on social, cognitive, emotional as well as political mechanisms. She also has a keen interest in exploring issues of gender and income inequality.



## Small Scale Mining and the SGD's in Sub-Saharan Africa

### Cynthia Kumah, Department of Sociology and Anthropology, Carleton University

#### Panelist

**Bio:**

Cynthia Kumah received a Bachelor's degree from Wisconsin International University College, Ghana and a Masters Degree in Development Management at the Ghana Institute for Management and Public Administration. She undertakes research on women and youth in artisanal small-scale mining, and works closely with the Women in Mining, an Accra-based NGO established to advance women's rights in mining. She is also founder and director of the NGO, C-Trust Foundation, a Ghanaian human rights NGO.



## Small Scale Mining and the SGD's in Sub-Saharan Africa

Joshua Sandin, School of Management, Royal Holloway, University of London, Egham, Surrey

### Panelist

#### Bio:

Joshua Sandin is an ESRC-funded doctoral researcher at Royal Holloway, University of London. His work focuses on the social perceptions and motivations surrounding informality and finance within artisanal and small-scale mining in sub-Saharan Africa. His research draws on fieldwork conducted across Malawi.



## Small Scale Mining and the SGD's in Sub-Saharan Africa

**Titus Sauerwein, Surrey Business School, University of Surrey, United Kingdom**

### Panelist

#### **Bio:**

Titus Sauerwein is a PhD Researcher at the Surrey Business School, University of Surrey. He holds an MA in African Studies from Universiteit Leiden and an MSc in International Relations from Universiteit van Amsterdam. He is currently carrying out research for his PhD on large-scale/small-scale mining relations in Côte d'Ivoire.



Themed Session - CA1

# Advancing Sustainable Procurement

Chaired by: Frances Edmonds

Day 2 | Oct. 17, 2019 | 14:00 | MN 3180





## Understanding the Opportunity and State of Sustainable Procurement in Canada's Public Sector

- Monica DaPonte, Megan Foley

### Bio:

Monica helps organizations develop and implement strategies that deliver economic, environmental and social value. She is also an adjunct professor at the Schulich School of Business. Monica has 20 years' progressive experience in business and not for profit management. Prior to Shift & Build, Monica was the Executive Director, Education at Public Services Health and Safety Association. Preceding PSHSA, she led WWF-Canada's partnerships with business. Monica began her career at Procter & Gamble. Monica holds a BBA with a major in Marketing and an MBA with a specialization in Sustainability, both from the Schulich School of Business.

### Abstract:

As Greta Thurnberg says, climate change

needs us to "act like the house is on fire – because it is". In order to meaningfully advance towards sustainability, we need to act with urgency and use all the tools at our disposal. Procurement, with the potential to integrate sustainability-oriented criteria into the acquisition of goods and services is a critical tool that can help catalyze change at scale. This session will examine the opportunity presented by the integration of sustainability into procurement criteria and processes. It will also share results from a recent analysis to understand the state of sustainable procurement in Canada's public sector in three core areas including IT, construction and large services. It will conclude by highlighting possibilities for deeper integration and strategies for the advancement of sustainable procurement.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Understanding the Future of Canada-UK Trade Relationships in a Circular Economy Context

- Dr. Deborah de Lange, Dr. Philip Walsh, Dr. Paul Sheeran

### Bio:

Dr. Deborah de Lange is an Associate Professor, Global Management Studies at the Ted Rogers School of Management, Ryerson University. Her research focuses on financing clean tech start-ups in an international context, sustainable corporate, urban and international governance, divestment of fossil fuels, renewable energy, sustainable transportation, and other topics related to climate change and the environment. She teaches senior undergraduates about sustainable business, technology, and policy, MBAs about global issues focused on the United Nations Sustainable Development Goals, and masters and PhD students in the Environmental Applied Science and Management Program in the Yeates School of Graduate Studies, Ryerson University.

### Abstract:

The UK will likely enter into a new trade agreement with Canada after separating from the European Union. New international

trade agreements are opportunities for developing a worldwide circular economy, eliminating waste while supporting social justice. Thus, a new trade agreement between Canada and the UK could be precedent setting in regards to engendering a worldwide circular economy, given that both nations already have policies related to sustainable development. Through an academic literature review and consultation with a variety of experts, this report investigates existing trade theory and trade agreements regarding circular economy principles to inform the design and implementation of future trade agreements between Canada and the UK, post-Brexit. This report identifies gaps in that knowledge base and recommends future research that may facilitate Canada-UK circular economy trade. Overall, the investigation provided sufficient evidence to suggest that a future UK-Canada trade agreement could potentially support circular economy trade.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Business for the SDGs: Corporate Social Responsibility 2.0 at HP Canada

### - Frances Edmonds

#### **Bio:**

Frances Edmonds BSc.(Hons), Dip. H&S, CRSP is the Head of Sustainable Impact for HP Canada. In her role as head of Sustainable Impact, Frances Edmonds is responsible for overseeing HP's full suite of corporate social responsibility programs including strategic partnerships with key nonprofit organizations and an industry leading volunteer program. Under Frances's leadership, HP became the most sustainable technology company in Canada<sup>1</sup> in 2018.

#### **Abstract:**

"Unless we innovate the way we buy and what we buy we will continue to reproduce the social, environmental, and economic impacts that we experience in our industrial economy today. Challenging status quo thinking, practices, and products is critical to advancing a prosperous, socially just, and sustainable future. " – Sam J. Hummel; Former Executive Director of the Sustainable Purchasing Leadership Council

Recognizing that Canadian governments and organizations lagged most developed countries in integrating sustainability requirements into procurement activities and that sustainable procurement could be a high-impact and low-cost tool to move forward on Canada's environmental and social goals, HP Canada embarked on a journey to change this. HP transitioned its Sustainable Impact programs to direct collaborative action to deliver ambitious sustainability results that will benefit Canadians

Firstly we identified the opportunities and barriers and outlined a roadmap. Secondly we supported an analysis to understand the level of sustainability integration in Government procurement and outline recommendations to advance a socially just and low carbon economy in Canada. In parallel, we have been leveraging HP's networks, brand and resources to help coalesce Canada's bright points of knowledge and practice into a Coalition for the Advancement of Sustainable procurement.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Supporting Health Through Sustainable Health Care Procurement: Opportunities and Challenges

- Fiona A. Miller, Pascale Lehoux

### Bio:

Dr. Fiona A. Miller is a Professor of Health Policy and holds the Chair in Health Management Strategies in the Institute of Health Policy, Management and Evaluation at the University of Toronto. Fiona's program of research centres on health technology and innovation policy and the role of health systems in sustainable development (environmental, social, economic). Fiona is leading efforts within the Institute of Health Policy, Management and Evaluation to develop educational and research initiatives in collaboration with health sector partners to build sustainable health systems and is the Director of the recently-launched Centre for Sustainable Health Systems.

### Abstract:

The healthcare sector is a logical home for sustainable procurement. Procurement is the largest single contributor to healthcare's sizable environmental impact; a shift towards environmentally preferable purchasing

could significantly reduce GHG emissions and pollution. Procurement's social impact is equally important, with opportunities to support employment and training for disadvantaged communities and to stamp out human rights violations in health care's globalized supply chains, including documented abuses such as child labour and modern slavery in the production of medical supplies. Finally, the market impact of sustainable healthcare procurement could be significant, as procurement constitutes a sizeable proportion of health care expenditures (e.g., 30-40% of hospital budgets). Yet while sustainable healthcare procurement initiatives exist internationally, progress has been halting in Canada. Drawing on a multi-site study of healthcare procurement across 4 provinces, we explore the organizational arrangements and policy contexts that condition opportunities for supporting health through sustainable healthcare procurement in Canada.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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Themed Session - CA2

# Sustainability Reporting

Chaired by: Yue Li

Day 2 | Oct. 17, 2019 | 14:00 | MN 2130





## Value Creation Models and the Six Capitals

- [Petra F. A. Dilling](#), Sinan Caykoylu

### Bio:

Petra F.A. Dilling holds a Ph.D. degree from the University of Frankfurt and a MBA degree from Simon Fraser University. Dilling worked in the financial sector, as well as in post-secondary education prior to her CPA designation. Her research interests are in the area of corporate social responsibility (CSR), integrated reporting, sustainability and financial and non-financial reporting. Dilling has made contributions that impacted the academic community in the area of sustainability reporting. She has also made contributions through service to the academic community, as recognition of her scholarship, through her inclusion as a reviewer, associate editor and conference session chair for academic conferences.

### Abstract:

This research focuses on the analysis of value creation models, value-added statements and six capitals information in integrated reports

of 110 global companies and organizations for the reporting year 2017. The objective was to find empirical evidence on not only how certain elements of the integrated reports are presented but also on the characteristics of organizations that report these aspects at a qualitative high level. It was found that only 40% of the companies specifically report on the value creation model. In addition, non-parametric tests, cross tabulations and independent sample t-tests were used; and it was found that integrated reports from different countries show significant disclosure differences in disclosure for all six capital value statements. In addition, organizations with a social, sustainability or ethics committee also show higher levels of disclosure in their value-added statements and information on most of the six capitals. Overall, it can be said that corporations with certain identifiable characteristics are more likely to disclose more and better information in their integrated reports.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Ranking Turkish Manufacturing Companies Based on Sustainable Practices. A Data Envelopment Analysis (DEA) Approach

- Damla Rurak Usar, Mehmet Ali Soytas

### **Bio:**

Dr. Durak Uşar holds a BSc in Metallurgical and Materials Engineering from Istanbul Technical University and a MA in Management (in German) from Marmara University. She obtained her PhD in Business from Özyeğin University in 2017. Dr. Durak Uşar works as a part-time faculty member at the Faculty of Business, and as a research fellow at the Sustainability Platform at Özyeğin University. Dr. Durak Uşar teaches operations management as well as contributes to a series of lectures on sustainability. Her research interests include corporate sustainability and sustainable operations. Dr. Durak Uşar's research has been covered by national mass media outlets.

### **Abstract:**

Measurement of sustainability performance is essential for determining the impact of corporate sustainability and drawing a road map for future sustainability endeavors.

Although Turkish corporate leaders, companies, and industrial associations are preoccupied and strive for sustainable development, firm- level or sectoral level sustainability data is scarce. We propose an objective sustainability measure which covers a wide range of sustainable practices and test the internal and external validity of the proposed sustainability measure statistically. We conduct content analysis to publically disclosed reports and rate all manufacturing companies listed in Istanbul Stock Exchange (BIST). Thereby, we transform qualitative information on social and environmental sustainability into quantitative information and rank companies on sustainability practices in relation to financial results by using a data envelopment analysis (DEA) approach with financial performance indicators as inputs and sustainability scores as outputs. We identify best practices and determine policies for Turkey's sustainable development.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Science-Based Carbon Emissions Targets

- Jody Grewal

**Bio:**

Jody Grewal is an Assistant Professor of Accounting in the Department of Management at the University of Toronto, Mississauga and the Rotman School of Management. In her research, Jody studies market and non-market forces that shape corporate disclosure and investment. She examines the capital market effects and real effects (i.e., changes in behavior through investment and use of resources) of financial and sustainability information disclosed voluntarily and under mandatory reporting regimes. Jody's research is forthcoming in leading journals such as Management Science. Media outlets including the Wall Street Journal and Bloomberg have covered her work. Jody has a Doctorate from Harvard Business School, a Master of Accounting and Bachelor of Accounting and Financial Management from the University of Waterloo, and is a Chartered Professional Accountant in Ontario.

**Abstract:**

We examine the effect of adopting a standard for setting science-based carbon emissions targets

to limit global warming below 2 degrees Celsius on firms' target difficulty and investments to achieve those targets. We find that firms with a track record of ambitious and successful target completion, firms perceiving climate change-related risks and firms developing low-carbon products and services are more likely to set science-based targets. Using a differences-in-differences research design that compares the science and non-science targets of a firm, we find that targets become more difficult when firms adopt the science-based standard for the target, consistent with the standard increasing target difficulty and inconsistent with firms relabeling their existing targets. The increase in difficulty is accompanied by increased investment in emission-reduction projects and higher expected emission savings and payback periods from these projects, consistent with firms changing real behaviors and investment to achieve more difficult targets. Given that the science-based standard is determined externally of the adopting organization, our results suggest that external standards for target setting could have both target and investment effects.



## Actions and Words: Disclosure is a Big Step for Corporate Sustainability, but Does it Necessarily Translate to Action?

- Caitlin McHose

### Bio:

Caitlin McHose is a consultant at Navigant's Energy Practice. As part of the Sustainability Solutions Team, Caitlin works on carbon foot printing, carbon pricing, corporate sustainability, climate and adaptation policy for cities, climate scenario analysis, materiality assessments, and Science Based Target setting. Caitlin holds a B. Sc. from McGill University in Environment, and an M. Eng. in Cities, Engineering, and Management from the University of Toronto, in which she specialized in sustainable energy systems. Her city-related work has included contributions to the City of San Antonio, Texas, and the City of Madison, Wisconsin's sustainability plans.

### Abstract:

Companies are increasingly responding to consumer demands for more sustainable performance. Navigant works with large multi-national retailers, utilities, and

financial institutions across the globe as they advance their sustainability efforts. Leveraging our on-the-ground experience working with these clients, we will provide insights on what the biggest drivers for companies to disclose their performance on key sustainability metrics, what companies get out of disclosing, how they disclose, and the most important environmental, social and governance factors they consider. Digging deeper, we will also discuss how sustainability performance is measured against disclosure. CDP disclosure, TCDF scenario analysis, and materiality assessments are first steps, but accountability is a key concern in corporate sustainability: who ensures that targets are met and how does performance compare to the targets? Navigant's experience with clients seeking to improve on sustainability will shed light on this question, highlighting the current state of the corporate sustainability landscape.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA3

# Sustainability and the Sacred

Chaired by: Hilary Cunningham and Stephen Scharper

Day 2 | Oct. 17, 2019 | 14:00 | MN 3120







## Decolonization, Sacred Reciprocity, and Creating from the Quantum Field: A 3-Point Plan for Reinventing Environmentalism that Sources Our Doing From a Different Quality of Being

- [Blake Poland](#), Angela Mashford-Pringle, Roxanne Cohen, Ben Brisbois, Andrea Cortinois, Alexandra Poggi

### Bio:

Blake Poland is a professor in the Dalla Lana School of Public Health at the University of Toronto, and director of the Collaborative Specialization in Community Development. His work focuses on community resilience, social movements as agents of change, critical social theory, and sustainability transitions.

### Abstract:

We are reaching the limits of what convention risk management, and even resilience thinking, are capable of, as the dominant prevailing responses to emerging planetary health challenges. Rather than trying to 'solve' or 'fix' problems with the same level of thinking that created them,

we argue that new ways of seeing, thinking and being are required if change is to be truly transformational. Drawing on disparate sources spanning indigenous ways of knowing, Global South epistemologies, quantum physics and epigenetics, we paint a picture of an emerging landscape of possibilities for reinventing environmentalism. A 3-part process is envisaged: (a) decolonization, (b) opening to time-honoured animistic traditions that honour the sacredness and interconnectedness of all life, and (c) creating from the quantum field. Along the way, we offer two modest examples of funded projects that we have undertaken along this path: Pedagogy for the Anthropocene (or P4A), and the Many Lenses Project.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Sacred Time and Sacred Place: Sabbath and Sabbatical as Vehicles of Restraint

### - Tanhum Yoreh

#### **Bio:**

Tanhum Yoreh is an Assistant Professor at the School of Environment at the University of Toronto. His research focuses on the impact of religious values on environmental behaviour, faith-based environmentalism, faith-based environmental ethics, religious legal approaches to environmental protection, and religious approaches to environmental decision-making. He is particularly interested in the themes of wastefulness, consumption, and simplicity. He is the author of *Waste Not: A Jewish Environmental Ethic* (SUNY Press, 2019).

#### **Abstract:**

The Sabbath and the sabbatical year (shemittah) are divinely mandated consecrations of time which limit the dominion of humans over creation and

act as vehicles of restraint. Looking at traditional Bible commentaries, the theology of A.J. Heschel, and building on the work of Adrienne Krone and David Krantz on the Jewish farming movement, I explore imaginings of the Sabbath and sabbatical as vehicles of restraint. While the Sabbath is anchored in time, the sabbatical year is also anchored in place. According to Jewish law, the restrictions on agricultural labor during the sabbatical year are applicable only within the borders of the Holy Land. The Jewish farming movement, however, is in the process of reimagining a Jewish land ethic by integrating some of the central ideas of shemittah such as justice, sustainability, and mindful consumption not only into the seven year sabbatical cycle, but into the very fabric of everyday life.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## An Animal Among Animals

- Sara Kay Maston

### Bio:

Sara Kay Maston is an interdisciplinary artist who explores the vantage point of animals such as insects, single-celled organisms, domestic horses, birds and rodents. Her work takes the form of ceramics, paintings, and textile installations to articulate parallel lifeworlds that are indicative of a distant ancestor's sense of physicality or distinct rhythm of nature. Maston holds an MFA from York University and is pursuing a degree in Information Science at the University of Toronto to develop methods of archiving and mediating ephemeral nonhuman animal knowledge.

### Abstract:

Referencing philosopher Michel Serres' proposal for a museum dedicated to the work of animals, my research focuses on the development of information

systems through arts informed methods to recognize animal experiences and address the potential for animals to create new forms of culture. I will describe my practice based research using visual art as a means to approach the abstract and often inaccessible knowledge of an animal's experience. In artmaking, my objective is to create spaces that prompt the spectator to engage in a less anthropocentric orientation. My concentration in animality is oriented around theorists who propose to dehumanize the concept of nature, such as biologist Jakob von Uexküll, who identifies an infinite variety of non-communicating and reciprocally exclusive animal worlds that jointly compose the earth, and American cultural theorist Donna Haraway, who suggests that humans inhabit a symbiotic system looping within other lifeworlds.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Rebordering Sanctuary: Multispecies Communities and the Sacred

- [Hilary Cunningham](#) and [Stephen Scharper](#)

### Bio:

Dr. Stephen Bede Scharper is a professor, author, editor, journalist and public scholar with a special focus on social justice and the environment. Currently associate professor at the School of the Environment (University of Toronto), his most recent book, *For Earth's Sake: Toward a Compassionate Ecology* (Novalis), explores the notion of how we are being called to develop a loving relationship with the natural world in light of contemporary ecological challenges. Hilary Cunningham Scharper is a Canadian novelist and associate professor of anthropology (University of Toronto). She is author of an award-winning study of the US Sanctuary Movement: *God and Caesar at the Rio Grande* (University of Minnesota Press) and is currently conducting research on

animal sanctuaries in North America.

### Abstract:

In this paper, we examine the origins of the US sanctuary movement along US Mexico border and analyze some of its key features and figures. We focus on one of the movement's founders, James A. Corbett, and his efforts to situate a socio-political understanding of sanctuary within a broader biotic framework. Through the notion of "habitat as hospitality," we explore classical religious themes of "safe haven" as a political ecology. Our central questions include: how can some of the foundational ideas of sanctuary relay to a multispecies context? How does sanctuary speak to issues of sustainability and earthjustice in a time of climate emergency?



Themed Session - CA4

# Some Thoughts About Sustainability

Chaired by: Joan Simalchik

Day 2 | Oct. 17, 2019 | 14:00 | MN 2100





## Some Thoughts about Sustainability

### Sustainability: The Transformation of Human Evolution

- Ian Lipton

#### Bio:

Ian Lipton is a business leader in environmental sustainability. As President of The Carbon Accounting Company, he specializes in carbon management and reduction, and climate change resilience. In addition, for 25 years, Ian has trained and engaged in ontological education designed to cause personal paradigm shifts. Ian has presented at numerous conferences, including the Institute for Sustainable Energy at the University of Waterloo. Ian is an instructor at UTM's Institute of Management & Innovation in the applied sustainability management program. Ian received a BA in political science and an MA specializing in public policy from the University of Waterloo.

#### Abstract:

Our present collective course of action in dealing with the imminent catastrophic

effects of climate change are insufficient to avoid an uninhabitable planet for our species.

Historically, humans have adapted to environmental threats through survival of the fittest – both biologically and behaviorally.

But one of the mechanisms at the heart of our evolutionary success is now preventing us from successfully dealing with this existential crisis: our response to fear.

Our automatic response to fear is causing us to make choices that are contrary to our long-term best interests. These choices will ultimately lead to our demise as a species unless we transform our relationship to the emotion of fear.

This paper will examine fear as the barrier to the sustainability of our species. Some of the topics considered are: Overcoming the Amygdala; altruism versus self-interest; and the illusion of permanence.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Some Thoughts about Sustainability

# Let's Get Real: Societal Transformation and Ecosystem Renewal into the Anthropocene

- Robert MacNeil Christie

### Bio:

Dr. Christie is Emeritus Professor of Sociology and Founding Director of the Urban Community Research Center, California State University, Dominguez Hills, where he taught research methods, social psychology of organizations, and conducted research for non-profit community groups and municipalities.

Dr. Christie is a freelance writer, woodworker, and instrument-rated pilot. He blogs at [www.TheHopefulRealist.com](http://www.TheHopefulRealist.com) on critical issues related to climate chaos, ecological destruction, and human intransigence. His passions center on the natural world and social change to transform industrial-consumer economies to achieve ecological communities. His book, *At the Edge of Illusion: Facing the New Great Transformation*, is forthcoming in 2020.

### Abstract:

Overwhelming evidence on global warming, ecosystem destruction, international agreements, unrelenting carbon emissions, and growing institutional disorder forces seemingly untenable conclusions. First, a New Great

Transformation, far more complex than the industrial revolution, is ending the industrial age. Second, societal collapse is inevitable unless we rapidly constrain climate chaos and ecological collapse. Third, business-as-usual "sustainable development" is unattainable. The global neoliberal corporate-growth economy is the problem.

Globalized growth drives species extinction, climate chaos, and ecological destruction, soon forcing depopulation and societal collapse. Aspirational Earth-heating limits of "climate policy" ignore how to achieve extreme carbon-emissions reductions. This existential predicament requires an entirely new political-economic regime.

This paper draws on findings of complex-systems science, global trends, and social analysis and finds that only the "creative destruction" of unprecedented societal reorganization driven by globally networked indigenous and local-regional movements to transform communities for ecosystem restoration can deploy appropriate technologies to form ecologically sustainable economies.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Some Thoughts about Sustainability

### Transdisciplinary Culture - Responsive Reactions and Plans within Place

- Susan Aaron

#### Bio:

Susan Aaron is in the EdD program in social justice education and in the environment collaborative program at the University of Toronto. Her background includes research and practice into the relationships between culture - in general and in the arts, natural environment and place, Her practice has been situated with: the Ontario provincial government, communications and scientific fields, and teaching undergraduates and community in relation to academia, She is now building on an over 30 year practice of community and professional input to revitalizing urban natural environment and advocating for it.

#### Abstract:

The creation of urban sustainability is the entry into to the creation of nature through the actions of human as natural. This presentation considers how the humanities as a review of human capabilities and actions within a sustainability framework does not just judge actions but is able to liaise them.

Academia and community must and can offer relationships to any site as a natural setting, in which culture as a 'way of life' is a function of nature. Nature can be considered as it exists as carried references within cultural structures- often material but also as the site within which humans live, heal and interrelate with. Projects and text will be referred to that show a transdisciplinary function of community and academia, in acknowledgement and where relevant in liaison with Indigenous nations, that are an attempt to move the analysis of humanities into instigating and connection a momentum of actions. The projects include creative stewardship of the land, education as a creative impetus for a cultural sustainable liaison with nature in an urban setting, and the potential for transdisciplinary research liaised through the creative alliances of watershed based reflections and actions. The question the presentation raises, is how each of the projects is facilitated by the framework of humanities yet can offer new openings across disciplines to liaised site based sustainable culture.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





Themed Session - CA5

# Sustainability Across Sectors

Chaired by: Robert Wilson

Day 2 | Oct. 17, 2019 | 14:00 | MN 3110





## Conservation of Canada's Natural Landscapes

### - Robert Wilson

**Bio:**

Rob Wilson joined The Nature Conservancy of Canada ("NCC") in 2007, after more than 18 years with The TD Bank Financial Group. Rob is the Director of Conservation Finance in the New Conservation Strategies group at NCC and is responsible for managing NCC's carbon finance program and conservation finance activities, in addition to various other new conservation initiatives.

Rob has been an active member of various provincial Forest Carbon Policy working groups and was also involved in the developing the verification framework for the Canadian Roundtable for Sustainable Beef. Rob is involved in a number of large-scale, land conservation programs in his work at NCC.

Rob holds an undergraduate degree in political science, a Diploma from the Faculty of Forestry, and a Master of Business Administration (MBA) degree from the University of Toronto. Rob is also currently Co-Chair of the University of Toronto's School of the Environment's Environmental Finance Advisory Committee. His interest is in creative conservation and climate finance in order to mobilize capital to further conservation efforts across Canada and globally.

The Nature Conservancy of Canada ranks as Canada's largest land conservation charity, having protected more than 2.8 million acres (1.1 million hectares) of lands across Canada.

**Abstract:**

Sustainable use of the world's natural resources depends on the wise conservation of natural capital. NCC's work in conserving ecological significant lands across Canada, and the biodiversity that resides within these landscapes, makes an important contribution to climate change mitigation, adaptation and enhanced landscape resiliency. It is only by carefully protecting and stewarding these natural systems, and the carbon sinks they store, over the long-term that we can be assured that the ecological goods and services these systems produce will be there for future generations. The use of conservation-based carbon offsets is one (of many) tools by which conservation might be financed, while ensuring the preservation of these important carbon repositories. Moreover, these conservation actions demonstrably contribute to many U.N. SDGs (numbers 6, 13, 14, 15, potentially others), establishing their critical connection with Human Health. Sustainability and Conservation are inextricably linked.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Insect Farms in Your Neighborhood: Transforming Organic Waste Into High Quality Food

- [Greg Wegner](#)

### **Abstract:**

Insect farms in your neighbourhood: transforming organic waste into high quality food. As the global population and the demand for higher quality foods increase the pressure for protein is also increasing generating a worldwide protein crisis. Oberland Agriscience Inc., located within the Halifax Regional Municipality in Nova Scotia, upcycles municipal organic waste to insect protein products for use in agriculture and aquaculture feeds. As an indoor industrial scale insect farm, Oberland is diverting organic waste, transforming it to a nutrient rich protein source and closing the local food loop. Once believed by the developed world to be taboo, insects are rapidly becoming a more sustainable source of protein. The 'novelty' of insect farming, particularly when it requires organic waste diversion, is often met with challenges when dealing with the

various levels of government. Municipalities and communities are often reluctant to change the status quo of waste handling and disposal. We are striving to change our municipal waste landscape from treating discarded organics as waste to a feed stock producing a more sustainable high-quality product. Oberland was also challenged to redefine organic waste diversion from the classification of "composting" to include insect protein production. We continue to work with the regulatory agencies to show that our products meet the high quality and nutritional standards required by the agriculture and aquaculture sectors. Oberland demonstrates how environmentally focussed management can generate a corporate culture that uses sustainable and green approaches to provide a high-in-protein, highly nutritious feed product using an alternative path for what was once considered waste.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Evaluating the Efficacy of Sustainability Initiatives in Port Sector of Canada

- Jennifer MacNeil, Michelle Adams, Tony Walker

### Bio:

Jennifer MacNeil is completing a Master of Environmental Studies at Dalhousie University. As an undergraduate Management student, Jennifer became interested in the intersection between business and sustainable development. This interest in industrial sustainability led to a research position investigating the influence of environmental performance on port competitiveness. Her graduate work focuses on sustainability in the port sector, specifically understanding how certification-based programs are used to improve sustainability performance.

### Abstract:

"Ports are the connecting nodes of global trade and world economy. There is no way that we can move this world towards sustainability without ports" (Christina Figueres - Former Executive Secretary of the United Nations Framework Convention on Climate Change).

Ports are critical hubs of economic development in Canada that have significant impacts (both positive and negative) at the local level. Despite port authorities being under federal jurisdiction in Canada, operational and strategic decision-making have not prioritized the goals set out in the Federal Sustainable Development Strategy. This paper identifies the initiatives (Green Marine, ISO 14001, etc.) that ports have implemented to measure their sustainability performance and links their indicators to those set out in the SDGs. The preliminary analysis suggests that initiatives in the port sector focus almost exclusively on improving/monitoring environmental performance (predominantly pollution reduction) and do not address the social and economic pillars of sustainability. As a result of these findings, a framework has been developed, drawing from robust and credible metrics from pre-existing initiatives, that will allow ports to measure sustainability through social, economic, and environmental lenses.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Sustainability in Healthcare Field

- [Lisa James](#)

**Bio:**

The Environmental Advisory Group (EAG) is a boutique sustainability consulting firm established in 1990 by Lisa James. For almost 30 years, Lisa and her team have provided a myriad of environmental consulting services to their health care clients ranging from tiny rural hospitals to the largest pharmaceutical firms. EAG has established deep connections with pharmaceutical clients, health care vendors, haulers, professional associations, and government. Lisa has been called a visionary and a trailblazer. Her previous careers at AstraZeneca and in hospital pharmacy paved the way for the founding of EAG. <https://enviroadvisory.com/>.

Other career highlights include the formation of a professional association called CAPT, the Canadian Association of Pharmacy Technicians. CAPT currently enjoys a membership of thousands across Canada and Lisa has been awarded a lifetime honorary membership.

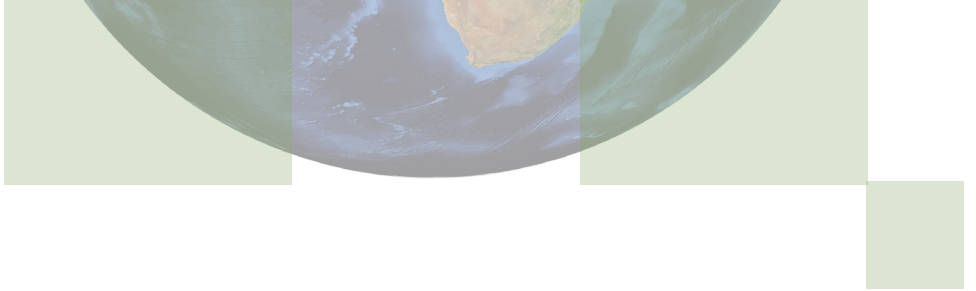
Recently Lisa was nominated for the Humber College Premier Awards, which recognize graduates who have made outstanding contributions in their field. In 2018, EAG launched the ELPHs (Environmental Leadership Awards for Personal Care, Pharmaceuticals and Healthcare Products), an awards program that recognizes outstanding contributors and Best-in-Class organizations in the health care field. The awards are open to all Canadian brand owners, manufacturers, distributors and service providers of healthcare products. <http://enviroadvisory.com/elphawards/>

**Abstract:**

By sharing her insights from a 30 year consulting journey through the health care field, Lisa's talk will engage audiences of all backgrounds. From the perception in 1990 that "we have no issues" to today's shining stars, Lisa's many relatable experiences will challenge and inspire anyone who has found themselves on the unforgettable road to sustainability.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Workshop - CA6

Is Corporate Sustainability Broken? If it is, then how did we get here? What can we do to make it more effective?

Facilitators: Brad Zarnett, Raz Godelnik

Day 2 | Oct. 17, 2019 | 14:00 | MN 3100

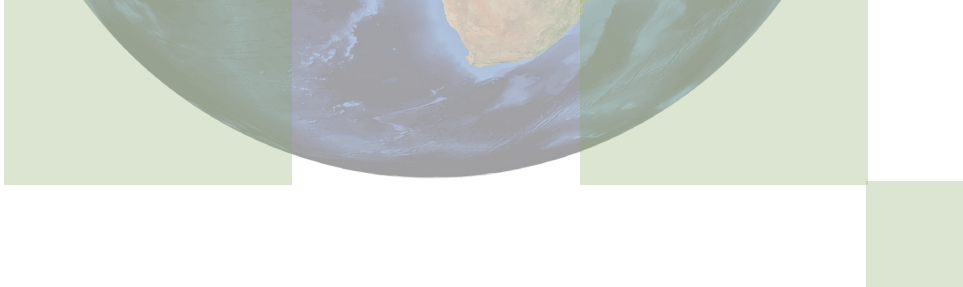
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**Bio:**

Brad Zarnett is Canadian sustainability strategist and thought leader, and is the President of Eco-Opportunity Consulting. In 2008 Brad founded the Toronto Sustainability Speaker Series (TSSS) to showcase sustainability leadership and has since hosted more than 40 events. After 12 years of consulting and promoting leadership in Corporate Sustainability Brad began to realize that the promise of a more sustainable world was not being delivered. He decided to take a closer look, and what he saw was disturbing. Brad's current focus is to broaden the conversation as to why Corporate Sustainability, CSR, Impact Investing and Profit with Purpose has failed to live up to its promise and more importantly, what is the best path forward to ensure that we are able to pass along a functioning planet to our children. Brad has a Masters in Environmental Studies from York University in Toronto and you can follow him on twitter @bradzarnett or on Medium.

**Abstract:**

Where has corporate Sustainability and its cousins; CSR, Impact Investing, Profit with Purpose, and Social Innovation actually taken us? Some may argue that it's delivering a cultural shift in how we conduct business and some might argue that it's a slow process and that we just need more time. But the harsh truth is that despite all of the positive inputs that are being added to the capitalist recipe, the end product is becoming more brutal and difficult to swallow. Every major ecosystem on the planet is in decline and the positive feedback loops around climate change are getting close. Socially, the impacts are equally worrisome; we're experiencing the worst inequality in 100 years and almost 80% of Americans are living paycheck to paycheck. We need to stop pretending that the "greening" of business is working. We've reached a point where the very notion that business is in some way working hard to address our environmental and social challenges is at best misleading and at worst fraudulent; the evidence strongly suggests that the greatest efforts of corporations is to maintain the status quo. In this workshop we will explore how we got to this point, who or what is blocking progress and how can we move forward in a way that ensures that we are able to pass along a functioning planet to the next generation.



Workshop - CA7

# Carbon Pricing Across Canada

Facilitators: Michael Berends, Joelle Pang, Rishabh Nanda, Adi Dunkelman

Day 2 | Oct. 17, 2019 | 14:00 | MN 2110

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## Bio:

Michael Berends is the Managing Director of Origination at ClearBlue Markets. Michael has over 15 years of experience in Carbon Markets, in particular with carbon pricing strategy, offset development and trading. Previous to ClearBlue, Michael worked at EcoSecurities, Barclays Capital, Vattenfall Energy Trading and ICL Ltd. Michael has executed thousands of carbon product deals, structuring transactions for offsets, allowances, and allowance related products in the primary and secondary carbon markets in over fifty countries. Working with the rest of the ClearBlue team, he has developed the carbon pricing strategies for numerous large and small emitters, and is also involved in the active management of their compliance positions, including both the sale and purchase of compliance instruments. Michael also supports clients with identification of carbon pricing related funding opportunities to assist with the reduction of GHG emissions

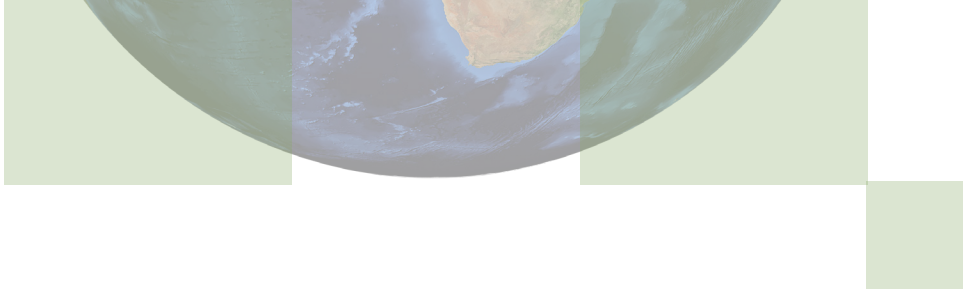
Adi is the Senior Policy Analyst at ClearBlue Markets and focuses on monitoring the ongoing regulatory developments of different carbon markets across North America. Adi provides policy analysis and strategic insight on carbon pricing and helps compliance entities understand the regulatory landscape by communicating organization-specific implications. Adi supports industrial emitters with identification of clean energy and energy efficiency funding opportunities to assist with the reduction of GHG emissions.

Joelle is a sustainability management graduate student at the University of Toronto with an undergraduate degree in life sciences. This past summer, she worked at ClearBlue Markets analyzing carbon markets across Canada. Her previous experiences in marketing, waste management and NGO management have led to her interest in sustainability strategy development. She remains actively involved within the University of Toronto community in her current role as VP Finance of the MScSM Student Executive Council and as a participant of the artificial intelligence working group, the 99 AI Challenge. She is passionate about leveraging disruptive technologies for integrated solutions that solve global sustainability issues.

Rishabh Nanda is a graduate student pursuing sustainability management at the University of Toronto with his undergraduate degree in mechanical engineering. This past summer, he was a part of ClearBlue Markets' team where he worked on analyzing the carbon markets. Apart from his previous work experiences in financial services and the IT industry, Rishabh has worn many hats including starting an NGO focusing on empowering underprivileged section of the society in India and providing consulting services to organizations in Toronto. He is excited about integrating disruptive technologies in businesses with a sustainability-focused lens. He believes that technologies like blockchain and AI can make companies more resilient and adaptable to global sustainability issues.

## Abstract:

In October 2016, Canada announced the Pan-Canadian Approach to Pricing Carbon Pollution in order to meet its commitments for the Paris Agreement to reduce greenhouse gas emissions and fight climate change. As of January 1, 2019 every Canadian province and territory has a carbon pricing program. ClearBlue Markets in partnership with its MScSM Co-op students will provide an in-depth look at carbon pricing across the country and the risks and opportunities of putting a price on pollution.



Workshop - CA8

## The People Behind the Product: Why Women are Key to a Food Secure Tomorrow

Facilitator: Amanda Klarer

Day 2 | Oct. 17, 2019 | 14:00 | MN 2190

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### **Bio:**

Amanda Klarer manages the value chain enrichment programs at Marcatus including the award-winning Marcatus Mobile Education Platform – a gender-inclusive educational program designed to reach and empower smallholder farmers to adopt sustainable practices and improve their yields. Using examples from her work, ranging from cacao farming in Cameroon, pepper farming in Malaysia, to vegetable production in India, Amanda will discuss how the private sector can play a key role in creating a food secure tomorrow. Marcatus, a Toronto-based global agri-food end-to-end solutions partner, works to add value across supply chains by building sustainable partnerships with companies, suppliers and farmers.

### **Abstract:**

How much do we know about the lives behind the food we consume? Who produces our beloved chocolate, processes our cup of java, or carefully pollinates the vanilla for our birthday cake? The food we eat daily comes from a diversity of geographies and is touched by a diversity of lives. Smallholder farmers produce over 70% of the world's food and women play a key yet under-valued role. This session will explore challenges and barriers women face in the global agri-food sector, highlight the benefits of uplifting women farmers, and will showcase key roles businesses can play to create change.





# Poster Presentations

Day 2 | Oct. 17, 2019 | 15:30 | MN Grand Hall and North Reception





## An Initial Survey of Canadian Charitable Agricultural Donation Tax Credit Filings

- [William Coney](#)

### Bio:

William Coney is an agricultural economics student at the Dalhousie University Faculty of Agriculture, in Truro, Nova Scotia. His current studies follow a BA in Classics and History, where reading Latin Agronomists lead him to an interest in the creation and messaging of agrarian value, both real and cultural. His current research, including An Initial Survey of Canadian Charitable Agricultural Donation Tax Credit Filings, looks to how these valuations factor into empirical datasets.

### Abstract:

Various tax credits have been created in Canadian jurisdictions for the donation of agricultural commodities to food banks and other food related non-profit organizations for the explicit

purpose of reducing food waste and encouraging donations to food banks. Little has been done to provide analysis of the participation and impact of these Charitable Agricultural Donation (CHAD) tax credits. This paper introduces an initial survey of currently known data from CHAD credit filings in Canada and provides some preliminary analysis of CHAD credit efficacy. This leads into considerations of these credits in the ongoing context of how they may influence food waste reduction (limitedly quantifiable at present), food insecurity (not quantifiable at present), and the inequalities present in the donor-donee relationship that CHAD credits encourage. When the current scope of Canadian CHAD credit filings is added to this debate, the initial impression is that CHAD credits are inefficacious.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

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## Northern Air Transportation Challenges and Effects on Indigenous Communities

- Pia Dimayuga, Erik Ohlrogge, Tracey Galloway, Shoshanna Saxe

### Bio:

Pia Dimayuga is a master's candidate in Civil Engineering at the University of Toronto, where she also completed her bachelor's degree. She is a member of the sustainability civil engineering re-search group that operates at the intersection of environmental sustainability and large scale infra-structure. Pia's research experience includes assessing the state of sustainable infrastructure rating systems and presenting her findings at the New Horizons In green Civil Engineering (NHICE) confer-ence in Victoria, BC. Pia's current research is bringing a resilience lens to the air transportation in-fra-structure in northern Ontario and evaluating how the infrastructure impacts local community well-being.

### Abstract:

The presentation will discuss preliminary findings from summer 2019 data collection focusing on the relationship between air transportation and indigenous community wellbeing in northern Ontario. Two

specific areas of focus are: 1) physical interdependencies of air infrastructure in remote northern Ontario communities and 2) effects on local communities resulting from infrastructure response to shocks and stresses in the remote northern context.

In 27 northern Ontario communities, air transportation is the only mode of travel available year-round. These communities rely on air transportation infrastructure to connect to essential services and resources, such as food and healthcare. Transportation challenges exacerbate issues related to food security, community health, wellbeing, and inadequate housing that disproportionately affect northern indigenous communities. Using a resilience assessment framework, we analyze the transportation system to identify vulnerabilities and interdependencies. Collected data includes operational statistics, physical infrastructure characteristics, and qualitative data based on semi-structured interviews with pilots and community members.

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## Obesity Prevalence and Quantitative Estimates of Dietary Intakes of Households in Butaritari, Kiribati Islands

- Paul Eme, B. Burlingame, J. Douwes, S. Foiaka, C. Wham, N.D. Kim

### Bio:

Mr. Paul Eme is a currently a PhD student of the School of Health Science, Massey University, New Zealand. His doctoral research is on developing, harmonizing, validating sustainable diets methodologies and metrics of Sustainable food systems in Pacific Island Countries. He has been involved in some health researches in Nigeria and Kiribati. His email address is paul.eme@vuw.ac.nz.

### Abstract:

The study assessed dietary intakes of the household members in Butaritari, Kiribati. Three hundred and seven households were randomly selected from the 12 communities. Ethical approval and informed consent forms were obtained for the study. Weight and height of the subjects were collected using standard procedures. Data were also collected using 24-hour dietary recall, weighed food record procedures and bioelectric impedance analysis (BIA). Data analyses were done using FoodWorks Pro 8 and SPSS version 21 for frequencies, percentages and means; Chi-square and independent t-test was used to compare the continuous and discrete variables. Out of 307 respondents, 65.4% were females. Majority of the respondents were within the ages of 26 and 55 years with at least a primary school education. The 24-hour dietary recall results showed that 92.8% , 68.1% and 60.6% consumed fish and sea foods, cereals

food groups and sugar respectively. About a quarter consumed fats and oil, a few (3.6%) took fruits and none of them had vegetables in the preceding 24 hour dietary recall. About 76% of the subjects had low dietary diversity, 21.8% had medium dietary diversity and only 2.3% had highest dietary diversity. The dietary analyses based on the 24 hour dietary recall also showed that in both male and female subjects, the intakes of iron, zinc, vitamin A and calcium were below the recommended nutrient requirement for their age and sex. High intakes of sodium, magnesium and potassium were observed and the intake of in thiamin, riboflavin, niacin and vitamin C were within the recommended nutrient requirements. Based on the weighed food record results, the male subjects of all age groups had adequate intake of protein but had consumed excess sodium and low intake of vitamin A, thiamin, riboflavin, potassium and calcium. The female subjects of some age groups had adequate intake of vitamin C and iron but had consumed excess sodium and low intake of potassium, calcium and zinc. About 47%, the subjects were obese and 32.7% were overweight based on body mass index (BMI). Thirty-one percent of the subjects had very high body fat (BF), 33.3% had high BF, 35.3% had normal BF and 0.6% had low BF based on BIA. High prevalence of obesity and multiple micronutrient malnutrition exist among the households. Food-based dietary approaches is highly recommended to solve these problems.

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STTPA Conference 2019 @ University of Toronto Mississauga



## Time for Business: Best Practices for Improving Industrial, Commercial, and Institutional (ICI) Waste Diversion in the Alberta Capital Region

- Megan Ann Hardman

### Bio:

Megan Hardman lives on Treaty 7 territory in Calgary, AB and is a Master of Arts in Environmental Practice student at Royal Roads University. Her areas of interest include waste & recycling, climate justice, and environmental communication & education.

Megan has worked on waste in various roles, including in municipal government, shopping mall operations, and post-secondary institutions. She currently works as a Sustainability Engagement Assistant at Bow Valley College. In her spare time, she likes to explore new places on foot and does her best to keep up with news in the waste & recycling world.

### Abstract:

In 2016, Albertans generated 1,034 kg of landfill waste per capita, higher than any other Canadian province. In the Alberta

Capital Region (ACR), most waste comes from the industrial, commercial, and institutional (ICI) sector, meaning this sector should be a target for increased recycling. However, recycling is constrained by China's recent import restrictions. One key way to increase recycling in this context is to develop local demand for recycled products in the ACR. In order to advance a strategy to do so, this paper analyzes various documents based on other jurisdictions' experiences with recycling market development. Three basic concepts emerge from this document analysis: basing decisions on solid research; providing firms with technical assistance; and carrying out local environmentally preferred purchasing. By focusing on these three concepts before mandating recycling for the ICI sector, the ACR can establish the necessary groundwork to guarantee that recovered materials will truly be recycled.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

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## Public Perception of Urban Stormwater Ponds as Environmental Amenities

- [Charlotte Heller](#)

### Bio:

Charlotte Heller is a M.Sc. in Environmental Sustainability Candidate at the University of Ottawa's Institute of the Environment, supervised by Dr. Frances Pick. She received a B.Sc.H. in Environmental Science from Queen's University, where she completed an honours thesis in paleolimnology. With an understanding of the anthropogenic stressors facing aquatic ecosystems, she wanted to focus her master's research on solutions which minimize the impact of urbanization on watersheds and improve the sustainability of cities. Her thesis investigates the public perception of urban stormwater ponds, and how their design can be optimized to serve both environmental and social sustainability objectives.

### Abstract:

Urban green space such as parks and gardens can enhance the resiliency

and sustainability of cities, however other types of green infrastructure are underrepresented in the literature. One such type is stormwater ponds, which are part of development plans to manage stormwater runoff. Their performance is typically evaluated in terms of hydrological functioning, with little focus on their capacity to provide ancillary benefits to surrounding communities. To address this gap, an online survey will be distributed to neighborhoods with stormwater ponds in Ottawa, Ontario, to reveal how these ponds are perceived by residents. The results of the survey will provide insight into the social value of these ponds and assess the public's preferences for pond attributes which enhance enjoyment of these facilities. The results of this study can potentially be used by planners and decision-makers when designing stormwater ponds to improve their multifunctionality and optimize both environmental and social outcomes.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

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## Defining 'Flushability' for Sewer Use

- Anum Khan, Barry Orr

### Bio:

Anum is graduate student completing her studies in civil engineering at Ryerson University in Toronto, Ontario. She enjoys tackling new challenges and approaching water issues with innovative methodologies. Currently, Anum is focused on her research project on the use of consumer products labelled 'flushable' (such as baby wipes and cleansing cloths) and their possible threat to wastewater collection systems.

### Abstract:

Currently, municipalities in Canada spend around \$250M annually in the removal of blockages and repair of infrastructure due to consumer products, such as wipes. Wipes, along with several other categories of products, are misleadingly labeled as 'flushable'. The problem with this false claim is that there is an increasing trend of usage in these consumer products with little to no awareness of appropriate disposal methods.

This research project aimed to evaluate 101 products, 23 of which are labeled 'flushable', for adherence to package labeling, drainline clearance, disintegration performance, and fibre composition.

The results showed that all toilet paper, including the strongest of those tested, passed all tests as outlined in the research methodology. The results also showed that unlike toilet paper, not a single consumer product disintegrated enough to be classified as a pass based on the research methodology. These products which remain fully intact after remaining in wastewater collection systems for a period of time seem to be the biggest contributors of blockages within municipalities in Canada. The aims of this project broadly are to, 1) Raise awareness regarding appropriate disposal methods of consumer products and 2) Ban the use of the word 'flushable' on products until a clear definition of the word is brought into legislation.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Does Land Use Drive Temperature Change? A Remote Sensing Perspective into the Cataraqui Region Conservation Authority's Watershed

- Matthew Senyshen, Dongmei Chen

### Bio:

Matthew Senyshen is currently a master's student at Queens University in Geography. His current work focuses on land use land change and water temperatures in the Cataraqui Region Conservation Authority's watershed. He obtained his undergraduate degree from Wilfrid Laurier University in Geography with an option in geomatics. His interests are mainly remote sensing, conservation, and wildlife. Previously he wrote an undergraduate thesis on the impact of forest fires on the Bathurst Caribou Herd's habitat in the Northwest Territories. He grew up in Toronto with a love for canoeing and skiing.

### Abstract:

As human populations and natural disturbance increase in the St. Lawrence

River Watershed, it is also likely that land use changes in the Watershed will change the landscape. Water and air temperatures are one of the most important factors influencing the ecological processes that help to maintain the health of the Watershed. Land use change in watersheds is a common altering force that can have affect the surrounding area and impact downstream runoff. Satellite observations can obtain data on the temperature cycle of land and water systems with visible and infrared measurements. Satellite sensors are able to determine the spatial and temporal variation of water and land surface temperatures. By understanding these changes, land use change impacts in the Watershed can be explored, along with how future planning can be managed within the Watershed.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

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## The Curriculum Development of Global Sustainability Education (GSE) for Climate Change

- Arushi Sood, Julia Morton-Marr

### Bio:

Arushi Sood, BSc (Hons), graduated from University of Toronto Mississauga (UTM), specializing in Biology and Chemistry. Arushi worked as a research assistant and completed a Research Opportunity Program with Professor Bailey C. McMeans (BSc., PhD.), where she studied the seasonal physiology and ecology of freshwater fish. This led to an internship on climate change with Dame Julia Morton-Marr (DStG., B.Ed., Dip. T.), founder of the International Holistic Tourism Education Centre (IHTEC), where Arushi continued the development of a curriculum called the Global Sustainability Education (GSE) for teachers. After GSE, she wishes to continue re-searching within Sustainability Education.

### Abstract:

CLEAN, CORRECT, and CARE for CLIMATE

CHANGE! Climate Change is recognized as the leading environmental issue of the 21st Century i.e. increasing in CO<sub>2</sub> levels, sea level rise and melting glaciers. A Global Sustainability Education curriculum IHTEC (1993-2014) on global issues from the core of the planet to the ozone is essential for each school globally. GSE focuses on bio-diversity loss, carbon emissions, food security, fresh water and oceanography. Teacher training modules for schools are available online. UTM student volunteers have been involved in the development of this program for nearly twenty-five years. IHTEC believes that all universities, colleges and schools around the world need Global Sustainability Education. To ensure a positive outcome, students are developing a poster series called "Keep Canada Beautiful" which will be launched at conference.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Improving Community Natural Resource Governance

- Yiwen Zhang, Shashi Kant

### Abstract:

Natural resource management regime substantially affects the sustainability of community development. However, limited attention has been paid to how communities can adjust their natural resource management regimes to rapidly changing socio-economic contexts and achieve sustainability goals. This study focuses on a community under the common-property forest regime in Southeast China. The community adopted two rounds of forest devolution reforms, which shared similar goals and contents, in two different periods. The first one succeeded, while the second one failed. Using the process-tracing

method, we find that the second one failed because it neglected the socio-economic changes including outmigration, livelihood diversification, and market changes; thus, it failed to provide sufficient incentives for community members to manage forests sustainably. We discuss in a rapidly changing society, how communities can design natural resource management institutions that are compatible with local socio-economic contexts.

**Sustainability: Transdisciplinary Theory, Practice, and Action**

STTPA Conference 2019 @ University of Toronto Mississauga



## Operationalizing Responsible Innovation in IS Innovation Projects

- [Sarah Cherki El Idrissi](#), Jacqueline Corbett, Sehl Mellouli

### Abstract:

Sustainability has become a crucial concern for information systems (IS) organizations; however, the adoption of concrete changes in innovation processes has been slow. This paper explores how IS organizations can use the Responsible Innovation (RI) framework to embed environmental and social concerns in their innovation processes alongside economic goals. The research adopts an exploratory approach and involves a qualitative field study of 17 organizations, investigating measures and practices taken by organizations to address sustainability issues in their innovation processes. The findings suggest the RI principles of

anticipation, inclusion, responsiveness and reflexivity are applied to a certain extent, although not systematically for sustainability purposes. Knowledge transfer and other factors, such as leadership and organizational culture were also found to be important influences on RI practices. A variety of activities and tools are used by IS organizations to support RI, but there remains much room for improvement.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## MScSM Class of 2020 Poster Presentations

### Presenters:

Allegra Bethlenfalvy  
Allie Douglas-Vail  
Amanda Vrbensky  
Amine Mikati  
Ana Karina Gutierrez Sotomayor  
Angelica Adams  
Athbah Almuhairi  
Atupele Chakwera  
Christophe Hage  
Courtney Hayes  
Gillian Davison  
Holly Nevison  
Joelle Pang  
Jonah Kahansky  
Kamil Musielak  
Katia Taillefer  
Lauren Morante  
MacKenzie Paluck

Manasvini Ramasubramanian  
Michael Perryman  
Mitchel Selby  
Morgan Turpin  
Neila Doum Vorano  
Nicholas Tsui  
Nikita Kumar  
Rebecca Fortenbacher  
Rini Jacob  
Rishabh Nanda  
Ryan Nash  
Rylan Urban  
Sarah Pupovac  
Takuya Harada  
Ty Bryant  
Yinan Zhang  
Yosua Husodo



# Industry Presentations

Day 2 | Oct. 17, 2019 | 15:30 | MN Grand Hall and North Reception

Participating Companies:

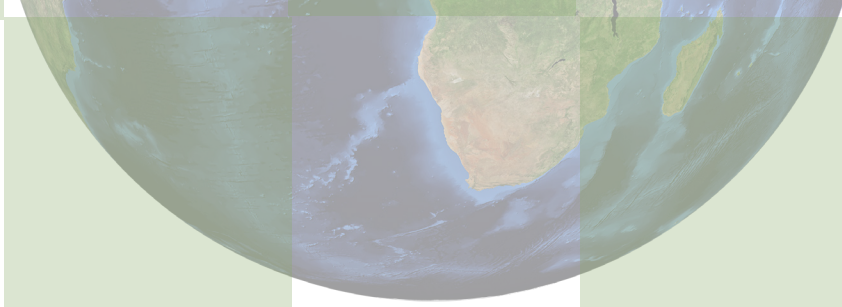
Carbon Cap Inc

CompoPonics Technologies Corporation

Hybrid Power Solutions

Demizine Technology Inc





Keynote - K2

**David Suzuki**  
David Suzuki Foundation

Chaired by: Shashi Kant

Day 2 | Oct. 17, 2019 | 17:45 | IB 110



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**Bio:**

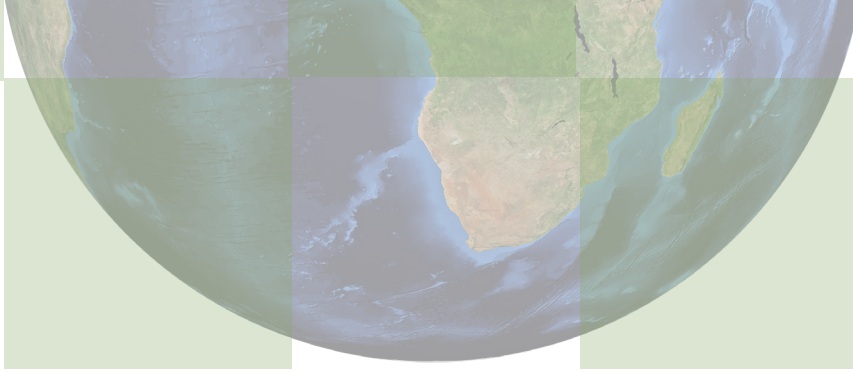
Dr. David Suzuki is a scientist, broadcaster, author, and co-founder of the David Suzuki Foundation. He is Companion to the Order of Canada and a recipient of UNESCO's Kalinga Prize for science, the United Nations Environment Program medal, the 2012 Inamori Ethics Prize, the 2009 Right Livelihood Award, and UNEP's Global 500. Dr. Suzuki is Professor Emeritus at the University of British Columbia in Vancouver and holds 29 honorary degrees from universities around the world. He is familiar to television audiences as host of the CBC science and natural history television series *The Nature of Things*, and to radio audiences as the original host of CBC Radio's *Quirks and Quarks*, as well as the acclaimed series *It's a Matter of Survival* and *From Naked Ape to Superspecies*. In 1990 he co-founded with Dr. Tara Cullis, The David Suzuki Foundation to "collaborate with Canadians from all walks of life including government and business, to conserve our environment and find solutions that will create a sustainable Canada through science-based research, education and policy work." His written work includes more than 55 books, 19 of them for children. Dr. Suzuki lives with his wife and family in Vancouver, B.C.

**Title:** The Challenge of the 21st Century: Setting the Bottom Line in the Anthropocene



Day 3 | October 18, 2019

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## Keynote - K1

### Prof. Scott Frickel BROWN UNIVERSITY, SOCIOLOGY



Day 3 | Oct. 18, 2019 | 8:45 | IB 120

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**Bio:**

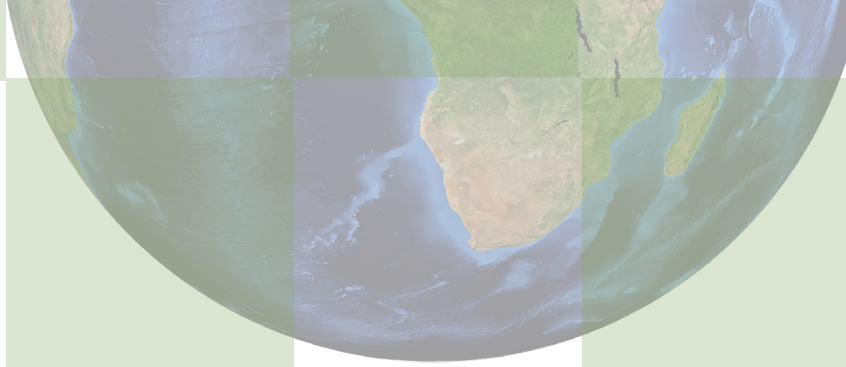
Scott Frickel is Professor of Sociology at the Institute for the Study of Environment and Society. He holds a Ph.D. from University of Wisconsin-Madison (2000). Before coming to Brown he held faculty appointments at Tulane University and Washington State University, where he was the Boeing Distinguished Professor of Environmental Sociology. His research and teaching interests center on the intersections of nature, knowledge, and politics. A growing feature of his current research involves developing new approaches for identifying and measuring socio-environmental change and developing theories to explain those patterns. He also studies inequality in science and technology and chemical residues as cultural, material, and political objects – both subjects of current book projects.

**Title:** Sites Unseen: Uncovering Hidden Hazards and Hidden Lessons for Sustainable Urban Futures

**Abstract:**

This talk examines the interplay of urban demography, industrialization and risk management to identify local mechanisms driving the socio-environmental change. The study is informed by spatial and historical comparison of hazardous waste site accumulation in four major U.S. cities (Minneapolis, New Orleans, Philadelphia, and Portland, OR) over five decades, from 1955 to 2008. Data for the analysis include detailed site-, tract-, and city-level information gathered for thousands of current and former industrial sites – most of which remain unacknowledged in government reports and hazardous site lists. Results show how industrial churning, residential churning, and risk containment intersect to produce cumulative socio-environmental transformations of urban lands. The study holds important lessons for sustainable urban futures.





Keynote - K1

**John Cartwright**  
President of the Toronto & York  
Region Labour Council



Day 3 | Oct. 18, 2019 | 8:45 | IB 120

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**Bio:**

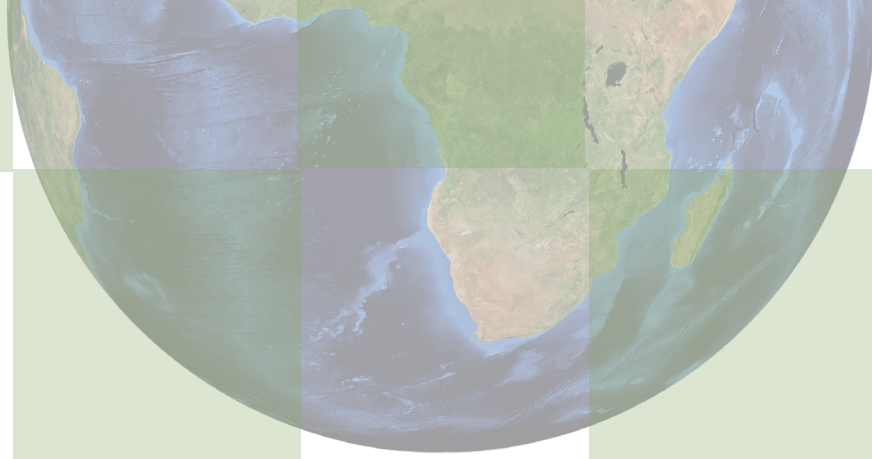
John Cartwright is the President of the Toronto & York Region Labour Council, representing 200,000 union members in every sector of the economy. A carpenter by trade, he has led numerous campaigns for social, economic and climate justice. He is Chair of the Council of Canadians, Vice-Chair of the United Way of Greater Toronto and co-chairs the Toronto Community Benefits Network.

**Title:** Respect People, Work, Communities – Climate and Transition

**Abstract:**

The global climate crisis is real. The 2015 Paris Accord demands that we use all of our skills and knowledge to plan for a sustainable and equitable low-carbon economy. The goal of resilience is not just for physical spaces but also social infrastructure, which will be tested by storms, droughts, and wildfires, as well as the migration of millions of climate refugees.

It is possible to make effective choices if learn from past economic and social change. Long-term planning, focused investment, and deep respect for workers and their communities are the only way that justice will be assured in this global transition.



Panel Session - CA1

## Connecting Spirituality and Sustainability

Day 3 | Oct. 18, 2019 | 11:00 | MN 2110

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### **Abstract:**

The focus of the panel could be a discussion and a dialogue among scientists and theologians of Pope Francis' encyclical Laudato Si with its focus on global warming and climate change. In the encyclical Pope Francis calls for such a dialogue. In Paragraph 13 and 14 of Laudato Si he wrote: "Here I want to recognize, encourage and thank all those striving in countless ways to guarantee the protection of the home which we share. Particular appreciation is owed to those who tirelessly seek to resolve the tragic effects of environmental degradation on the lives of the world's poorest. Young people demand change. They wonder how anyone can claim to be building a better future without thinking of the environmental crisis and the sufferings of the excluded. I urgently appeal, then, for a new dialogue about how we are shaping the future of our planet." The purpose of this panel is to enter into the dialogue between science and religion that Pope Francis has called for.



## Connecting Spirituality and Sustainability

### Dr. Mimi Marrocco, Faculty Leader for the Certificate in Corporate Social Responsibility, St. Michael's College, University of Toronto

#### Moderator

##### Bio:

Mimi Marrocco is the Faculty Leader for the Certificate in Corporate Social Responsibility at St. Michael's College. She started the program in 2001 in partnership with the Conference Board of Canada; while serving as founding Director of Continuing Education at St. Michael's. She is the past Chair of the EthicsCentre CA (formally incorporated as the Centre for Ethics and Corporate Policy). She also served as President of the Ontario Council for Lifelong Learning from 1999-2000 and went on to become President of the Canadian Association for University Continuing Education (CAUCE) (2005-2007).

Mimi holds a Ph.D. in English Literature specializing in the work of modern writers of satirical fiction.



## Connecting Spirituality and Sustainability

### Dr. James Ginther, Dean, Faculty of Theology, University of St. Michael's College, Toronto School of Theology

#### Panelist

##### Bio:

Dean James Ginther is the Dean of the Faculty of Theology at the University of St. Michael's College and also teaches at the Toronto School of Theology. He earned a PhD at the University of Toronto in medieval studies with a thesis that focused on the work of the theologian, scientist and statesman Robert Grosseteste. He has taught at the University of Leeds and St. Louis University (SLU). He is a pioneer of digital theology having helped to create the Center for Digital Theology at SLU, where he was the Director, and the T-Pen (Transcription for Paleographical and Editorial Notation) project. The T-Pen tool allows the transcription

of manuscripts right on the screen avoiding the moving back and forth from screen to paper.



## Dr. Robert K. Logan, Fellow, University of St. Michael's College, University of Toronto

### Panelist

#### Bio:

Prof. Robert K. Logan is a Fellow of St. Michael's College where teaches the McLuhan Seminar and What is Information? He teaches The Poetry of Physics and the Physics of Poetry in the U of T Physics Department. He is the Chief Scientist of the sLab at OCAD University.



## Connecting Spirituality and Sustainability

### Dr. Moira McQueen, Executive Director, Canadian Catholic Bioethics Institute, Member, Vatican Theological Commission

#### Panelist

##### Bio:

Dr. Moira McQueen graduated in law from the University of Glasgow, Scotland and practiced law there specializing in family law and juvenile court. She has a Master of Divinity and a PhD in Moral Theology from St. Michael's Faculty of Theology. She is the Executive Director of the Canadian Catholic Bioethics Institute. The Institute has a mandate to conduct research and education in bioethics from a Roman Catholic perspective, and pursues bioethical issues in palliative and end of life care, reproductive technologies, stem cell experimentation and regenerative medicine, genetics, mental health and other current areas. She is also

a member of the Vatican Theological Commission that advise the Pope and the Congregation for the Doctrine of the Faith.



Themed Session - CA2

## Moving Toward More Sustainable Cities through Transdisciplinary Perspectives: Global North and South Outlooks

Chaired by: Heather MacLean

Day 3 | Oct. 18, 2019 | 11:00 | MN 2190





Moving Toward More Sustainable Cities through  
Transdisciplinary Perspectives: Global North and South Outlooks

## Sustainability of Mass Timber Construction: Case Studies from Global Cities

- Daniel Lacroix, [Nadine Ibrahim](#)

### Bio:

Nadine is the Turkstra Chair in Urban Engineering at the University of Waterloo, with a vision to lead new educational attitudes and advocate for civil engineers as municipal leaders. She is a triple graduate of the University of Toronto, holding a BAsC, MASc, and PhD in Civil Engineering, and a Certificate of Preventive Engineering and Social Development. Nadine has leveraged her industry experience to expand her inquiry into cities through urban and environmental projects in Canada and abroad. Her post-doctoral research at the University of Toronto brought to light infrastructure challenges on the African continent, and introduced online courses on Sustainable Cities.

### Abstract:

A recent addition to the housing stock in some cities is mass timber construction, included for its potential to decarbonize the

building sector and reduce the operational performance of buildings. The building sector globally accounts for 30% of the greenhouse gas (GHG) emissions, with an anticipated doubling in 20 years if no action is taken towards mitigation. A key knowledge gap is the quantification of the GHG reduction potential as a result of high-rise timber buildings, and the evaluation of co-benefits including personal well-being and community resilience. This paper explores building stock scenarios in global cities to include various fractions of new timber construction relative to existing building sector emissions and future climate targets. By making climate change impacts an important design and construction consideration, the findings from the scenarios generated will help inform the level by which timber construction contribute to sustainability indicators relevant to climate change and urban resilience.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





## Food for mega-cities using electric vehicles? A comparison of Hong Kong, Vancouver B.C., and Toronto

- Graeme Lang

### Bio:

Graeme Lang, a sociology professor at City University of Hong Kong until retirement in 2014, lived in Hong Kong from 1990 to 2016. He has published articles on environment-related issues in journals such as Environmental Politics, Journal of Contemporary Asia, Organization & Environment, and The China Quarterly. His latest paper, on 'Urban energy futures', appeared in European Journal of Futures Research in 2018. In Hong Kong, his courses included 'Globalization and the Environment', and 'Environment and Society in Asia'. Now based in Toronto, he is working on long-term sustainability issues in the Toronto region.

### Abstract:

The key to sustaining most large cities

with food is long-distance trucking, and beyond fossil fuels (i.e., by the late 21st century according to credible estimates), it does not appear that EV trucks can sustain more than a fraction of the current flows of food, and goods, into these cities (Friedemann, 2016). There are huge implications for the many cities in both the global north and global south which could not survive at current scales without long-distance transport of food for these cities. Extending the work of Day and Hall (2016) and Lang (2018), I will compare Hong Kong, Vancouver B.C., and Toronto, including the question 'Can electric vehicles save Toronto, beyond fossil fuels?' Finally, I consider some implications for current urban and regional policies on transportation, land use, and food production.



## Moving Toward More Sustainable Cities through Transdisciplinary Perspectives: Global North and South Outlooks

### “Water Issues and Urban Sustainable Development in Changing Climate: An Action Plan for Quezon City, Philippines

- [Tabassam Raza](#), [Frederika C. Rentoy](#), [Andrea Valentine L. Andres](#), [Jun T. Castro](#), [Vincent G. Vinarao](#), [Thess Khas S. Raza](#), [Karl Michael E. Marasigan](#), [Bianca D. Perez](#)

#### Bio:

Dr. Tabassam Raza is the Associate Dean of Graduate School of Business and Director of Disaster Risk Management Unit, Philippines School of Business Administration, Manila, Philippines. He is also Technical Advisor of Quezon City Government, Environmental Protection Waste Management Department. He has multidisciplinary academic and professional expertise. i.e., Risk Sensitive Urban Land Use and Sustainable Development Planning, Ph.D, University of the Philippines, Diliman (UPD); and Civil Engineering (UPD), among others. He has over 20 years of experience working on Senior positions in local and international organizations such as ADB, WB, UNISDR, and UNDP funded projects.

#### Abstract:

Access to safe clean water and sanitation were pressing concerns for survivors after super Typhoon Haiyan devastated central

Philippines in November 2013. Water problems are viewed as the consequence of uncontrolled rapid urban development and Climate Change (CC) variations. Thus, equal and inclusive policy objectives need to be developed, without which, achieving the Sustainable Development Goals and CC themes for universal access to drinking water, sanitation, and hygiene is not possible. It was done through spatial and gender-sensitivity analysis using Geographic Information System and participatory process respectively. The output encompasses an Action Plan, that is 15 Programs, Projects and Activities (PPAs), across five transdisciplinary development sectors (Social, Economic, Environmental, Land Use/Infrastructure, and Institutional). The appropriate implementation of these PPAs will ensure Quezon City's sustainable development and CC-resiliency. Further, the strategic framework used in this case study is flexible and can be fashioned for the other cities in Global South countries.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Moving Toward More Sustainable Cities through Transdisciplinary Perspectives: Global North and South Outlooks

### Framework for Evaluating Water Security in Megacities from an Environmental and Socioeconomic Perspective

- Tatiana Trindade, I. Daniel Posen, Heather L. MacLean

#### Bio:

Tatiana is a graduate student from the Civil Engineering Department at the University of Toronto. Her most significant contributions to research have been in the fields of renewable energy, waste management, and water security in the Global South. She has a bachelor's in environmental engineering from the University of Sao Paulo, where she engaged in research projects on the evaluation of sustainability performance of renewable energy sources. Her graduate research is currently on water security in megacities in the Global South, with additional works on access to basic urban services in slums and LCA analysis of ethanol-powered and electrical vehicles.

#### Abstract:

Managing the urbanization process of megacities became a daunting challenge for governments and stakeholders, and their capacity to respond to urban water

issues has been often exceeded. To evaluate urban water security in megacities in the developing world and provide valuable insights for future water policies, plans, and projects, this paper develops a framework to assess current water-related issues from a socioeconomic and environmental perspective. While the socio-environmental aspects are assessed by a Water Insecurity Index (WII), the economic aspects are evaluated by an estimation of direct economic losses caused by flooding. This framework was applied in the assessment of a case-study in Sao Paulo, Brazil. The results emphasize the need for a better management of water runoff both in the outskirts and the centre of the city, but also bring out the importance of developing district-based policies that tackle the heterogeneous vulnerabilities of each smaller portion of a megacity.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA3

# Eating Green: The Role of Institutions at Multiple Scales

Chaired by: Josée Johnston

Day 3 | Oct. 18, 2019 | 11:00 | MN 3100





## Eating Green: The Role of Institutions at Multiple Scales

### A Food Charter as a Critical Food Guidance Tool in Rural Areas: The Case of Bruce & Grey Counties in Southwestern Ontario

- Donald C. Cole, Philly Markowitz, Laura Needham

#### Bio:

Donald C. Cole is a public, occupational, and environmental health physician, with a masters' in health research methods, and post-doctoral studies in ecosystem approaches to health. During over thirty-five years of practice (clinical and population-related), research and policy work in Canada and lower and middle-income countries, he has emphasized multi-stakeholder action research processes to change socio-ecological conditions to improve physical and mental health. He mentors, conducts research, and provides service as a consultant and emeritus professor of the University of Toronto's Dalla Lana School of Public Health.

#### Abstract:

Development of food charters can provide an opportunity for critical discussions about food, health and sustainability and

interaction with a range of stakeholders in rural areas. Alternative food initiatives can both support food charter development and be stimulated by the process. We will describe the development of a food charter in two closely associated counties in Southwestern Ontario and the alternative food initiatives and practices which are consistent with it across six domains: health, social justice, culture, education, sustainable economic development and environment. We argue that the Charter can be seen as a critical food guidance tool. It has been capable of crystalizing and facilitating key shifts at multiple levels, from regional food system policies, to food system organizations, to everyday practices by food producers, consumers, service providers and the many others involved in rural food systems. We conclude with some reflections on the constraints it faces and future opportunities.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Eating Green: The Role of Institutions at Multiple Scales

### Food Donation Tax Credits: Investigating Usage Among Farmers

- Tara Immell, Jennifer Boussetot

#### Bio:

Tara is a finance lecturer at the Beedie School of Business, bringing students' academic knowledge to life via real-world experiences. As a business case competition coach and member of the Food Systems Lab at Simon Fraser University, Tara invites students to collaboratively develop sustainable solutions to pressing topics in today's business world. Her global outlook is due to having lived in Canada, the U.S., the U.K, and Japan while working for UBS Investment Bank and Thomson Reuters. She holds a Bachelor of Arts in Mathematics and Computer Science from Northwestern University and a Master of Agriculture from Colorado State University.

#### Abstract:

From 2014 to 2016, four Canadian provinces enacted tax incentives

targeted at farmers who donate fresh agricultural products. These tax laws are described by many as a win-win-win situation for farmers, people in need, and the environment. The intention is to encourage farmers to donate healthy food to charities. Limited research examining the efficacy of these tax credits is available. This paper provides an overview of food donation tax credits in Canada and the United States and insight into tax credit utilization, taking a case study approach. Data was collected from a small sample of farmers who sell at Metro Vancouver farmers' markets and local food supporters in British Columbia, using surveys and personal interviews. Results show that farmers donate food to help people in need; and are not aware of, or motivated by, the tax credit. A low utilization rate is supported by freedom of information data requests.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Eating Green: The Role of Institutions at Multiple Scales

### Eating Well: Processes and leverage points for facilitating sustainable institutional food systems

- Chaiti Seth, Dr. Alan Warner

#### Bio:

Chaiti Seth is an environmental educator, organic farmer, and community developer. She has a Master's in Community Development, and her research focuses on identifying factors to facilitate institutional food systems change towards healthy, sustainable, and just food. She is teaching a course on Sustainable Food Systems with Acadia University's Department of Community Development.

#### Abstract:

This research identifies key processes and leverage points to facilitate healthy, just and sustainable institutional food systems, using Acadia University as a case study. It documents significant progress in shifting Acadia's food system based on participant observation over 4 years, document and procurement

data analysis, and recent interviews with diverse stakeholders. It reveals both challenges and opportunities in engaging and wrestling with corporate food service providers on the path to sustainability. Results identify collaborative vision, student engagement, organizational structure and culture, engagement with external forces, and meaningful praxis as critical components of effective change. Interventions at the institutional level have potential to address complex food system sustainability issues at multiple levels by redirecting substantial institutional purchasing power, investing in building sustainable and resilient local communities, and fostering a more conscious food culture. This research provides change makers with relevant starting points and tools for evaluating and sharing change efforts.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA4

# Far Right Opposition to Environmentalism

Chaired by: Ellen Berrey

Day 3 | Oct. 18, 2019 | 11:00 | MN 3110





## Far Right Opposition to Environmentalism



## When A Conspiracy Theory Comes to Town: The Policy Impacts of the Right-Wing Populist Movement against Sustainability Planning

- Ellen Berrey, Fatima Al-Saadie, Kristen Bass, Matthew Halsall, Ariel Minott, Henry Rhyu

### Bio:

Ellen Berrey is Associate Professor of Sociology at the University of Toronto and an affiliated scholar of the American Bar Foundation. Her work examines the crossroads of culture, racism, law, organizations, inequality, and social movements in the United States and Canada. Fatima Al-Saadie is majoring in Criminology and Sociology at the University of Toronto Mississauga. Kristen Bass is a double major in Sociology and Women & Gender Studies at the University of Toronto St. George. Matthew Halsall graduated from University of Toronto Mississauga in 2019 with a major in Criminology. Ariel Minott is majoring in Criminology at the University of Toronto Mississauga. Henry Rhyu is a Criminology specialist at the University of Toronto St. George.

### Abstract:

This paper examines the policy impacts of a right-wing populist campaign against sustainability planning in the United States, to advance a scholarly explanation of how conservative political mobilization and misinformation can impede sustainability goals. In the early 2010's, as the Tea Party movement burgeoned across the United States, some activists set their sights on local sustainability planning. White, middle class

property owners showed up at town hall meetings, mostly in rural and suburban communities, to speak out against proposed bike lines and traffic calming, much to the surprise of the planners and government representatives they confronted. While activists cited their opposition to big government, many identified an unexpected adversary: Agenda 21, a 1992 voluntary sustainable development initiative of the United Nations. From their perspective, Agenda 21 is a totalitarian, one-world government plot implemented through local land-use regulation, one that undermines American sovereignty, property rights, and Christianity. Abetted by conservative news media and online technologies, this nationalist-populist mobilization had demonstrable political impacts, including on local governance. This paper empirically examines where, when, and how anti-Agenda 21 activists succeed (or failed) in pressuring local governments to change policy, such as cancelling city and county-level plans. The paper calls for analytic attention to the field of contention, social movement strategy, and the relational production of meaning to explain how far-right politics and misinformation get legitimated and institutionalized by government.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Far Right Opposition to Environmentalism



## Rural Refractions of Ecological Instability: What the Original Redneck Fishing Tournament Illustrates About Rural Ecological Change

- Jordan Besek

### Bio:

Jordan Fox Besek is assistant professor in the Department of Sociology. He is both a theorist and empirical researcher, who primarily uses qualitative methods. His current research examines a range of topics, including how globalized social processes link up environments across the world in ways that drive political, cultural, and legal problems; the continued relevance of W.E.B. Du Bois's approach to interdisciplinarity and the application of this approach to contemporary environmental inequalities; and how sociological theory and practice can best incorporate both the power and limits of the natural sciences.

### Abstract:

In this study I examine relationships between cultural reproduction in rural, what some self-identify as "redneck"

communities, and disruptive environmental change. The illustrative core of this paper is the "Original Redneck Fishing Tournament", an annual event in rural Illinois geared toward interpreting and challenging the continued invasion of Asian carp, a nonindigenous species that has colonized many parts of the Illinois River and has disrupted cultural, political, and economic life for many rural communities. Over three summers, from 2013 to 2015, I observed, interacted with, and interviewed respondents connected to the Original Redneck Fishing Tournament, attending the tournament in 2013 and 2014. Results indicate that via an interactive mix of (discursive) rural ethos of self-sufficiency, rural / urban politics, and local ecosystem embeddedness, disruptive environmental change here reinforces existing forms of cultural reproduction, which is only at times identified as "redneck".

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Far Right Opposition to Environmentalism



## Ontario's Left to Right Conservation Pendulum Swing and its Impacts on Environmental Conservation

- Tom Hilditch

### Bio:

Tom is an environmental professional with 38 years of experience in Impact Assessment, Mitigation Planning and Design and Ecological Planning. He has led hundreds of environmental assignments ranging from: coastal zone and regional landscape planning; to major resource and infrastructure project impact assessments; to site-specific studies development. Tom is known for his positive and collaborative approach to projects and his interest in reaching practical and meaningful outcomes.

### Abstract:

When considering environmental conservation, it's important to understand the wider political context. Before 2003, Ontario's government shifted amongst Liberals, New Democrats and Conservatives. In 2003, the Liberals took

power and held that position for about 15 years, before the recent election of a conservative government. During the Liberal period, there was a proliferation of environmental rules. The application of these tools did not necessarily result in sustainable nor balanced outcomes. Decisions under the Provincial Policy Statement (PPS) frequently leaned left, away from potentially balanced and/or sustainable outcomes. Under the conservative government the ground is shifting to the right of center. The public sector is being affected by deep cost controls and by mandate adjustments. ENGOs that were once more connected with power are in unsettling territory. This presentation will address some of the current positive and negative shifts and will speak to reducing the pendulum effect in environmental conservation.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA5

# Economic Perspectives of Sustainability

Chaired by: Pierre Desrochers

Day 3 | Oct. 18, 2019 | 11:00 | MN 2100





## The Political Economy of Media Streaming: An Analysis of Environmental and Economic Sustainability

- Vincent Manzerolle and Leslie Meier

### Bio:

Vincent Manzerolle is an assistant professor in the Department of Communication, Media and Film at the University of Windsor. His research focuses on the political economy of digital media. He is the co-editor of *The Audience Commodity in a Digital Age* (Peter Lang, 2014) and *Mobile and Ubiquitous Media* (Peter Lang, 2018). He is currently working on a book project for Routledge entitled *Ubiquitous Connectivity and the Virtual Workplace*.

Leslie M. Meier is a lecturer in Media and Communication at the University of Leeds. Her research focuses on: the cultural industries with a specialisation in the music industries; promotional culture and consumer society; and digital media and the environment. She is the author of *Popular Music as Promotion: Music and Branding in the Digital Age* (Polity, 2017).

### Abstract:

The focus of this paper is the seemingly invisible infrastructure that powers modern streaming practices. We examine the

political economy of the data server and the cloud computing sectors, focusing on the environmental implications of reliance on resource-intensive data centres and server farms. In so doing, we highlight the antagonism between models of economic and environmental sustainability. Building on Harvey's concept of 'flexible accumulation,' we develop the notion of 'platform accumulation' to conceptualise the changes that have accompanied the rise of platforms and the streaming infrastructure that underpins them - shifts we understand as an acceleration and intensification of neoliberal reconfigurations of capitalist systems of production and consumption. In this era of high-def streamable video content and video advertisements the infrastructure that drives the smooth functioning of on-demand, 'always on' content is playing a defining role in the digitalisation of the media industries. Our goal is to better understand the ecological costs associated with this increasingly indispensable digital infrastructure.



## Cleaning Up the Commons for a Profit: Insights from the History of By-Product Development in Early Cotton & Petroleum Industry

- Pierre Desrochers and Joanna Szurmak

### Bio:

Pierre Desrochers is an Associate Professor of Geography at the University of Toronto Mississauga. His main research interests focus primarily on economic development, technological innovation, business-environment interface and energy and food policy. His website is at <http://geog.utm.utoronto.ca/desrochers/>

Joanna Szurmak is a research services and liaison librarian at the University of Toronto Mississauga (UTM) Library where she works with the Psychology and Anthropology departments and the Robotics and Forensic Science programs. She is also doctoral candidate in the Graduate Program in Science and Technology Studies at York University. Her website is at <http://sites.utm.utoronto.ca/szurmak/content/joanna-szurmak>

### Abstract:

Elinor Ostrom is known for her analysis

of how economic actors can successfully manage local commons (irrigation, fisheries, forests, pastures) without oversight from political or regulatory authorities. This paper / presentation will highlight some of her key insights with historical case studies illustrating how ecological damage from lucrative agricultural or extractive activities was often spontaneously remedied through the creation of valuable resources out of polluting emissions and residuals. The two case studies based on American industrial history - the development of valuable by-products out of the highly polluting cottonseed and petroleum refining residuals - will give detailed insights into the Ostromian dynamics. The paper will extend Ostrom's insights beyond the local commons, making the case that the solutions to local problems in such contexts typically required the development of increasingly sophisticated and geographically spread out markets.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Lake Chad's households: Capital growth or stagnation?

- [Jake Organ](#)

### Bio:

Jake Organ is a PhD Candidate in the field of Development and Environmental Economics. He specializes on the effects of the changing weather patterns on the African Sahel, particularly Chad. Though, initially drawn to look at how the changing weather patterns affect migration, his dissertation looks at drivers of demographic growth in Chad. Jake is originally from the UK but moved from the Middle East to start a PhD at the University of New Mexico, Albuquerque. He is multilingual and has taught Spanish and Arabic at UNM, as well as mastering a large body of Francophone literature on Chad.

### Abstract:

In this paper we conceive the community living directly off Lake Chad as a series of small households. The households can use the Lake's water and resources for a mixture of subsistence activities and/or commercial activities. We build an optimal control model that finds an optimal path over time where

households can move towards increasing commercial use of the Lake's water and resources, leading to the build-up of household capital and commensurate lowering of the population growth rate. However, when households use the Lake's resources to develop their household capital, there will be a tendency to drain the Lake and its resources. This then becomes a classic 'common-pool resource problem' as described by Nobel laureate Elinor Ostrom and would need a new framework of analysis. Using Ostrom's framework; we look at how an optimal path where households move to commercial activity, population starts to decrease, and the Lake's resources are preserved through Ostromic bargaining, can be achieved. Using data from the Cameroon shore of Lake Chad, we describe where Ostrom's principles are working and look at how her design principles could be implemented in other parts of the Lake community.



Themed Session - CA6

# Sustainability in Urban Areas

Chaired by: Marc Johnson

Day 3 | Oct. 18, 2019 | 11:00 | MN 2130







## Transitions to Sustainability in Peri-urban India: Using Adaptive Pathways to cope with vulnerability and build resilience

- Sharlene L. Gomes, Leon M. Hermans

### Bio:

Sharlene L. Gomes is a post-doctoral researcher at Delft University of Technology, Netherlands. Her research focuses on water policy issues in the global south related to urbanisation. She has worked on trans-disciplinary projects in South Asia. Presently, in the H2O-T2S project, the use of the adaptive pathways approach is being piloted in peri-urban areas of Pune, Hyderabad, and Kolkata (India) to help stakeholders build resilience and adaptive capacity to water related vulnerabilities during urban transitions. During her PhD, Sharlene developed the Approach for Participatory Institutional Analysis to help stakeholders structure and explore solutions to water-related issues using an institutional lens.

### Abstract:

Water insecurity is affecting peri-urban areas of Pune, Hyderabad, and Kolkata cities (India). Peri-urban areas are where the rural to urban transition is clearly visible in land

use, economic activities, and population. The dynamic nature of this context and future uncertainty requires an adaptive approach to water management. Underlying institutions, defined as societal rules for interaction and decision-making, play an important role in this regard.

This study identifies sources of water related vulnerabilities in these three peri-urban contexts. The adaptive capacity of the system to cope with these vulnerabilities is analysed with regards to the underlying institutions. Insights on these existing transformative pathways are integrated into a series of participatory workshops designed around the adaptive pathways approach. Peri-urban stakeholders (e.g. government agencies, local communities) will co-develop future transformative pathways towards sustainability and resilience. The study offers insight into the application of adaptive pathways in peri-urban contexts of the global south.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Urban and Municipal Sustainability Science, Multidisciplinary, Urban Dev of Contaminated Industrial Sites

### - Mark Hengen

#### **Bio:**

Mark Hengen integrates theory into practice and natural science with socio-political frameworks. His work has focused on innovative urban sustainability strategies in NYC as an urban ecologist (e.g. urban nature restoration, urban forests). Building upon "social" ecology pursuits at Yale's School of F&ES, urban planning expertise, and political process involved in EU sustainable chemical policies at Northeastern, he currently analyzes creative solutions targeting ecological just sustainabilities at the neighborhood level. Present projects: restaurants' role in sustainable food systems, integrating health/housing determinants with urban ecological restoration, and revealing the political economic drivers and urban social-environmental processes of land use change.

#### **Abstract:**

Sustainability leaders of cities transform past manufacturing areas into viable areas integrating economic activity with functional urban ecologies. Many cities share a distressing past of an overwhelming number of unnoticed contaminated industrial site. Local economies, people's health,

property values, and political power suffer. However, former polluted facilities can be revitalized into functioning socio-environments. Power elites and the social forces of political progressives can lead to gentrification of highly visible lots. Less attractive sites lack political agency because of nonexistent inhabitants. Less appealing neighborhood sites remain ignored while redevelopment regulatory processes follow a least costly method of remediation. Residents and small business owners do realize the local health risks. Universities can initiate steps towards energizing neighborhood. Transdisciplinary sustainability analytical processes of interdisciplinary groups can investigate human-nature landscape relationships and potential economic values of preferred environmental services. The analysis pinpoints the strengths and weaknesses of ecological viability, environmental health and economic drivers. A case study approach (Toronto developer) and engagement with political actors reveals potentials of urban landscapes, the power behind redevelopment, preferences of progressive philanthropists, and values of political development elites.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## West Bolton Sustainable Neighbourhood Action Plan (SNAP) – An Example of a Collaborative Approach to Urban Renewal at the Neighbourhood Scale

- Justyna Braithwaite, Victor Perez-Amado, Liat Margolis, Sonya Meek

### Bio:

Justyna Braithwaite works as a Coordinator of the Sustainable Neighbourhoods Group at the Toronto and Region Conservation Authority. Since joining TRCA, Justyna has been working on advancing sustainability at the neighbourhood level through Sustainable Neighbourhood Action Program projects. She currently supports the development and implementation of a SNAP in the Town of Caledon working in collaboration with municipal, community and private sector partners. Her efforts have also been focused on fostering local engagement through various locally-relevant projects. Previously, Justyna worked at RiverSides coordinating initiatives to raise awareness around urban stormwater issues and advance implementation of Low Impact Development solutions on residential properties.

Victor Perez-Amado is an Assistant Professor of Architecture and Urbanism at the University of Toronto, he holds a Master of Architecture and a Post Professional Master of Architecture in Urbanism from the Harvard University Graduate School of Design. Victor is a Principal Investigator on two research projects. First, an investigation of long term care affordable facilities in the GTA, and a two-year collaboration with the Toronto Region and Conservation Authority - Sustainable Neighbourhoods Action Program putting together a sustainable Action

Plan for West Bolton Ontario. Most recently, Victor has worked on different public art installations, where he explores materiality and community engagement.

### Abstract:

Established in 2009, the Sustainable Neighbourhood Action Program (SNAP) of Toronto and Region Conservation Authority (TRCA) is a collaborative, neighbourhood-based approach for advancing urban renewal and climate action in older urban areas. The program seeks to help municipalities implement sustainable initiatives in the public and private realms. Finalized in 2019, the West Bolton SNAP is the newest Action Plan and it was developed in close partnership with the Town of Caledon and Region of Peel as well as the local community. West Bolton SNAP is a comprehensive plan for neighbourhood revitalization that integrates various municipal and TRCA sustainability objectives. In order to develop new ecologically sustainable, artful and culturally stimulating spaces, the West Bolton SNAP team partnered with the UofT Daniels Faculty of Architecture, Landscape and Design. Under the lead of faculty professors, an interdisciplinary team of graduate students helped develop the creative concepts and drawings for the Action Plan.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## A transdisciplinary approach for livable and sustainable cities: towards a compromise between air quality and climate change

- Camille Payre, Darby Jack, Patrick Kinney, Elise Nimal, Guillaume Bardeau, Samuel Thiriot

### Bio:

Camille Payre (Ph.D., Ing) is a researcher in the field of environment and health, at the European Institute for Energy Research since 2009. Her work concerns environment and health quality, impacts and external costs assessment, with a focus on cities.

After a master's degree in Chemistry and Process Engineering, specialty Environment (French Ingénieur, School for Chemistry, Physic and Electronic CPE Lyon; Lyon, France) and a master's degree in public health (French Ingénieur du génie sanitaire, EHESP School of Public Health; Rennes, France), she defended her Ph.D. (economical sciences, Université Paris 1 Panthéon-Sorbonne, Paris, France) on the monetary valuation of health.

### Abstract:

Air pollution is an established concern in cities because of its impacts on health, with two major urban sources: traffic and energy

production.

An integrated modelling approach was developed to assess consequences of urban planning on air quality and inhabitants' health. An international team of energy engineers, mobility experts, researchers in environment and health, and involving local stakeholders, applied this method on two cities located on both sides of the Atlantic, Strasbourg and New York City. Despite differences in context and scenarios, similarities emerge. Decreasing local classical air pollutants expositions with technologies such as electrical vehicles and out-of-town's power plants improves inhabitants' health. However, well-being and health would still be threatened by climate change's consequences, due to greenhouse gases emitted by these technologies.

These studies, in spite of the many difference in both context and objectives to be reached, highlight that a common systemic approach can be successfully implemented.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CA7

# Migration, Diversity, and Justice in Sustainable Organizations

Chaired by: Soo Min Toh

Day 3 | Oct. 18, 2019 | 11:00 | MN 3120



## Migration, Diversity, and Justice in Sustainable Organizations



### Migrants' Labour Market Integration Through Online Discussion Forums

- [Daniel Gulanowski, Luciara Nardon](#)

#### Bio:

Daniel Gulanowski is an Assistant Professor of Management and International Business at Carleton University in Ottawa, Canada. His research focuses on newcomers' adjustment and labour market integration, computer mediated communication, technology use for work integration, and internationalization. His publications in these areas include articles in the International Journal of Intercultural Relations, Review of International Business and Strategy, and Journal of International Technology and Information Management. Daniel is currently working on projects examining the role of knowledge exchange through online platforms, such as forums and blogs, in newcomers' adjustment and integration in the Canadian labour market.

#### Abstract:

With growing worldwide competition for talent, attracting and retaining migrants

is key for organizations and receiving countries. Migrants represent a critical part of the talent pool for organizations and can bring new skills and knowledge of foreign markets, cultures and opportunities, as well as boost the receiving country's overall talent pool and economy. However, these benefits are only attained when migrants are fully integrated in the labour market. Lack of relevant local knowledge is one of the key challenges in migrants' labor market integration. This study explores the phenomenon of increased use of online discussion forums by migrants to Canada to access labour market knowledge through an inductive qualitative content analysis of 574 discussion threads. Results of this study suggest that online forums facilitate continuous access to and exchange of knowledge resources, in the form of information and advice support, which can help migrants with adjustment and labour market integration.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Migration, Diversity, and Justice in Sustainable Organizations

### Reward Management in International Non-Government Organizations: A Values-Based Approach

- Ishbel McWha-Hermann, Jakov Jandric, Emily Cook-Lundgren, Stuart Carr

**Bio:**

Ishbel McWha-Hermann is an EC Fellow in IHRM at the University of Edinburgh Business School, UK. She has a particular interest in issues of social justice and diversity, and the application of work and organisational psychology to international development contexts. Ishbel studies reward in international NGOs and its role in the success of capacity development and poverty reduction initiatives. She was a founding member of the Global Task Force for Humanitarian Work Psychology, inaugural Chair of the Global Organisation for Humanitarian Work Psychology (GOHWP) and is a SIOP Representative to the United Nations' Economic and Social Council (ECOSOC).

**Abstract:**

Non-profit organizations are driven to address global grand challenges like poverty and inequality through their everyday work, however relatively little is known about how

their global reward management practices reflect these underlying organizational values. Drawing on data from 15 case study organizations, this paper critically examines how reward is structured in international non-governmental organizations (INGOs), and why. Findings show an overarching commitment to values-based reward, which manifests in a variety of approaches to structuring reward. We further identify a constant tension between striving to align reward with social values while maintaining competitiveness within the sector. This research responds to the call for empirical exploration of global reward in non-traditional contexts, extends research on values-based human resource management internationally, and provides evidence for three principles through which reward is reconceptualized in INGOs: redefining the expatriate workforce, redefining reward beyond monetary compensation, and connecting reward to jobs not people.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Migration, Diversity, and Justice in Sustainable Organizations

### China's Migrant Workers: The Blind Spot on its Sustainability Policy Agenda

- [Marina Schmitz](#), Haden G. Cosman

**Bio:**

Marina Schmitz works as a Research Associate and Lecturer at the Center for Advanced Sustainable Management (CASM) at the Cologne Business School. She also works for M3trix GmbH as Director of Analytics in various consulting projects on the topic of sustainability and transformation of business models. After graduating at the University of Trier in Business Administration and Sinology, she worked as a Research Associate at the Chair of Human Resources Management and Asian Business at the University of Goettingen. Her dissertation deals with the voluntary labor turnover phenomenon of Chinese migrant workers.

**Abstract:**

The Chinese Communist Party has focused their policies on environmental sustainability to reduce the damage that has been done in exchange for continuous economic growth during the past decades. However, it seems that another factor of the triple bottom line, the social aspect, has been neglected so far. In this conceptual paper, we want to examine which advancements have been made regarding the working conditions of the 280 millions of migrant workers to whom China owes its economic well-being and investigate the exclusive dynamics this population strata is suffering from.





Themed Session - CBI

# Carbon Emissions and Trading Schemes

Chaired by: Jody Grewal

Day 3 | Oct. 18, 2019 | 13:30 | MN 2100





## Carbon Emissions and Trading Schemes

### Disclosure of emerging trends: Evidence from Climate Change Business Opportunities

- Jody Grewal

**Bio:**

Jody Grewal is an Assistant Professor of Accounting in the Department of Management at the University of Toronto, Mississauga and the Rotman School of Management. In her research, Jody studies market and non-market forces that shape corporate disclosure and investment. She examines the capital market effects and real effects (i.e., changes in behavior through investment and use of resources) of financial and sustainability information disclosed voluntarily and under mandatory reporting regimes. Jody's research is forthcoming in leading journals such as Management Science. Media outlets including the Wall Street Journal and Bloomberg have covered her work. Jody has a Doctorate from Harvard Business School, a Master of Accounting and Bachelor of Accounting and Financial Management from the University of Waterloo, and is a Chartered Professional Accountant in Ontario.

**Abstract:**

Responding to social, technological and environmental trends can be critical to

firm survival and competitiveness. I use the development and sale of low-carbon products in response to the business opportunities that arise from climate change ('green opportunities') as the setting to study firm disclosures of emerging trends. I find, on average, firms delay disclosing green opportunities in their 10-K until 2.5 years after disclosing green opportunities in their sustainability report. Despite both disclosure channels providing reliable information about future revenues from low-carbon products, withholding disclosure from the 10-K has capital market implications. A value-weighted portfolio of firms disclosing only in the sustainability report earned an annual alpha of 3.09%, while a portfolio of 10-K disclosers does not earn abnormal returns. Moreover, disclosing only in the sustainability report is accompanied by positive forecast errors and earnings announcement returns. I find that firms disclose more promptly in the 10-K when green revenues are higher, when there is less uncertainty about future green revenues and when there is greater shareholder support for climate change resolutions.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Factors Determining Forest Products Companies' Intension to Participate in Carbon Emission Trading

- Ning Li, Haibin Zhang, Lei Wang, Eric Hansen, Wil De Jong

### Bio:

Ning Li received her BBA, MSc. and Ph.D. degrees from University of Helsinki, Finland. She joined Zhejiang Agriculture & Forestry University in 2017, where she is currently a Distinguished Professor of business administration.

Her main areas of research interest are corporate sustainability, ecological innovation, and international business.

### Abstract:

In December 2017, China launched a domestic emission trading system (ETS) as a more cost-effective, market-based and internationally compatible mechanism for emission reduction. Companies in China appear to show little enthusiasm for participation at present. Although such disparity between strong incentive policies and unsatisfactory participation has drawn growing attention from

scholars, few studies have investigated the determinants of company participation. This study aimed to observe whether company participation can be formulated and explained in terms of necessary and sufficient conditions. We used a sample of 230 self-reported questionnaires obtained from an industry survey in China, and applied Fuzzy-set qualitative comparative analysis (fsQCA) to test the propositions established in the conceptual framework. Our preliminary results show that legal compliance, environmental & energy strategies, cost reduction & energy efficiency, and enhanced competitiveness appeared in the patterns that lead to higher levels of participation. No isolated conditions were sufficient to achieve a higher degree of participation. All casual paths had acceptable levels of consistency and high levels of raw coverage.



## Estimation of Fuel wood-induced Carbon Emission from the use of Improved Cook Stoves by selected Households in Kwara state, Nigeria

### - Innocent Onah

#### **Bio:**

Dr. Innocent ONAH is a Sustainability Expert interested in the intersection between sustainable business investments, governance of natural resources, climate change and Green Growth. He is a Consultant at the African Development Bank, mainstreaming climate change and green growth considerations into Bank's lending and non-lending operations. He served as Special Assistant to the President of the Senate of Nigeria and Director of the Nigerian chapter of the Global Legislators Organisation for a Balanced Environment. He holds a Ph.D in Environmental Resource Management; an MSc. in Agricultural Sciences and Resource Management; and a BSc. in Agriculture (Economics); from Nigeria and Germany.

#### **Abstract:**

Over 170 per cent of the Nigerian

population is dependent on traditional fuels such as biomass for cooking, and an estimated 295,000 women die annually as a result of exposure to smoke from the use of fuel-wood for cooking. As a result, a 4 year project called National Assembly Intervention on Clean Cooking Initiative (NAICCI) was implemented in 2014, promoting climate technological solutions that could reduce carbon emissions and reduce forest degradation. My study estimated the fuel-wood induced carbon emission reduction of NAICCI from 322 randomly selected households and found out that 8.6 tonnes of carbon emission (CO<sub>2</sub>) per capita per year was reduced for the period under review. For fuel-wood induced carbon emissions to be sustainably reduced and eliminated over time, enforcement of prevention of illegal logging to prevent indiscriminate deforestation is necessary.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Chinese Business at the Dawn of its Emission Trading Scheme (ETS): The Case of Forest Products Industry in China

- Ning Li, Yining Wang, Lei Ang, Eric Hansen

### Bio:

Ning Li received her BBA, MSc. and Ph.D. degrees from University of Helsinki, Finland. She joined Zhejiang Agriculture & Forestry University in 2017, where she is currently a Distinguished Professor of business administration.

Her main areas of research interest are corporate sustainability, ecological innovation, and international business.

**Abstract:** China is at the early stage of implementing its domestic carbon emission trading scheme (ETS). Drawing upon the grounded theory and institutional theory, this study aimed to investigate managerial cognition of carbon trading and the incentives and barriers towards participation. Semi-structured interviews were conducted with 22 top managers from the leading forest products companies in China. Our preliminary results indicate that at present the real values of carbon

trading have not been recognized and accepted by the Chinese companies. Most companies lack scientific knowledge about carbon trading, thus holding a wait-and-see attitude. The imperfect regulations and incomplete carbon trading system were identified as the main cause of unsatisfactory participation. Pressures from external stakeholders (i.e. government, industry, consumers, and competitors) played an important role in companies' participation, whereas internal factors (i.e. estimated economic benefits, corporate environmental awareness, corporate image, level of mitigation technology, social responsibility) were relatively weak predictors. Apart from regulation and policy, dialogue and communication with companies should be strengthened to develop a better market climate and enhance companies' confidence to participate in carbon trading.



Themed Session - CB2

## Moving Toward More Sustainable Cities through Transdisciplinary Perspectives: Global North and South Outlooks

Chaired by: Heather MacLean

Day 3 | Oct. 18, 2019 | 13:30 | MN 2190





Moving Toward More Sustainable Cities through  
Transdisciplinary Perspectives: Global North and South Outlooks

## Cultivating Place: A Socio-historical Analysis of Community Garden Planning in Seattle

- Charlotte Glennie

### Bio:

Charlotte Glennie is a sociology PhD candidate at the University of California, Davis. She studies sustainable urban transformations with a focus on political economy, social movements and food systems. Building off the work presented at STTPA, her dissertation research compares the efforts to integrate community gardens into urban planning frameworks in three US cities.

### Abstract:

How does culture influence the political economic processes shaping cities? Socially rich but unprofitable land uses, such as community gardens, create a tradeoff between quality of life and maximal rents. To understand how sustainable but less profitable land uses can prevail in development conflicts, I

examined documents and interviewed advocates for Seattle's P-Patch program, which secured virtual permanence for its publicly-owned garden sites. My historical analysis shows that the P-Patch advocates, endowed with significant cultural capital, appealed to notions of Seattle's place character and leveraged the city's legal-policy infrastructure to institutionalize community gardens within Seattle's urban planning framework. The gardens serve a wide constituency, including many low-income and minority residents, but as neighborhood amenities signifying green living, they also contribute to gentrification. My findings suggest that residents can leverage culture and local character to protect use-value, but equity is far from inherent to this process and therefore requires deliberate consideration.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Moving Toward More Sustainable Cities through  
Transdisciplinary Perspectives: Global North and South Outlooks

## A Policy Mix Analysis on Energy Efficiency Policies Pertaining to Buildings in Toronto and Calgary

- John Lau

### Bio:

John is a recent graduate of York University's Masters in Environmental Studies program. He holds an undergraduate degree in Law and Society, also from York University. His recent experiences include supporting Friends of the Earth Canada as a Researcher, where he investigated international environment- and energy justice- related matters. He was also an Intern at Natural Resources Canada (NRCan), where he supported the analysis and implementation of federal clean energy initiatives. He is currently leading the Government of Canada's Pan-Canadian Framework Energy Ministers' Progress Report as an Energy and Environment Policy and Research Analyst at NRCan.

### Abstract:

Strengthening energy efficiency is a vital and cost-effective strategy for reducing energy use in the buildings sector, which

accounts for 17% of Canada's greenhouse gas emissions. Public policies are a crucial tool for stimulating energy efficiency improvements in buildings. This paper performs and discusses the findings of a policy mix analysis on the mix of energy efficiency policies that pertain to buildings in the Canadian cities of Toronto and Calgary. A policy mix analysis examines the interactions between policy instruments and is premised on the idea that these interactions alter individual policy outcomes and generate cumulative outcomes. Using an original dataset of 91 energy efficiency policies, 78 unique policy interactions are analyzed within the energy efficiency policy mixes that pertain to buildings in Toronto and Calgary. These interactions are based on 10 unique policy characteristics, including policy time horizon, policy type, target actor, and target building sector and type.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





## Moving Toward More Sustainable Cities through Transdisciplinary Perspectives: Global North and South Outlooks

### Decisions on Energy Supply and Sustainability: Opportunities and Challenges for Existing Urban Areas

- Jennifer McKellar

#### Bio:

Dr. Jennifer McKellar is an Associate Professor in the Faculty of Energy Systems and Nuclear Science at Ontario Tech University (formerly the University of Ontario Institute of Technology). Her research focus is on the techno-economic and environmental assessment of energy systems. Her goal is to contribute to the development of sustainable energy systems by developing analytical tools in support of decision- and policy-making. Dr. McKellar's research group works in areas including alternative fuels, nuclear power and changes to the Ontario grid mix. Dr. McKellar holds degrees in Chemical and Civil Engineering and is a Professional Engineer in Ontario.

#### Abstract:

Energy supply and use are intrinsically linked to the concept of sustainability. Their improvement represents a key opportunity

for increasing the sustainability of an urban area, but that improvement is also one of the greatest challenges facing decision-makers at multiple levels. In existing urban areas in North America increasing the sustainability of energy supply includes mitigating negative environmental impacts, maintaining (or improving) affordability, and increasing resiliency. The resiliency component is becoming more important as more frequent extreme weather events overwhelm existing, and often aging, infrastructure. This work will examine options for achieving sustainability objectives, as well as identify some of the key motivators, facilitators and impediments to change. The objective is to identify actions or strategies that may enable decision-makers to improve energy supply sustainability. While improving energy supply is a large opportunity for increasing urban sustainability, its complexity also makes it one of the most challenging.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## The Stocks and Flows of Construction Materials in the Region of Waterloo

- Aida Mollaei, Nadine Ibrahim, Komal Habib

### Bio:

Aida Mollaei is a master's candidate in sustainability management at the University of Waterloo. She started her studies in 2018. She is also a part of the industrial ecology cluster at the faculty of environment. As her background is in civil engineering, she has attempted to combine the two areas of study in her research, and is hoping to contribute to developing more sustainable cities by this means. She has coped with some challenges as an international student but is very much enjoying Canada so far.

### Abstract:

Material consumption in cities is increasing at a fast rate to accommodate the needs and activities of rapidly growing urban populations. Specifically, the construction sector is a major

contributor of material consumption globally. Knowing the types and amounts of construction materials used historically helps shape the development of resource and waste management strategies for the future, and makes future projections of material stocks possible. This research aims at measuring the "weight of cities," i.e. amount of construction materials embedded in the residential and commercial buildings in the Region of Waterloo, as it is among the fastest growing urban areas in Canada (growth rate is 5.5%/yr), exceeding both provincial and national growth rates. By developing a map of the construction materials distribution in the region, the findings will provide insight to the city planners and engineers for future decision-making related to efficient resource management. This paper will present preliminary results.



Themed Session - CB3

# Eating Green: Growing a Culture of Sustainable Food

Chaired by: Josée Johnston

Day 3 | Oct. 18, 2019 | 13:30 | MN 3100





## Eating Green: Growing a Culture of Sustainable Food

### Growing Green and Eating Clean? Tensions Between Producer and Consumer Perspectives in the Creation of a Climate-friendly Food System

#### - Bryan Dale

##### **Bio:**

Bryan Dale completed his PhD in Human Geography at the University of Toronto. His research draws on political ecology/ political economy methodologies and theories, and focuses on the connections between climate change mitigation, food sovereignty, and agroecology. While his Master's research analyzed La Vía Campesina's international organizing on these issues, his doctoral work focused on the Canadian context. Dale is interested in scholar-activism, and he has published/ co-published in journals such as the Journal of Peasant Studies, Sustainability, and Agriculture and Human Values, and in edited volumes. He has taught at Ryerson University and the University of Toronto.

##### **Abstract:**

With the vast majority of Canadians not being involved in food production, there is a significant information asymmetry in

terms of what goes on in agriculture. Yet there is considerable potential for different consumption patterns to contribute to a more sustainable food system in terms of reduced GHG emissions. Based on interviews with farmers from Ontario and Quebec, I discuss their perspectives on climate-friendly food production and their interactions with customers. I review the tensions that are apparent with regard to many consumers choosing to support ecological farming primarily due to a preference for healthy/'clean' eating; while, at the same time, there is a trend of individualized approaches to ostensibly climate-friendly diets, including veganism, that do not align with the realities of ecological agriculture. In this context, I argue that political education is required if Canadians are to confront a food system that is not only industrial, but also capitalist.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Eating Green: Growing a Culture of Sustainable Food

### Green and Healthy

#### - Sarah Elton

##### **Bio:**

Sarah Elton is an assistant professor in the Sociology Department at Ryerson University. She researches food systems and health in the context of climate change and most recently has considered these topics in food-producing gardens in Toronto. Sarah also is exploring the implications of posthumanist theory for thinking about food systems and health. She is the author of several books including *Consumed: Food for a Finite Planet*.

##### **Abstract:**

Recent reports, including the EAT-Lancet Commission on Food, Planet, Health, identify plant-based foods as central to a climate-friendly diet and also a way to address what they label the obesity crisis. But in calling for these dietary

shifts, little attention is paid to food production systems. Conversely, while the alternative food system discourse deals with production, often health is not addressed directly. I draw on the ecological determinants of health to articulate a full-system approach to healthy food. The ecological determinants of health (EDoH) is a newer concept in public health that articulates the interdependence between human health and ecological systems. I argue that using these determinants to assess the health value of food ensures that the entire food system is considered in terms of its impact on individual, community and planetary health. Also, considering the role of nonhuman nature in the production of healthy food leads to questions about justice along the food chain.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Eating Green: Growing a Culture of Sustainable Food

### Can Dietary Guidelines Advance Ecological Sustainability?

#### - Barbara Seed

##### **Bio:**

Dr. Barbara Seed - a Registered Dietitian with a background in public health - led the development of the first dietary guidelines in Qatar in 2013, one of the first in the world to include sustainability principles. Barbara has since been working to advance the concept of integrating sustainable, healthy diets within dietary guidelines, as a lecturer and webinar speaker across Canada, publishing in peer-reviewed journals, and as a member of the Dietitians of Canada Sustainable Food Systems Leadership Team. In 2016, she wrote a background paper for Health Canada exploring the integration of environmental sustainability principles into dietary guidance.

##### **Abstract:**

More than 100 countries across the world use national dietary guidelines to promote population health. Dietary guidelines have begun a transformation over the last

decade, where a small number of countries now incorporate ecological sustainability principles. Among these principles, a movement toward plant-based diets is paramount, as well as recommendations such as decreasing processed foods and waste, and choosing eco-certified fish. Dietary guidelines, such as the Canada Food Guide, are often assumed to be used primarily by individuals and families, when perhaps their greatest impact occurs when they are applied to population based public health policies such as menu planning (e.g. daycares, senior homes) and food labelling regulations.

This session will examine how different countries have incorporated sustainability into their guidelines, and explore the possibilities of how dietary guidelines could advance integrated, comprehensive food policy, where human and ecological health are priorities in determining agricultural policy.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Eating Green: Growing a Culture of Sustainable Food

### Critical Food Guidance: Eating Toward Meaningful Change

#### - Jennifer Sumner

##### **Bio:**

Jennifer Sumner is a Lecturer in the Adult Education and Community Development Program of the Ontario Institute for Studies in Education at the University of Toronto. Her main research interests focus on food and food systems, sustainability, critical pedagogy, the social economy and rural communities. She is the author of *Sustainability and the Civil Commons: Rural Communities in the Age of Globalization* (2007, University of Toronto Press), editor of *Learning, Food and Sustainability: Sites for Resistance and Change* (2016, Palgrave Macmillan), and co-editor of *Critical Perspectives in Food Studies* (2nd edition 2017, Oxford University Press).

##### **Abstract:**

Critical food guidance involves a multi-faceted approach to eating that moves beyond personal health and aims to link the food we eat with the sustainability of the world around us. It not only analyzes the current environmental, social and economic crises associated with industrial food production and consumption, but also investigates solutions that support people working in the food chain, animal welfare, public health and environmental integrity. As such, critical food guidance represents an overarching framework for positive behaviour change that combines healthy eating patterns with more sustainable food systems.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CB4

# Floods, Storms, and Sustainable Management of Water

Chaired by: Harvey Shear

Day 3 | Oct. 18, 2019 | 13:30 | MN 2130







## Floods, Storms, and Sustainability Management of Water

### Exposure, Impacts and Coping with Flood Events in Western Amazonia: Lessons from the 2011 Flood Along the Ucayali River, Peru

- Jennifer Langill, Christian Abizaid, Oliver T. Coomes, Yoshito Takasaki

**Bio:**

Dr. Abizaid is an Associate Professor of Geography and Environmental Studies at the University of Toronto. Prof. Abizaid is a human-environment geographer with an interest in the livelihoods of peasant and indigenous peoples in tropical forest regions of Latin America. He is particularly interested in traditional resource use practices, floodplain dynamics and riverine livelihoods, environmental shock vulnerability and social networks in agrarian societies.

**Abstract:**

The Amazon basin is experiencing increasing extremes in the annual flood cycle, caused by global and regional environmental change. Research to date has documented the devastating effects of floods and droughts on households, and their responses and coping strategies. Most studies, however, focus on a small number

of communities, often located close to each other, providing limited insight on how flooding is experienced in different parts of the basin. This paper examines differential exposure, coping and responses with the 2011 flood—the largest flood in two decades—along the Ucayali River. We draw upon regression analyses of large-scale community and household survey data from the Peruvian Amazon Rural Livelihoods and Poverty Project (PARLAP) (n=1813 households across 110 communities) to examine the role of community and household level factors in shaping exposure, impacts and coping with the 2011 flood. We identify the most common household impacts of and responses to flooding across the Ucayali River Basin, and how greatly these experiences vary between households. Extrapolating these findings within the broader Amazonian context, we discuss multi-scalar inequalities in flood exposure and access to coping mechanisms.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Floods, Storms, and Sustainability Management of Water

### Deliver of State and Non-state Social Protection Instruments and Services Post Tropical Storm Erika in Dominica – A Spatial Analysis

#### - Esther Lambert

##### **Bio:**

Esther Lambert is a Ph.D. Candidate in the Department of Geography and Planning and the School of the Environment. Esther's graduate work over the last 6 years focused on climate change and social protection programmes in Caribbean Small Island Developing States (SIDS). In particular, she explored the wide range of social protection instruments, services and providers (to include informal arrangements) involved in the provision of post disaster response and recovery on the island of Dominica after Tropical Storm Erika.

##### **Abstract:**

Discussions around social protection (SP) are steeped in its ability to serve as a buffer (against shocks) to vulnerable groups. The SP and development literature provides a comprehensive suite

of those SP resources, such as shelter, relief items, cash transfers, psychosocial support and search and rescue delivered by state and non-state entities like community-based organizations and family. Few studies within the climate disaster response and recovery literature investigate the wide array of actors involved in the delivery of SP goods and services across geographic locations—something which would reveal underlying inequalities and disaster risks shaped by location. This paper explores this for a sample of 191 households in 4 Dominican communities impacted by Tropical Storm Erika in 2015. More comparative studies like this will reveal disaster risk factors that place some communities at greater risk and assist developing countries seeking more efficient delivery of disaster goods and services.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Floods, Storms, and Sustainability Management of Water

### The Four-Pillar Approach towards Sustainable Water Management

- [Romila Verma](#)

#### Bio:

Dr. Verma lectures on water management and environmental science in the School of the Environment and Department of Geography at the University of Toronto. She is the founder of Water Speaks, an organization committed to advancing the voice of water through research, education and action. [www.waterspeaks.org](http://www.waterspeaks.org) She is also the Founding Director of Trans Africa Pipeline working to find solutions to provide clean water to the residents of the Sahel region in Africa. [www.transafricapipeline.org](http://www.transafricapipeline.org)

#### Abstract:

Water is an absolute necessity for life on earth, however, its mindless consumption and disregard to its complex interactions has rendered our hydrosphere vulnerable to depletion and pollution. To address

the growing global water crisis, our focus should be based on the model of four pillar approach. The first pillar is to integrate the strong spiritual and philosophical connection we have with water especially learning from the indigenous cultures of the world. The second pillar is to invest in understanding the science of water and integrating with innovative technologies. The third pillar is to examine water as an economic good, in terms of demand, supply and financing. Finally, the fourth pillar is to create and implement effective management and governance policies based on combination of demand side, soft path and integrated watershed management. In the absence of, or weakness in any of the pillars, water sector is vulnerable to continued inequity, depletion and contamination.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CB5

# Multiple Dimensions of Global Warming and Sustainability

Chaired by: Robert K. Logan

Day 3 | Oct. 18, 2019 | 13:30 | MN 3120



## Multiple Dimensions of Global Warming and Sustainability



### Mind Under Matter: Analogous Ultimate Methodology of Psychology uncovers Microcosmic Metaphysical Foundations of Physical Sustainability in Macrocosm

- Attila Lewis Lendvai, Atlas Allux

#### Bio:

Attila is a social entrepreneur, consultant, coach and author with over 20 years marketing, branding and communications experience with start-up ventures. While acquiring his MBA in 2002, he was diagnosed with adult-onset epilepsy & related depression. After getting nowhere with allopathic healthcare, he turned to the Analogous Ultimate Methodology (AUM). Within a short period of time his seizures stopped. Today he lives seizure-free and dedicates his life to The Atlas Project, including YouMethod, Gno\*U and PeapodLife, practical solutions focused on helping humanity work with the AUM of Life to cope better with the world's problems.

**Abstract:** The estranged relationship between 'sustainability and the sacred' is the result of entropy. A once unified order of knowing ourselves and the nature of reality degenerated into the chaos of today's

innumerable belief systems. Materialist science, religions and spirituality contradict one another mostly on an exoteric level, however. Studied esoterically, pure science re-emerges; reveals self-evident experiential knowledge of the metaphysical foundations of physical reality and the universal laws (including polarity & unity; cause & effect; evolution & devolution) by which all phenomena come to be and know themselves: The Analogous Ultimate Methodology of Life (AUM). AUM always expresses itself according to the needs and idiosyncrasies of any particular moment. This is such a moment. In the face of multiple existential crises, humanity must restore 'the sacred science' via practical applications of AUM, revive metaphysical sustainability in microcosm (human psychology) and repair the foundation upholding genuine physical sustainability in macrocosm.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Multiple Dimensions of Global Warming and Sustainability



### The Scientific, Social, Political and Ethical Dimensions of Global Warming and Climate Change

- Robert K. Logan

#### Bio:

Robert K. Logan is a Professor Emeritus Physics, Fellow of St. Michael's College, Emeritus Faculty Member School of the Environment, U. of Toronto, and Chief Scientist at OCAD U. in the Strategic Innovation Lab. He has a variety of experiences as an academic involved in research in media ecology, complexity theory, information theory, systems biology, environmental science, linguistics, and industrial design. He has published with and collaborated with Marshall McLuhan and continues his McLuhan studies research. In June 2011 he was presented with the Walter J. Ong Award for Career Achievement in Scholarship by the Media Ecology Association.

#### Abstract:

The danger we face is a runaway

greenhouse effect. As the polar caps melt less sunlight is reflected back into space and greenhouse gases such as methane are released as the ice caps melt. Raging large scale forest fires release more CO<sub>2</sub> than can be replaced by forest growth. Also as the oceans warm they release CO<sub>2</sub> gas and are unable to absorb as much CO<sub>2</sub> as is being generated. These effects feed on each other accelerating global warming and it is possible that they could result in a run-away greenhouse effect like the one that took place on Venus aeons ago. There is no technical fix to these problems. The time when sustainability could reverse things has past. We must now think in terms of resiliency, how much of human civilization can be saved. This gives rise to social, political and ethical issues that humankind has never had to face before.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Multiple Dimensions of Global Warming and Sustainability

### Forest Conservation for Climate Resilience in Greater Angkor, Cambodia

- [Leah Marajh](#)

**Bio:**

Leah is a PhD Candidate in the Department of Geography and Planning with a collaborative specialization in Environmental Studies. Leah has a M.A in Archaeology Anthropology and has previously conducted comparative research in Southeast Asia, South Asia, and Mesoamerica. Currently, Leah's research focuses on understanding how landscape change in the Greater Angkor Region of Cambodia is impacting climate and water management practices. Her study utilizes remote sensing, climate data, and semi-structured interviews to understand the drivers of change in the present, determine how this might be similar to historical contexts, and examine the ability of current conservation efforts to improve socio-ecological resilience.

**Abstract:**

As climate change continues to have profound impacts on regions in the developing world, implementing strategies for climate change adaptation has become a primary objective for

Cambodia. In recent years, the Greater Angkor Region, a diverse area of over 3,000 square kilometers, has experienced deforestation in the uplands, water shortages on the outskirts, and extreme temperatures in the city. Through various initiatives by governments, NGO's and international institutions, investments for forest conservation and green programmes to restore the natural landscape of the area has become a top priority. While alternative livelihood options, jurisdiction and coordination, and adequate funding are among some of the most vital challenges, new approaches that focus on rebuilding important ecosystem services include the demarcation of protected forest areas, tree nurseries for reforestation, and investment in heritage crops and pioneer species. In considering the longstanding challenges of human-environment relations for forest/conservation as well as new climate resilience approaches for the future, this paper offers a discussion on the ways in which human needs and environmental sustainability are often negotiated.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Multiple Dimensions of Global Warming and Sustainability



### Go Forth and Multiply" – Population, Contraception and Sustainable Development in Roman Catholic Teaching and Laudato Si

#### - Michael Ross

##### **Bio:**

Michael Ross is a PhD candidate at the University of St. Michael's College in the University of Toronto. His doctoral program focuses on the relationship between religion and ecology and his dissertation explores the implications of Thomas Berry's thought for sexuality. Michael has taught ethics courses at St. Michael's and King's University College in London, Ontario. He is associate editor of a new book entitled *Integral Ecology for a More Sustainable World: Dialogues with Laudato Si'* to be published next month. He is currently serving as a senior editor for Yale University's new graduate student journal devoted to religion and ecology, and is a member of the Advisory Committee on the Environment for the city of London, Ontario.

##### **Abstract:**

Pope Francis' 2015 encyclical, *Laudato Si'*, has been praised by scientists and secular

leaders for its analysis of contemporary ecological and social crises. Yet a tension remains with respect to reproductive issues, with virtually all development experts questioning how Pope Francis' vision could be achieved without change in the Church's teachings on birth control. In this presentation, I will explore the limited but significant commentary on population in *Laudato Si'* and contextualize this commentary in the wider Catholic moral tradition. After reviewing key insights from development and population experts, including sections of the Sustainable Development Goals, I will offer a reflection on the role of religious teachings, particularly Roman Catholic teachings, in addressing population and development issues. I will argue that while *Laudato Si'* does not go far enough in addressing such issues, Pope Francis has nonetheless shifted the conversation in subtle but significant ways.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





Themed Session - CB6

# Sustainable Land Use and Food Systems

Chaired by: Laurel Besco

Day 3 | Oct. 18, 2019 | 13:30 | MN 3110





## Sustainable Land Use and Food Systems

### Impervious to Sustainability: Social change and land cover change in Greater Houston, USA

- Kevin T. Smiley

**Bio:**

Kevin T. Smiley is an Assistant Professor in the Department of Sociology and a core faculty member in the Research and Education in Energy, Environment and Water (RENEW) Institute at the State University of New York at Buffalo. His research is at the intersection of urban and environmental issues. Research foci in this research include environmental justice, disaster vulnerability and resilience, urban place making, immigration, and social inequality. Smiley has authored a book (Market Cities, People Cities, NYU Press 2018) and his work can be found in Population and Environment, Urban Studies, and Sociological Forum, among others.

**Abstract:**

Land cover change from natural landscapes to more anthropogenic space upends wetlands, uproot forests, intensifies pressures on the biodiverse world, and creates risks for flooding. Advances in research on socio-environmental succession suggest a place for how these land cover changes unfold and intertwine with urbanization and concomitant processes of producing social inequalities. But less research

has offered a sense of how historical and contemporary social processes may differentially relate to land cover change. In an effort to analyze these differences, I use novel, annual data on land cover change in the Houston, Texas, USA metropolitan area from 1997 to 2017 and link it with data on changing social compositions of neighborhood across time. Using between-within regression models, I investigate the social and economic characteristics of areas that have (1) a high degree of impervious surfaces because of land cover change at any point, and (2) a high degree of recent change during the study period in rising impervious surfaces. Findings show that the Greater Houston area has experienced a large increase of impervious surfaces in recent years, but that most change occurred before the study time period. Leveraging the between-within models, findings show that the social processes at work in neighborhoods with a high degree of impervious surfaces and a high degree of change have different social and economic profiles. The discussion centers on disentangling historical and contemporary processes in social inequalities in land cover change as a way to better understand the creation of this unsustainable space.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Land-Use Tools, Development Paths, and Local Strategies: The Role of Policy in Developing Local Resiliency

- Leith Deacon, Kristof Van Assche, Monica Gruezmacher

### Bio:

Leith Deacon is an Assistant Professor in Rural Planning and Development in the School of Environmental Design and Rural Development at the University of Guelph. Leith is a member of the Canadian Institute of Planners (CIP) and a Registered Professional Planner (RPP). Leith's research examines concepts around sustainability, governance, and resiliency. Leith is attempting to gain a better understanding of the dynamics associated with municipal rural and remote economies, specifically resource-based economies across Canada – what are their experiences and why are some communities able to grow and prosper while others experience decline.

### Abstract:

Municipalities across Canada are not well equipped to improve their own sustainability, their own long-term development. They often lack the policy

tools, expertise, reflexivity, powers, and resources to improve their own resilience. While many avenues of thinking and action are open to tackle this problem, land use tools offer a practical and valuable avenue to improve the long-term sustainability and development potential. This presentation highlights how local communities can re-think their development paths strategically by using land use tools to craft more resilient local strategies. Drawing from results collected via a survey distributed across Alberta, this presentation emphasizes the importance of regular and structured reflection on past and present governance, on current land-use tools, and their effects as well as narratives and their assumptions. We argue that land use and planning for the long-term starts with reflecting on the past, understanding where "we" as a community come from and why we are where we are.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## What Does the Farmer Bring to the Market? Exploring Farmers' Market Offerings by Geographic and Social Location

- [Justin Schupp](#)

### Bio:

Justin Schupp is an Assistant Professor of Sociology at Wheaton College in Massachusetts, USA. His research interests examine a variety of intersections between the food system, social movements, and inequality. This work extends Justin's interest in understanding the efficacy of goal attainment by social movements operating in the food system. If you cannot find him in his office or assigned classroom, your best bet is that he is off doing something energetic with his two young sons and wife, such as playing futbol, walking the dogs, or putting together a treehouse.

### Abstract:

Farmers' markets are often hailed as a mechanism to improve the sustainability of the food system. Customers are encouraged to flock to markets because

it is argued one can partake in goods that are environmentally friendly while creating and maintaining a more socially just system of exchange. While this argument exists, little work has examined the efficacy of this claim. Of particular interest are the types of goods that are available at markets based on the neighborhood demographics where they are located. Using survey data from farmers' market managers coupled with demographic data from the US Census this article explores the goods offered at 298 farmers' markets in the Northeast USA. The analysis shows several interesting trends about the depth and robustness of offerings by neighborhood that both confirm and call into question the ability of farmers' markets to be a pathway to sustainable and socially just consumption.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Review of Methodological Choices and Their Consistency with Principles of Sustainability Assessment of Farm-Level Decisions

- Vivek Arulnathan, Mohammad Davoud Heidari, Nathan Pelletier

### Bio:

I am a PhD student in Interdisciplinary Graduate Studies at UBC-Okanagan. I completed my Bachelor's in Engineering in 2014 and then pursued a Master's in Environmental Management at Brandenburg Technical University, Germany. My research in the Food Systems PRISM Lab at UBCO focuses on developing and implementing a Sustainability Assessment Platform for the Canadian egg industry. This tool will serve as a decision support mechanism for Canadian egg farmers by enabling them to assess their sustainability performance across various indicators and in relation to different benchmarks. The platform will also help farmers analyse the mitigation potential associated with different sustainability best practices and green technologies.

### Abstract:

Considering the importance of agri-food systems for sustainable development, several

methods for sustainability assessment of these systems have been developed. Of particular interest are farm-level sustainability decision support tools (DSTs) that are useful support mechanisms for decision makers due to their limited complexity, simplified modeling and design for use by non-scientific users. However, limited information exists on the consistency of these DSTs with the normative aspects of sustainability assessment. We review 21 DSTs to identify the common methodological choices that developers make. We then analyze the 21 tools against the eight Bellagio Sustainability Assessment and Measuring Principles (STAMP). The review showed that only three DSTs were at least partially compliant with all eight principles, with none of the 21 tools being fully compliant. DSTs should strive to develop a guiding vision of sustainability, understand trade-offs and synergies, increase transparency, and integrate end-users in the development process.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CB7

# Diverse Perspectives on Sustainability

Chaired by: Parul Rishi

Day 3 | Oct. 18, 2019 | 13:30 | MN 3180





## Learning Our Way Out of Global Challenges: How Might Social Learning Strengthen Transdisciplinary Collaboration Towards the SDGs

- Dr. Blane L. Harvey, Ying-Syuan (Elaine) Huang

### Bio:

Ying-Syuan (Elaine) Huang is a doctoral candidate in the Department of Integrated Studies in Education at McGill University. She holds a Bachelor's degree in Engineering at National Taiwan Normal University and a Master of Arts degree in Education and Society at McGill University. Her research focuses on policies and practices related to K–12 science education, teacher education, and sustainable development. For her doctoral study, she examines Taiwan's policy initiatives for implementing UNESCO's Education for Sustainable Development framework.

### Abstract:

The UN's 2016 Sustainable Development Report calls for new working arrangements and "greater dialogue among scientists, engineers, practitioners, stakeholders, and policymakers" to address global sustainability challenges like climate

change (United Nations 2016: 86). An essential ingredient to navigating the complex nature of the climate challenge in these types of transdisciplinary collaborations is social learning (Kristjanson et al 2014). However, our understanding of how to embed social learning processes into transdisciplinary programs has not kept pace with our recognition of the need to do so. Researchers and practitioners alike have called for better evidence on the contributions of collective learning to program effectiveness and outcomes. This paper will present early results an action learning initiative designed to address this critique and advance our understanding of collective learning in transdisciplinary collaborations. We will present analysis from a study of three international research consortia and reflect on when and how collective learning might help us toward new forms of understanding and action.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga

## Diverse Perspectives on Sustainability



## Identifying Forest Road Construction Year by Integrating Change Detection from Historical Remotely Sensed Images and Knowledge-Based Connectivity Rules

- Alex Harrison, Kirsten Notlie, Dongmei Chen, Marc Ouellette, Tarmo K. Rimmel

### Bio:

Dr. DongMei Chen is a full professor at the Department of Geography and Planning and cross-appointed at the School of Environmental Studies at Queen's. Dr. Chen's research interest focuses on the understanding and modeling of interactions between human activities and the physical environment by using GIS and remote sensing techniques and spatial modeling approaches from local to regional scales. She has led and participated more than 30 research projects supported by different funding agencies, governmental departments and private industry. She has published over 120 peer-reviewed journal articles, book chapters and conference proceedings, and edited three books. More details about Dr. Chen and her research laboratory can be found at [gis.geog.queensu.ca](http://gis.geog.queensu.ca).

### Abstract:

Ontario's boreal forests have experienced human and natural disturbances of varying

intensity and extent, especially during the last half century. As one of the human disturbances, road construction had contributed by 2015 over 485,000 km of linear disturbance in Ontario's managed boreal forest. However, information pertaining to the year of construction is often missing or incorrect. The objective of this research is to test a semi-automatic methodology for identifying the construction year of roads by processing historical Landsat MSS and TM images. Due to the coarser spatial resolution of Landsat MSS, most road detection methods developed using fine spatial resolution images do not work well. We developed a work-flow that combines change detection with rules of road network connectivity to remove false road detections. Having the year of road construction attached to line segments as attributes will facilitate disturbance analysis and interpretation of long-term changes to land-use and land-cover throughout the boreal forest.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





## Indicator-Based Approach for Water Crisis and Related Climate Change Impacts in Democratic Republic of Congo (DRC)

- Ramazan Caner Sayan, Nidhi Nagabhatla, and Marvel Ekwuribe

### Bio:

Ramazan Caner Sayan is an early career academics who is currently working as a Postdoctoral Fellow in Water Security at the United Nations University Institute of Water, Environment and Health (UNU-INWEH). He obtained his PhD degree from the University of Dundee and worked as a postdoctoral researcher, consultant and part-time lecturer in the same university between 2016 and 2018. His research expertise is on the broad fields of the politics of water, environment and development, particularly in environmental and water justice. His publications appeared in the prestigious outlets such as Water Policy, Local Environment and Energy Research & Social Science.

### Abstract:

The level of open waters of Lake Chad dramatically declined between 1963 and 1987, and this has been a hot topic in political agendas of the Sahel region. Drafted in the 1970s and projected in the late 1980s by an Italian engineering company, Bonifica, a large-scale inter-basin water transfer project entailing the

construction of multiple dams and a 2400-km-long canal to divert water from the Congo River to Lake Chad was outlined. The proposal was discussed with the vision to revitalize Lake Chad. Since the mid-2000s, member states of the Lake Chad Basin Commission, riparian states of Congo Basin, private sector and experts have all been involved in the creation of the prevailing discourses and narratives to convince each other to realize or block this project. Drawing upon a mixed-methods approach of discourse, document, and media analysis, we examine tactics and strategies of soft power employed by regional and international actors and agencies operating at multiple scales. These tactics and strategies include agenda-setting, securitization, issue-linkage, demonstration of leadership, and knowledge construction, through which each actor attempts to influence the others to get to the outcome they want by attracting others. By doing this, we demonstrate how tactics and strategies of soft power exercised by states, experts, and private sector have been influential to proceed towards establishing a new transboundary water regime in Central Africa.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Sustainable fishing for small-scaled circular economy: “Diverse economies” in exploration for the wetland national parks in Vietnam

- Thi Loan Phan, Sue-Ching Jou

### Bio:

Phan Thi Loan is currently a PhD student at International Degree Program of Climate change and Sustainable development, National Taiwan University. She previously worked at Hanoi National University of Education, Centre for Research and Promotion of Education for Sustainable Development. She published articles on leading journals of Vietnam with topics such as climate change vulnerability and adaptation and presented her works in several international conferences in both Vietnam and Taiwan. She also published an article of “Gender Inequality and Adaptive Capacity: The Role of Social Capital on the Impacts of Climate Change in Vietnam” on the journal of Sustainability 2019.

### Abstract:

The relations between fishing, diverse economies and protected area management was investigated in wetland national

parks in the lower Mekong basin, Vietnam. Results from in-depth interviews, experts' consultations, secondary data analysis show that fishing not only accounts for a great proportion of income, employment and food security for the poor but also an emerging recreational activity for wealthy groups. Under the context of climate change impacts, developing fishing as a tourism service has potential risks of benefit sharing and injustices among stakeholders. That requires managers to not only operate tourism activities as a conservation tool but also maintain wise traditional knowledge of communities in resource sharing in protected-areas. In this paper, we use the concepts and techniques of “diverse economies” to analyze and build strategies for sustainable fishing for small-scale circular economy and propose an approach for the natural resource management of wetland national parks more credible with community engagement.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CC1

# Humanizing Sustainability: What Can Environmental Humanities Bring to Sustainability Thinking?

Chaired by: Alexandra Rhar

Day 3 | Oct. 18, 2019 | 15:30 | MN 2100





## Humanizing Sustainability: What Can Environmental Humanities Bring to Sustainability Thinking?

### The Myth of Atlantis and the Deforestation of Classical Athens

- [Ben Akrigg](#)

**Bio:**

I have been a faculty member in the Department of Classics at the University of Toronto since 2006. I have published primarily on the economic history and historical demography of the ancient Greek world, most recently a monograph on Population and Economy in Classical Athens (Cambridge University Press 2019). This year I am a Faculty Research Fellow in the Jackman Humanities Institute at Toronto, working on climate change and energy consumption in ancient Greece.

**Abstract:**

Plato's dialogues *Timaeus* and *Critias* are famous for presenting an account of the mythical lost continent of Atlantis, and the equally mythical war it fought against an imaginary and

abundantly resourced Athens of the distant past. This account, composed at a time when the forestry resources of the actual contemporary Athens were under intense pressure as a result of both warfare and a voracious demand for fuel for domestic and industrial consumption, has also been the textual starting point for most discussions of the environmental history of ancient Greece. However, just as hunts for the "real" Atlantis are futile, so simplistic narratives of the decline or collapse of civilizations (ancient or modern) resulting from unsustainable practices of exploitation turn out to be of little use. Plato's myth instead invites us to consider the complexity of interactions between human societies and environments in times of crisis and conflict.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Humanizing Sustainability: What Can Environmental Humanities Bring to Sustainability Thinking?

### Energy Heritage: Narrative Inheritances in the Albertan Oil Public

- Judith Ellen Brunton

#### Bio:

Judith Ellen Brunton is a doctoral candidate at the University of Toronto's Department for the Study of Religion. Judith's current project explores how legacies of oil extraction allow for specific contemporary imaginaries of the good life in Alberta. With case studies on: Imperial Oil's publications on history and culture, Energy Heritage sites, The Calgary Stampede, and various corporate aspirational initiatives. Judith held a Social Sciences and Humanities Research Council Doctoral Scholarship to pursue her research and is currently a Jackman Humanities Institute Graduate Fellow exploring the theme 'Strange Weather'.

#### Abstract:

The work of oil extraction, and the historically Christian context of colonial

settlement and land use that enabled it, shaped an inheritance of values that circulate in Alberta. Oil companies, government agencies, and community organizations in Alberta use oil to describe a set of values about land use, labour, and aspiration, and in so doing have shaped a cultural narrative in the Albertan oil public about what a good life is and how to live it. In this paper I will briefly survey three case studies from my ethnographic fieldwork and archival research to describe this narrative of a good life: the 20th century publications of Imperial Oil, the curation of energy heritage sites, and the cultures of value in corporate Calgary. Through this discussion I intend to describe the imaginative horizons of meaning making for a community embedded in extraction.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Humanizing Sustainability: What Can Environmental Humanities Bring to Sustainability Thinking?

### The Art of Sounding Sustainable

#### - Sherry Lee

**Bio:**

Sherry Lee is Associate Professor of Musicology at the University of Toronto. A specialist in music and modernist cultures, her work appears in *JAMS*, *Cambridge Opera Journal*, *Music and Letters*, *19th-Century Music*, the *Germanic Review*, *Critical Inquiry* (forthcoming), and several collected volumes including the *Oxford Handbook of Music and Disability Studies* (2015), *Music, Modern Culture, and the Critical Ear* (Routledge, 2017), *Korngold and His World* (2019), and *The Blackwell Companion to Adorno* (2019). Her monograph *Adorno at the Opera* is forthcoming from Cambridge University Press, and with Daniel Grimley she is preparing *The Cambridge Companion to Music and Modernism*.

**Abstract:**

Given the frequency with which sustainability discourses revolve around concerns for physical resources, what does sustainability

mean in an environment as immaterial and ephemeral as the sonic? Both this conference's themes of "practice" and "action," and the present session's invocation of "sustainability as a cultural project," allow the possibility of attending to the creative sphere, including music and sound art, as participants in the development of integrative insights into sustainability concepts. Can artistic soundmaking, and its cultivation of deeply engaged listening attitudes, contribute to the revelation and remedy of ecological and social inequities, encouraging modes of attunement and foregrounding sonic agency in search of shared wellbeing? In posing the question of sustainability in terms of sound, this paper highlights the potential for aesthetic sonic practices and sound epistemologies to contribute to critical humanities discourses of environment, and queries the challenging roles of creative and listening practices in reimagining ecological relationships.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CC2

# Sustainability and Critical Disaster Studies

Chaired by: Steve Hoffman

Day 3 | Oct. 18, 2019 | 15:30 | MN 2130





## Catastrophe and Sustainability in the Technosphere

- Ryan Hagen

### Bio:

I am an organizational and comparative historical sociologist studying risk and social change. I am interested in how actors construct perceptions of the future, how those perceptions shape actions in the present, and how this work of anticipation influences macro-level social change. My current research examines the ways disaster risk management professionals intervene in urban life to reconfigure cities as High Reliability Networks resistant against disruption from emergencies and disaster. My work contributes to the literatures on organizations and work, urban sociology, and science, knowledge and technology.

### Abstract:

The consequences of modern disasters register increasingly as failures of the technosphere—the global network of interlinked socio-technical systems

that support human life. In the case of hurricanes for example the disruption of lifeline electrical, transportation, and public health infrastructures have surpassed the direct violence of high winds, flooding, and storm surge as the primary drivers of disaster mortality. Drawing on the emerging field of critical disaster studies, this paper examines the theoretical implications of catastrophe within the technosphere for sustainability scholarship and policymaking. Sustainability has generally concerned itself with mitigating the degradation of natural capital. The concept of the technosphere forces us to consider how sustainability might address the equally dangerous degradation of social capital, which creates an increasing vulnerability to disaster from infrastructure failures even as our protections against the geophysical forces of natural hazards steadily improve.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





## Disasters As Suffering Out of Place

### - Jacob Remes

#### **Bio:**

Jacob Remes is a clinical associate professor in New York University's Gallatin School of Individualized Study and associated faculty in the Department of History. He studies North American working-class and labor history, focusing on urban disasters, working-class organizations, and migration. He is the author of *Disaster Citizenship: Survivors, Solidarity, and Power in the Progressive Era* (University of Illinois Press, 2016), a working-class history of the Salem, Mass., Fire of 1914, and the Halifax, N.S., Explosion of 1917, and the co-editor of the forthcoming *Critical Disaster Studies: New Perspectives on Disaster, Risk, Vulnerability, and Resilience*.

#### **Abstract:**

Taking a page from Mary Douglas, this paper considers disasters as "suffering out of place." Many scholars define "disaster" from empirical measures of institutional

capacity or of destruction or death.

Instead of seeing disasters as a quantity of suffering, I argue we should understand disasters as suffering out of place. I draw from a variety of sources and traditions: Mary Douglas (dirt is matter out of place), the history of weed science (weeds are plants out of place), and environmental racism advocacy and scholarship (especially on "sacrifice zones"). Like other examples of Critical Disaster Studies, this paper disrupts disaster studies' (and "sustainability studies") dominant technocratic mode. Suffering is distributed unevenly across the world, and disasters are moment in which that seemingly "natural" distribution of suffering is disrupted. In a moment in which disasters seem more common—or at least more visible—we can use that increased attention to decrease both total suffering and its unequal distribution.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CC3

# Technology, Business, and Sustainability

Chaired by: Kira Lussier

Day 3 | Oct. 18, 2019 | 15:30 | MN 3100





## Boots on the ground. Tech in the cloud

- [Colin Campbell](#), Avi Inbar, Aidan Girard, Ryan Nash

### Bio:

With a passion to positively impact the world, Colin is driven to implement projects and initiatives focused on energy, renewable technology and software for good. Colin oversees the design and implementation of transformational software projects at GreenSaver for use in delivering energy conservation programs at scale. As a problem solver, Colin strives to find the best solution by truly understanding the problem, asking the hard questions, and engaging the right people. Colin holds a Bachelor of Commerce from Dalhousie University and studied international business in Sweden at the University of Jonkoping.

### Abstract:

Climate change will not be tackled by recycling and electric vehicles alone. Every building we step foot in will

need to be transformed to use less energy. We already have the technologies needed to do the job, however greening buildings around the world will take systems, empowering change on an Uber-like level to mobilize the energy retrofitting of our homes, schools and places of work. The scale of energy upgrades needed in the face of climate change will be no easy undertaking. To achieve energy efficiency by 2030, as the UN Intergovernmental Panel on Climate Change has declared a necessary timeline for climate action, will require over a million Canadian homes be retrofit each year. We are working with software designers and developers are on a mission to build the tools needed to deliver energy conservation at scale and would like to offer a path forward to decarbonizing society with software.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Estimation of Static corporate sustainability interactions

- [Damla Rurak Usar](#), Mehmet Ali Soytaş, Meltem Denizel

### Bio:

Dr. Durak Uşar holds a BSc in Metallurgical and Materials Engineering from Istanbul Technical University and a MA in Management (in German) from Marmara University. She obtained her PhD in Business from Özyeğin University in 2017. Dr. Durak Uşar works as a part-time faculty member at the Faculty of Business, and as a research fellow at the Sustainability Platform at Özyeğin University. Dr. Durak Uşar teaches operations management as well as contributes to a series of lectures on sustainability. Her research interests include corporate sustainability and sustainable operations. Dr. Durak Uşar's research has been covered by national mass media outlets.

### Abstract:

The empirical literature considers firm specific aspects affecting corporate sustainability decisions but generally

omits the influence of the competition. We advocate that sustainability actions of a company impact its marketplace and vice versa. Therefore, the sustainability return of the single firm is a function of the other firms' sustainability decisions. We approach sustainability decisions as strategic decisions and evaluate the effect of competition and spillovers in a static market entry game. We estimate the parameters of the discrete choice model using the social performance ratings from MSCI KLD 400 Social Index as proxy for sustainability decisions and financial information from Wharton Research Data Services' COMPUSTAT dataset. We provide empirical evidence that the effect of competition on the likelihood of entry into the sustainability market dominates the effect of spillover. We find that strategic motives, typically ignored in the empirical literature, appear to be an important factor in sustainability related decisions.



## Human Sustainability, Relational Coordination, and Worker Outcomes: A Conceptual Framework

- [Elli Meleti](#)

### Bio:

I am a PhD student in Management (University of Glasgow). I have more than 20 years of international business experience in sales consultancy and loyalty promotions for major supermarket chains, increased sales by 8%, developed business in new markets, and managed my own business. I have earned an MSc in Public Relations and a BA in Sociology, both with distinction, from Syracuse University. I am fluent in Greek, English, and Italian. My research interests are people in organizations, human sustainability, CSR, strategic management, organizational and social change, and business ethics. I like travelling, the arts, healthy food, exercising, and volunteering.

### Abstract:

The study examines how designing for human sustainability enhances relational coordination, and how the two of them together influence worker outcomes, such as work engagement, proactive work behaviour,

and job satisfaction. The contribution to knowledge is to integrate the theory of relational coordination with the theory of human sustainability in order to explain the positive personal transformation of employees in organizations. The definition of human sustainability for this study is based on Kantian principles. This study is significant because it focuses on: 1) human sustainability, which needs further research (Pfeffer, 2010; Pfeffer 2018); 2) relationships, which are an alternative narrative to describe successful businesses and organizations that create value for customers, suppliers, employees, communities, and financiers (Freeman & Moutchnic, 2013); 3) improving and facilitating not only intra-organizational relationships, but also inter-organizational relationships, as well as relationships between the organizations and the community, aiming at personal, relational, organizational and societal transformation.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Disaster Risk Reduction and Business Continuity Planning for Microfinance Institutions

### - Oikocredit and Alalay Sa Kaunlaran Sa Gitnang Luzon Inc (ASKI), including Rolando Victoria

#### **Bio:**

Mr. Rolando B. Victoria is a certified public accountant. He is the founding executive director of Alalay Sa Kaunlaran Inc. (ASKI) and now the President and CEO of ASKI Group of Companies Inc. composed of 12 strategic business units.

ASKI is now touching the lives of around 1 million Filipinos by transforming their lives and building sustainable communities in Central and Northern Philippines and in Singapore helping the overseas migrant workers by providing them financial education and basic entrepreneurship training.

Mr. Victoria also sit in the Board of various organizations like the Microfinance Council of the Philippines (MCPI), Microinsurance MBA Association of the Philippines (MiMAP) and others. He is also an Advisory Council member of the Sustainable Standards and Certification Initiatives for Value Driven Financial Institutions initiated by the European Organization for Sustainable Development (EOSD) based in Germany.

#### **Abstract:**

Disaster resiliency is an important component in Oikocredit's capacity building work with partners in areas prone to natural disasters. The Philippines experiences an average of 20 typhoons every year. Situated in the Pacific Ring of Fire, it is vulnerable to frequent earthquakes and volcanic eruptions. Due to its geographical location it is also highly susceptible to tsunamis, rising sea levels and storm surges. Oikocredit joined it's partner Alalay Sa Kaunlaran Sa Gitnang Luzon Inc (ASKI), a micro-finance institution (MFI) in the Philippines to create a guide to help MFIs plan to cope with natural disasters. The guide has worldwide application in terms of business continuity planning, advance planning to manage events, and recovery planning when major events occur. After successfully piloting a disaster risk reduction management (DRRM) programme in the Philippines and Southeast Asia, it has now been extended to partners in other countries like Ecuador.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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Themed Session - CC4

# Circular Economy or Circular Logic?: Revisiting the Links Between the Economy and the Environment

Chaired by: Brett Caraway

Day 3 | Oct. 18, 2019 | 15:30 | MN 3120





## Circular Economy or Circular Logic?: Revisiting the Links Between the Economy and the Environment

### Interrogating Amazon's Sustainability Innovation

- Brett Caraway

**Bio:**

Brett Caraway obtained his PhD from the University of Texas at Austin before coming to the University of Toronto in 2012. He is an assistant professor at the Institute of Communication, Culture, Information, and Technology at the University of Toronto Mississauga and holds a graduate appointment in the Faculty of Information. Prof. Caraway's research lies at the intersections of economics, Marxian theory, social movements, media studies, and intellectual property law. His research has been published in prominent academic journals like *Communication Theory*, *Information, Communication & Society*, *Media, Culture & Society*, and the *International Journal of Communication*. He teaches courses in economics, intellectual property, Internet law, Marxian theory, media studies, history of communication technologies, and media production.

**Abstract:**

Enabled by an immense system of vehicles, warehouses, and data centers, Amazon has

become one of the world's largest consumers of energy. Predictably, its environmental record has been the subject of some debate. This presentation seeks to re-establish the material connections between firms offering e-commerce and cloud computing services and the physical world by reconsidering their ecological impacts. Looking primarily at Amazon's 2017 shareholders report, this presentation contributes to the perennial debates over the relative ecological benefits of online shopping versus conventional retail shopping. I argue that the chief goal of Amazon.com's sustainability programs is to harmonize notions of consumerism and growth with the increasing awareness of ecological destabilization. However, I assert that any relative gains in resource efficiency must surpass the overall increase in throughput associated with the firm's ever-expanding sales of goods and services. Thus, Amazon's commitment to healthy ecosystems is contravened by its obligation to economic growth.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga





## Circular Economy or Circular Logic?: Revisiting the Links Between the Economy and the Environment

### A Consumer Centric Approach for Ecological Viability

- Radha Maharaj

#### Bio:

Radha Maharaj has a PhD in Economics and teaches finance at the Institute of Communication, Culture, Information and Technology (ICCIT) at the University of Toronto Mississauga (UTM). Her current research focuses on financial education as a medium for effecting change in three major aspects of the economy: consumption patterns, savings rate, and the production process. Her theory is that if financial education is done effectively, it can have a profound effect on the individual consumer. This can result in a fundamental paradigm shift backed by behavioural changes which have the ability to lead to a more equitable socio-economic structure.

#### Abstract:

A redefinition of economic growth is needed to facilitate effective ecological

viability. It is challenging to decouple economic growth and ecological sustainability within the context of the current socioeconomic structure. A fundamental paradigm requires shifting the focus of the circular economy from primarily supply side analysis to equally inclusive demand side analysis. The role of the consumer is frequently overlooked in the study of ecological sustainability. This paper argues the consumer is the key to redefining economic growth and achieving ecological balance. It examines the role that the consumer plays in the actualization of the circular economy. Finally, the paper discusses the policies and programs that can be implemented to motivate consumers to transform their anthropocentric view of the use of resources and close the gap between consumers' desire to practice environmental ethics and their actual level of engagement.

## Sustainability: Transdisciplinary Theory, Practice, and Action

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## Circular Economy or Circular Logic?: Revisiting the Links Between the Economy and the Environment

### Communities Lead the Way Toward a Circular Future: Will New Policies Keep Up?

- Kiara Winans

#### Bio:

Dr. Kiara Winans served as co-creator and co-director of the Industrial Ecology program at the University of California Davis where she taught a course in urban systems and sustainability. In addition to teaching, Dr. Winans served as a mentor for undergrad and graduate students and received a Schmidt MacArthur Fellowship Mentor Award for work in circular economy. Her research is comprised of two primary thrusts: the application of circular economy and life cycle assessment to bio-based materials, water, and energy systems; and the innovation of data-driven decision-making tools and methodological approaches for life cycle-based research, geospatial analysis, and circular economy.

#### Abstract:

There are potential synergies and tensions between policy approaches that aim to enhance circularity in systems or to improve human health and wellbeing. In some cases, solutions are mutually beneficial (certain education activities) while others may solve one problem

but exacerbate the other (such as incentives to do one thing verse another for which the long-term or unintended consequences of are not yet realized).

In this work we provide an overview of the circularity activities in two communities (one in Portugal and one in Armenia) that have established cultural norms around cycling materials and honoring the value of the natural resources as part of their ongoing relationship within their region. We critically evaluate the community-based engineering approaches (applications of empirical observations) to maintain and to improve structures and processes of resource use, production and consumption. Then we present a brief review of current policy aimed at supporting circularity in the respective countries (i.e. Armenia and Portugal). Finally, we discuss a few key takeaways regarding the bottom-up (community- level) activities and top-down (policy) approaches to implementing a circular economy in the two different countries included in the study.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



Themed Session - CC5

# Advancements in Climate Change Law and Policy

Chaired by: Laurel Besco

Day 3 | Oct. 18, 2019 | 15:30 | MN 3110





## Advancements in Climate Change Law and Policy

### A Review Of Solar Energy Policy And Applications In Ghana Towards Sustainable Development Goal 7 And 13

#### - Araba Amo-Aidoo

##### **Bio:**

Ing Araba Amo-Aidoo is a 34-year-old female Mechanical Engineer with MSc. Renewable Energy Technologies and currently pursuing her doctoral studies in Agricultural Engineering at Kassel University (Germany). In 2016, she was adjudged the national best female engineer due to the strides she made not only in various renewable energy projects and policy drafts but also in advocacy for female participation in engineering. She has been a core member of Ghana's negotiation team for Conference of the Parties (COP) (2015 - date). She is very passionate about climate change and believes in a participatory approach towards the protection of the environment.

##### **Abstract:**

In this study, we present an assessment of the policy and applications of solar energy

in Ghana to elucidate the factors that can enhance the implementation of SDG 7 and 13. 23 interviews were conducted with 103 literature reviews. The study discovered that the country is unlikely to meet its 10% renewable energy target in the national energy mix by 2020 due to political interference and finance. However, finance was not the most pressing impediment as new financing mechanisms such as the Green Climate Fund (GCF), the International Renewable Energy Agency (IRENA) and ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) were currently being utilised. The study concluded that enhancing mitigation by reducing political interferences in renewable energy decisions is a priority. The framing of renewable energy deployment as a strategy for sustainable economic growth is strongly recommended. Carbon crediting and taxation should also be prioritized.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Advancements in Climate Change Law and Policy

### Media Framing of Alternative Energies in Saskatchewan and North Dakota

- Patrick Braszak, Andrea Olive

#### Bio:

Patrick is a Ph.D. student from the University of Toronto Mississauga who specializes in environmental governance and crime. His previous, multidisciplinary research has focused upon Big 5 ethology in South Africa, British naval strategy and tactics during the Napoleonic Wars and transboundary conservation in eastern North America. He is currently engaged in work on alternative energy transitions in the prairies and on poaching histories and economies in remote Canadian communities.

#### Abstract:

Transitioning away from fossil fuels is imperative if the impacts of climate change are to be mitigated. Research suggests that the media will have a

key role to play if the shift towards alternative energies is to occur. Media frames have been proven to not only shape public understanding and debate, but also to focus the attention of policymakers. This paper will examine how the media has framed alternative energies in Saskatchewan and North Dakota. These two jurisdictions were chosen because of their historical reliance upon fossil fuels, and because sub-national units are the primary decision-makers with regards to energy policy in Canada and the United States. The aim of this paper is to provide insight into the prospects for a policy transition towards alternative energies in two places where the prospects for such have historically been especially slim.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Advancements in Climate Change Law and Policy

### How to Transition the Urban Freight Industry in Canada to a Low-Carbon Economy

- Anureet Kaur

#### Bio:

Anureet is currently working as a Corporate Social Responsibility Consultant at Purolator Inc. – a leading integrated freight and parcel solutions provider in Canada. Anureet leads the environmental sustainability portfolio at Purolator and is working towards understanding how to manage and monitor emissions in the freight and logistics industry as well as what can be done to reduce emissions from the entire supply chain of the organization. She is also leading the development of the sustainability road map and strategy by engaging with key stakeholders and conducting the first materiality assessment. Anureet graduated from the University of Toronto with a Bachelor of Business Administration and a Master of Science in Sustainability Management.

#### Abstract:

The transportation sector accounts for 24% of the emissions<sup>1</sup> and is the second leading source of greenhouse gas (GHG)

emissions in Canada. Freight transportation is one of the significant contributors to Canada's total GHGs and it estimated that by 2030, emissions associated from freight will surpass the emissions associated from passenger vehicles.<sup>2</sup> Emissions from freight has substantively increased over the past 25 years<sup>3</sup> as compared to other modes of transportation such as aviation, rail, marine freight, and passenger vehicles. Growing demand for e-commerce activity, new retail channels, and changes in purchasing behaviour will further impact the growth for faster last-mile deliveries. In order to meet its Paris Agreement commitments, the Government and the provinces must work together to achieve significant reductions in emissions associated with freight transportation. This presentation will explore how advancements in technology and policy options could potentially reduce emissions from this growing sector.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Advancements in Climate Change Law and Policy

### Innovation and Transfer of Clean Technologies in the Post-Paris International Climate Regime

- Mahatab Uddin

#### Bio:

Being an international mobility scholar of the Danish Ministry of Science, Innovation and Higher Education, Md. Mahatab Uddin accomplished his PhD in Public International Law on Climate Change and Sustainable Development from Aarhus University, Denmark. He accomplished his MSc in Sustainable Development from Uppsala University and LLM in Intellectual Property Law from Stockholm University, Sweden. He was also a visiting PhD Fellow at Oslo University, Norway. He took his early law degrees from Bangladesh.

Dr Uddin's research interests include climate change, technology transfer, carbon market, climate finance, marine environment, arctic governance, traditional knowledge, intellectual property law, and sustainable development issues.

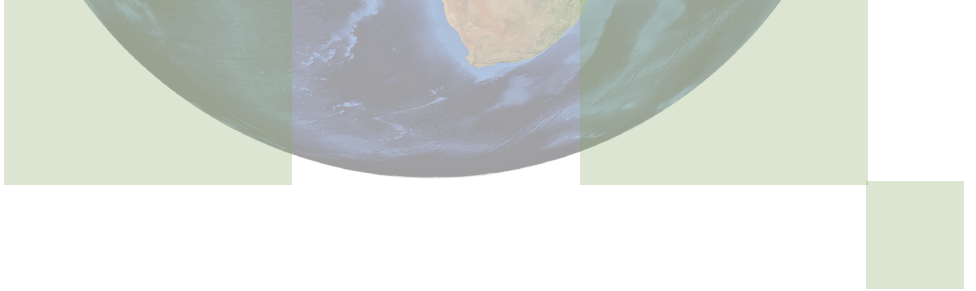
#### Abstract:

Reduction of annual greenhouse gas emission is essential for climate change

mitigation. A long-term robust target for effective climate change mitigation cannot be attained without innovation and widespread adoption of clean technologies. While a few advanced developing countries play some role in the development of clean technologies, the industry is mainly dominated by the developed countries. Since all developing countries are not equally capable of innovating or purchasing clean technologies as per their need, innovation of clean technologies and transfer of these to all developing or least-developed countries are pivotal to combat global climate change. This study will examine to what extent the Post Paris global climate regime and other concerned international legal regime can facilitate innovation and transfer of clean technologies. In addition to traditional north-south approach, the study will specially focus on possibilities of enhanced south-south cooperation meaning technology innovation and transfer cooperation among developing countries.

## Sustainability: Transdisciplinary Theory, Practice, and Action

STTPA Conference 2019 @ University of Toronto Mississauga



## Workshop - CC6

# AIESEC

Chaired by: Mia Nguyen and Wai Chung Lam

Day 3 | Oct. 18, 2019 | 15:30 | MN 3180

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**Bio:**

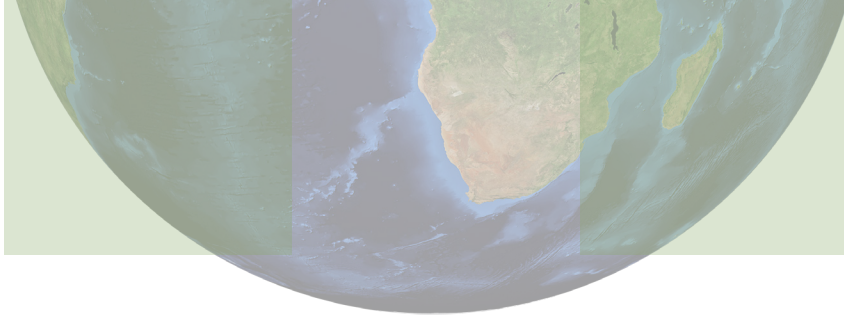
Wai Chung Lam is in his third year at the Rotman Commerce at University of Toronto, majoring in Marketing. After his first year, Wai pursued a volunteer project with AIESEC in Brazil, supporting marketing efforts of a grass-root NGO. He developed marketing strategies to help the NGO promote their community services, including: mental health workshops for children, language competency courses, and educational programs on climate change and sustainable living. Wai will be sharing his experience on the growing significance of sustainable marketing across industries. Sustainable marketing not only enables community organizations to leverage their values and gain public support, but it also allows private organisations to achieve sustainability in their business practices. His presentation will introduce students, who are considering business careers, to the growing field of sustainable marketing.

Mia Nguyen is in her final year at the University of Toronto, majoring in Contemporary Asian Studies and Political Science. After her first year, she went on a volunteer exchange with AIESEC to the Philippines. Her project focused on addressing financial illiteracy for Filipina mothers and grandmothers who were in a micro-finance programme. What she saw ignited her passion in women's rights, equitable economic development and education for the marginalised. She would like to share her journey and the lessons that she learned, in hopes to provide the audience with a critical understanding of volunteerism and microfinance system.

**Abstract:**

AIESEC is the world's largest youth organization that facilitates international volunteer and professional development opportunities for university students. Each and every international project that AIESEC facilitates aims to achieve the Sustainable Development Goals (SDGs). Through this workshop, student speakers from AIESEC at the University of Toronto Chapter will share their exchange stories. More importantly, they will outline how these experiences have impacted their understanding of SDGs, possible hands-on opportunities to engage with SDGs as students, and how going on exchanges have impacted their future goals both professionally and personally. This workshop offers an introduction to potential possibilities that university students could consider as they wish to make actionable solutions in addressing Sustainability. The workshop will also consider the benefits and limitations of current solutions, particularly with volunteerism, in achieving sustainable development.





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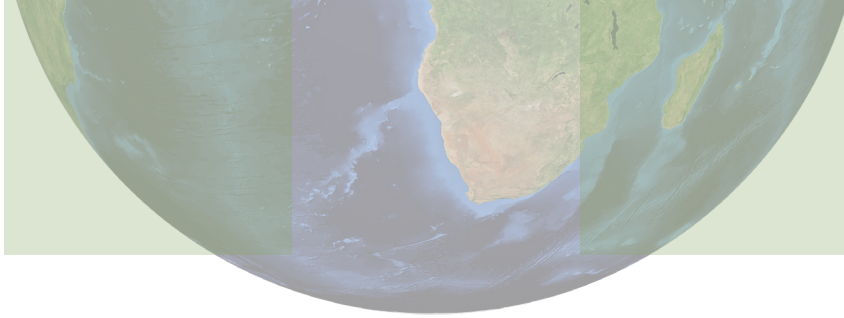
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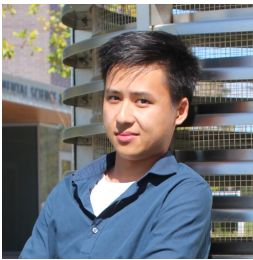
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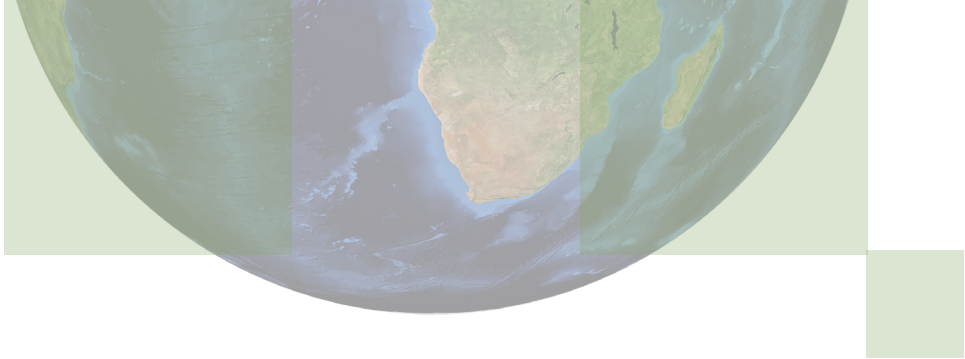
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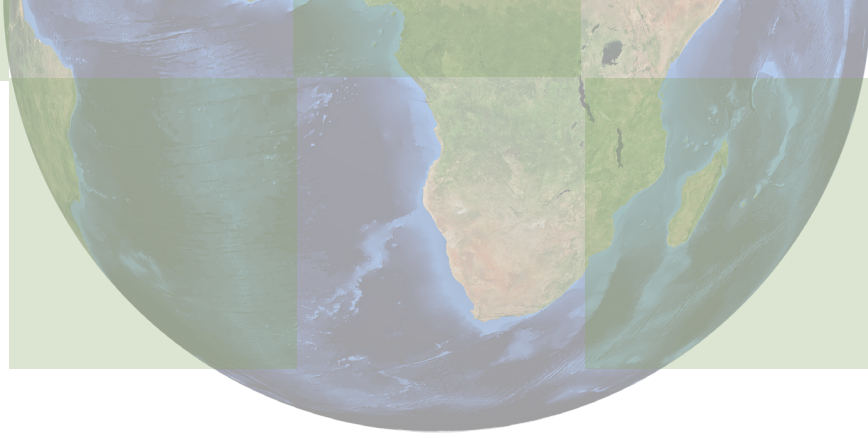


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## About MScSM, IMI, and UTM

# MScSM

Master of Science in  
Sustainability Management



Institute for Management & Innovation  
**UNIVERSITY OF TORONTO**  
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The STTPA Conference is organized by the Master of Science in Sustainability Management (MScSM) program, which is part of the Institute for Management & Innovation (IMI) at the University of Toronto Mississauga (UTM).

The MScSM program provides the training for our graduates to act outside the traditional disciplinary black boxes; integrate knowledge from management, social, and natural sciences to address sustainability issues; and make leading contributions and lasting advances in sustainability management.

The program is unique among science and management graduate programs by providing a strong foundation in sustainability management while offering an opportunity to specialize in a management or science concentration.

The program is designed for students from diverse backgrounds such as management science, social science, natural science and engineering. The program was developed in consultation with leaders and future employers in business, non-profit, research, and government organizations.

