



# ABBY-Net Research Workshop Agenda Calgary 2019



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## Workshop Overview

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### Workshop Kick-Off

The workshop will kick-off with welcoming remarks by Greg McDermid to set the stage for a morning of ABBY-Net E<sup>3</sup>-systems research. Dr. Dueck from the International Office and the Vice-President of Research will also make a welcoming address for the workshop.

### Research Project Highlights

ABBY-Net researchers will provide an overview of some of their completed, ongoing and proposed E<sup>3</sup>-systems projects. These overviews will be given in 3-minute lightening talks, alternated with 15-minute research presentations.

### Guided Roundtable Discussion

A moderated discussion will be held after the research presentations to encourage dialogue among and obtain feedback from ABBY-Net researchers, collaborators and guests and on the existing and potential additional paths for the future of ABBY-Net.

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## Program at a Glance

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<i>Day 1: August 8</i>	<i>Activity</i>	<i>Venue</i>
6:00 – 9:00 pm	Open Social	<a href="#">Moose McGuire's</a> , 1941 Uxbridge Dr NW, Calgary, AB
<i>Day 2: August 9</i>	<i>Activity</i>	<i>Venue</i>
8:30 am	Workshop Opening (Dr. McDermid)	Taylor Institute for Teaching and Learning (TI), U of C, Studio A
8:35 – 8:40	Welcome from UofC International Office (Dr. Dueck)	TI, Studio A
8:40 - 8:45	Welcome from UofC Vice-President of Research (Dr. Buret)	TI, Studio A
8:45 - 9:00	Introduction to ABBY-Net (Dr. Ludwig)	TI, Studio A
9:00 – 10:10	ABBY-Net E <sup>3</sup> -systems projects: Research Presentations on Completed/Ongoing Projects – Session 1	TI, Studio A
10:10 – 10:30	Break	TI, Studio A
10:30 – 11:55	ABBY-Net E <sup>3</sup> -systems projects: Research Presentations on Ongoing/Proposed Projects – Session 2	TI, Studio A
11:55– 12:15 pm	Group Discussion – Session 3	TI, Studio A
12:15 – 1:15	Lunch (completes public workshop)	TI, Studio A
1:15 – 5:30	Internal Workshop	TI, Studio A
8pm	Workshop Dinner	<a href="#">Last Best Brewing Company</a> , 607 11 Ave SW, Calgary, AB

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# Workshop Agenda

<i>Time</i>	<i>Topic</i>	<i>Presenter</i>
08:00 – 08:30 am	Coffee, Setup, and Registration	
<i>Workshop Kick-Off</i>		
8:30 am	Workshop Opening	<b>Dr. Greg McDermid</b> University of Calgary
8:35 – 8:40	Welcome from UofC International Office	<b>Dr. Cheryl Dueck</b> University of Calgary
8:40 - 8:45	Welcome from UofC Vice-President of Research	<b>Dr. André Buret</b> University of Calgary
8:45 - 9:00	Introduction to ABBY-Net	<b>Dr. Ralf Ludwig</b> Ludwig- Maximilian University
<i>Session I: Completed and Ongoing ABBY-Net E3-Systems Research Project Updates</i>		
9:00-9:20 am	Project #13a: <u>The Impact of Electric Vehicles on the Energy System of Alberta</u>	<b>Dr. Ganesh Doluweera</b> (Collaborator), CERI
9:20-9:25	Project #9: <u>Decision Process of Autonomous Drones for Environmental Monitoring</u>	<b>Maximilian Ulmer</b> (Master Student) TUM
9:25- 9:45	Project #18: <u>Comparing Laser Scanning and photogrammetry to detect openings in the boreal forest in Alberta</u>	<b>Annette Dietmaier</b> (Master Student) LMU
9:45 – 9:50	Project # 24: <u>Interactions of Renewable Energy Technologies with Traditional Fossil-Fueled Grids</u>	<b>Matt Tierney</b> (Master Student), UofC
9:50 – 10:10	Project # 1a: <u>Deep/Machine learning to support restoration assessment -seedling detection</u>	<b>Dr. Matthias Schubert</b> LMU
20-Minute Break		
<i>Session 2: Completed and Ongoing ABBY-Net E3-Systems Research Project Updates</i>		
10:30-10:50am	Project #4: <u>Change in heating and cooling demand due to climate change in Alberta and Bavaria and its influence on local energy systems</u>	<b>Philipp Bauer</b> (Master Student), LMU
10:50 – 10:55	Project #11a: <u>Assessing the impacts of land use and climate change on nitrate exports from a sub-basin of the Oldman R.</u>	<b>Dr. Ralf Ludwig</b> LMU
10:55 – 11:00	Project #3a: <u>Regional assessment of opportunities and challenges of alternative energy technologies and their environmental impacts</u>	<b>Amarachi Kalu</b> (PhD Student) LMU
11:00 – 11:20	Project #3b/c: <u>The Future of Gas Markets: Conventional vs. Renewable Gases</u>	<b>Thomas Plankenbuehler</b> (Postdoctoral Fellow) FAU
11:20 – 11:25	Project # 20: <u>Automated Monitoring of Well Sites Using Satellite Imagery</u>	<b>Jakaria Rabbi</b> (Master Student) UofA
11:25 – 11:30	Project #1c: <u>The Edmonton Tree Project</u>	<b>Dr. Matthias Schubert</b> LMU
11:30 – 11:35	#17: <u>Economics and Technology Acceptance of Distributed Energy Storage Systems Using the Example of Hybridized Flywheel Energy Storage</u>	<b>Dr. Pierre Mertiny</b> UofA

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<i>Time</i>	<i>Topic</i>	<i>Presenter</i>
11:35 – 11:55	<b>Socio-Economics Research Example: <u>Landowner Acceptance of Wind Farm Development in Alberta</u></b>	<b>Dr. Sven Anders</b> UofA
<i>Session 3: Existing and potential paths of ABBY-Net</i>		
11:55 – 12:15	<b>Moderated group discussion</b>	<b>Drs. McDermid &amp; Ludwig</b> UofC & LMU
<b>1-Hour Lunch Break (lunch provided)</b>		
1:15 – 5:30	<b>Internal Workshop (for ABBY-Net PIs)</b>	

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## List of Workshop Participants (\* indicates remote participation)

<b>ABBY-Net Members</b>	<b>Role</b>	<b>University</b>	<b>Department/Faculty</b>
Prof. Dr. Greg McDermid	Spokesperson/Princ. Investigator	UofC	Geography
Prof. Dr. Joule Bergerson	Principal Investigator	UofC	Chem. and Petroleum Engineer.
Prof. Dr. Bernhard Mayer	Principal Investigator	UofC	Geoscience
Dr. Julia Linke	Science Coordinator	UofC	Computing Science/Geography
Prof. Dr. Sven Anders	Representative/Princ. Investigator	UofA	Agriculture, Life and Env. Sc.
Prof. Dr. Pierre Mertiny	Principal Investigator	UofA	Mechanical Engineering
Prof. Dr. Nilanjan Ray	Principal Investigator	UofA	Computing Science
Prof. Dr. Ralf Ludwig	Spokesperson/Princ. Investigator	LMU	Geography
Dr. Matthias Schubert	Principal Investigator	LMU	Math., Informatics and Statistics
Prof. Dr. Juergen Karl	Representative/Princ. Investigator	FAU	Energy Process Engineering
<b>Guests, Collaborators, and Students</b>	<b>Role</b>	<b>Institution</b>	<b>Department/Faculty</b>
Dr. André Buret	Vice-President of Research	UofC	Research
Dr. Cheryl Dueck	Senior Academic Director	UofC	International
Gregory Mack	Manager, International Relations	UofC	International
Dr. Cathy Ryan	Associate Dean (Research)	UofC	Science
Heather Clitheroe	International Coordinator	UofC	Science
Dr. Guillermo Castilla	Remote Sensing Scient./ ABBY-Net coll.	NRCAN	Canadian Forest Service
Dr. Nader Mahinpey	Professor and IRC Chair	UofC	Chem. And Petroleum Engineer.
Dr. Petra Dolata	Associate Professor	UofC	History
Dr. Victoria Fast	Assistant Professor	UofC	Geography
Dr. Tricia Stadnyk	Associate Professor	UofC	Geography
Dr. Roland Roesler	Associate Professor	UofC	Chemistry
Dr. Simon Trudel	Associate Professor	UofC	Chemistry
Ganesh Doluweera	Director of Research/ABBY-Net coll.	CERI	
Thomas Plankenbuehler	Post-doctoral fellow ABBY-Net	FAU	Engineering
Amarachi Kalu	PhD Student ABBY-Net/summer school	LMU	Geography
Philipp Bauer	Master Student ABBY-Net/summer sch.	LMU	Geography
Matt Tierney	Masters Student ABBY-Net/summer sch.	UofC	Engineering
Julia Yuan	ABBY-Net summer school student 2019	UofC	Chemical Engineering
Meysam Shahri	ABBY-Net summer school student 2019	UofC	Chemical Engineering
Faisal Bajwa	ABBY-Net summer school student 2019	UofC	Geography
Salar Ghaffarian	ABBY-Net summer school student 2019	UofC	Geography
Shah Ahmad	ABBY-Net summer school student 2019	UofA	Bioresource Technology
Jakaria Rabbi*	Masters Student ABBY-Net	LMU	Computing Science
Annette Dietmaier*	Masters Student ABBY-Net	LMU	Geography
Maximilian Ulmer*	Masters Student ABBY-Net	TUM	Computing Science