



Boreal Ecosystem Recovery and Assessment 2nd Annual Fall Workshop

Date / time 11/22/2017 8:00 AM | *Location* Taylor Institute, Learning Institute D, University of Calgary

Workshop Overview

Workshop Kick-Off

The workshop will kick-off with welcoming remarks by Greg McDermid to set the stage for a morning of research talks and meaningful dialogue.

Research Highlights

BERA's research teams will provide brief updates of their work to date across two sessions. Each presentation will allow for a three-minute question & answer session. The ecological (wildlife) and sensor network teams will present in session A, and the ecological (vegetation) and remote sensing teams will present in session B.

Interactive Poster Sessions

Participants will be given time to engage with BERA researchers in two interactive poster sessions. BERA researchers will attend their posters to answer questions and talk about their projects.

Guided Roundtable Discussion

A moderated discussion will be held at the end of the workshop, in order to encourage dialogue between the BERA researchers, partners, and collaborators. Topics will include feedback on research activities, suggestions for enhanced science communication, and ideas for the future for BERA.

Program at a Glance

Time	Topic
08:00 – 08:25	Coffee, Setup, and Registration
08:25 – 08:30	Introductions and Welcoming Remarks
08:30 – 09:12	<u>Research Highlights Session A</u> : Ecological (Wildlife) and Sensor Network Teams
09:12 - 09:40	Poster Session A: Ecological (Wildlife) and Sensor Network Teams
09:40 – 10:22	<u>Research Highlights Session B</u> : Ecological (Vegetation) and Remote Sensing Teams
10:22 - 10:45	Poster Session B: Ecological (Vegetation) and Remote Sensing Teams
10:45 – 11:50	<u>Round table discussion</u> : science communication of management implications, next steps for research & new opportunities
12:00 – 1:30	Lunch and further discussion at “Last Defence Lounge”, MacEwan Student Centre



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Agenda

Time	Topic	Presenter
08:00 – 08:25	Coffee, Setup, and Registration	
Session 1: Workshop Kick-Off		
08:25 – 08:30	Introductions and Welcoming Remarks	Greg McDermid (PI) , University of Calgary
Session 2: Research Highlights A: Ecological (Wildlife) and Sensor Network Teams		
08:30 – 09:00	Ecological Team: Wildlife (BERA Bayne Lab)	
	<ol style="list-style-type: none">1. Sound localization for acoustic monitoring of bird populations in response to fire and oil extraction in Alberta's oil sands region2. Canada Warbler response to regenerating linear features3. Use of an Acoustic Location System to Understand Songbird Response to Vegetation Regeneration on Reclaimed Wellsites.4. The effect of understory protection harvesting on Brown Creepers in Alberta's mixedwood forests5. Understanding why certain songbirds are more or less tolerant to chronic industrial noise	Richard Hedley (PDF) , University of Alberta Jocelyn Gregoire (MSc student) , University of Alberta Scott Wilson (MSc graduate) , University of Alberta Connor Charchuk (MSc graduate) , University of Alberta Natalie Sánchez Ulate (PhD student) , University of Alberta
09:00 - 09:12	Sensor Network Team (BERA Liang Lab)	
	<ol style="list-style-type: none">1. An OGC Open Standard-based Internet of Things Prototype for Vegetation Recovery Monitoring in the Boreal Forest Ecosystem2. Human/Animal footprint monitoring using Internet of Things (IOT)	Sara Saeedi (PDF) , University of Calgary Kan Luo (PhD student) , University of Calgary
Session 3: Interactive Poster Session A		
09:12 - 09:40	Posters of ecological (wildlife) and sensor network teams	
Session 4: Research Highlights B: Ecological (Vegetation) and Remote Sensing Teams		
09:40 – 09:58	Ecological Team: Vegetation (BERA Nielsen Lab)	
	<ol style="list-style-type: none">1. Forest recovery and trajectories on seismic lines2. Effects of linear disturbances and fire severity on velvet leaf blueberry in recently burned jack pine forests3. Microtopographic patterns in treated and untreated seismic lines and its implications for tree re-establishment	Angelo Filicetti (PhD student) , University of Alberta Charlotte Dawe, (B.Sc student) University of Alberta Cassandra Stevenson, (B.Sc student) , University of Alberta

Agenda, Cont...

Time	Topic	Presenter
09:58– 10:10	Remote Sensing Team (BERA McDermid Lab) <ol style="list-style-type: none">1. Characterizing Vegetation Structure on Anthropogenic Disturbances Features in Alberta's Boreal Forest with UAVs2. Digital photogrammetry for surveys of conifer stocking	Shijuan Chen , (MSc graduate), University of Calgary Man Fai Wu (PhD student), University of Calgary
10:10 – 10:16	Remote Sensing Team (BERA Castilla Lab) <ol style="list-style-type: none">1. Detecting and measuring conifer seedlings from a drone: can it be done, and at what altitudes?	Guillermo Castilla (Co-PI), Canadian Forest Service
10:16 – 10:22	Remote Sensing Team (BERA-LMU Collaboration) <ol style="list-style-type: none">1. Forest restoration assessment using Deep Learning for image interpretation	Matthias Schubert (Collaborator), Ludwig-Maximilian Uni.

Session 5: Interactive Poster Session B

10:22 - 10:45 **Posters of ecological (vegetation) and remote sensing teams**

Session 6: Round Table Partner and Collaborator Discussion

10:45 - 11:50 **Round table discussion**

1. Given of what you've heard today, what research gaps remain and which elements should be pursued deeper?
2. How clear is the management context and implications of the presented research, and what strategies would contribute to better science communication?
3. Where do you see BERA going with next steps, research opportunities and potential new partnerships over the next two years and beyond?

Session 7: Lunch and Further Discussions

12:00 – 1:30 **Lunch at “Last Defense Lounge”, MacEwan Student Centre**

Participant List

Participant/Organization	Position/Affiliation
<u>Alberta Government</u>	
Shane Patterson	Science and Technology Specialist (Environment & Parks)
<u>Alberta Biodiversity Monitoring Institute</u>	
Jahan Karyieva (remote participation)	Director (Geospatial Center)
Robert Serroya	Director (Caribou Monitoring Unit/RICC)
Melanie Dickie	Coordinator (Caribou Monitoring Unit/RICC)
Craig DeMars	Post-doctoral Fellow (Caribou Monitoring Unit/RICC)
Sean Konkolics	Student (Caribou Monitoring Unit/RICC)
<u>Alberta Energy Regulator</u>	
Todd Shipman	Landscape and Geological Hazards Manager
<u>Alberta-Pacific Forest Industries, Inc.</u>	
Margaret Donnelly	Forest Ecologist
Elston Dzus (remote participation)	Forest Ecologist
<u>Canadian Forest Service/NRCAN</u>	
Guillermo Castilla	Research Scientist (BERA PI Team)
<u>Canadian Natural Resources Ltd.</u>	
Jon Gareau	Environmental Coordinator
<u>Cenovus Energy</u>	
Michael Cody	Senior Advisor (Land & Biodiversity)
<u>Conoco Phillips Canada</u>	
Robert Albricht	Land Stewardship Coordinator
Scott Grindal	Environmental Coordinator
<u>Devon Canada Corporation</u>	
Amit Saxena	Biodiversity & Stewardship Coordinator
<u>Imperial Oil</u>	
Lori Neufield	Land Use and Biodiversity Lead
<u>Ludwig-Maximilian University, Munich Germany</u>	
Matthias Schubert (remote participation)	Research Scientist Database Systems (BERA Collaborator)
<u>MEG Energy Corp.</u>	
Caroline Hann	Field Environment and Regulatory Coordinator
<u>Orthoshop Geomatics Ltd.</u>	
Dylan Barreira	Operations Manager
Sam Rondeel	Productions Manager

Suncor Energy

Mark Boulton Senior Environmental Advisor

University of Alberta

Erin Bayne Professor (BERA PI Team)

Jocelyn Gregoire MSc Student (Bayne Lab)

Scott Wilson MSc (Bayne Lab)

Natalie Sánchez Ulate PhD Student (Bayne Lab)

Richard Hedley Post-doctoral Fellow (Bayne Lab)

Scott Nielsen Assoc. Professor (BERA PI Team)

Angelo Filicetti PhD Student (Nielsen Lab)

Cassandra Stevenson B.Sc. Student (Nielsen Lab)

University of Calgary

Greg McDermid Professor (BERA PI Team)

Julia Linke Science Coordinator (BERA PI Team)

Man Fai Wu PhD Student (McDermid Lab)

Shijuan Chen (remote participation) M.Sc. (McDermid Lab)

Steve Liang Assoc. Professor (BERA PI Team)

James Badger Research Technician (Liang Lab)

Sara Saeedi Post-doctoral Fellow (Liang Lab)

Kan Luo PhD Student (Liang Lab)

Woodlands North

Geoff Sherman Senior Forest Ecologist