



## Fields Institute's Mathematics for Climate Change (MfCC) Network & Waterloo Institute for Complexity and Innovation (WICI)

### "Math for Complex Climate Challenges" Workshop May 1 - 4, 2023

University of Waterloo - St. Jerome's University Academic Centre (SJ2)  
290 Westmount Road North, Waterloo, Ontario

#### DRAFT AGENDA

Note: Days 1-3 envision clustered thematic 15-minute talks in break-out rooms, followed by research question brainstorming. We anticipate a call for participation to further guide topic development.

\*Proposed topics may change subject to availability of invited speakers.\*

#### DAY ONE

Time	Event	Room
8:00 a.m.	Breakfast Meet-and-greet	Atrium
8:45 a.m.	Welcoming remarks	SJ2 1002
9:00 - 10:20 a.m.	"The climate system-biophysical and social interactions" <i>Invited talk with Sarah Burch</i>	SJ2 1002
	Break (15 minutes)	
10:40 a.m. - 12 p.m.	"Understanding cross-scale systems and feedbacks" <i>Invited talk with Francis Poulin</i>	SJ2 1002
12 - 1:30 p.m.	Lunch & networking	TBD
1:30 - 2:45 p.m.	15 Minute talks ( <i>suggested topics</i> ): <ul style="list-style-type: none"><li>• Aquatic ecosystems</li></ul>	SJ2 1002 OR SJ2 2001/ 2003/2007

	<ul style="list-style-type: none"> <li>• Urban climate challenges</li> <li>• Complex coupled-human natural systems modelling</li> </ul>	
	30 Minute small group question harvesting	
	Break (30 minutes)	
3:15 - 4:30 p.m.	(Round 2) 15 Minute talks ( <i>3 topics TBD by submissions</i> ): <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> 30 Minute small group question harvesting	SJ2 1002 OR SJ2 2001/ 2003/2007
	Break (15 minutes)	
4:45 - 5:00 p.m.	Interactive commenting & wrap up discussion ( <i>via Miro virtual whiteboard or poster board?</i> )	SJ2 1002

## DAY TWO

Time	Event	Room
8:00 a.m.	Breakfast Meet-and-greet	Atrium
8:45 a.m.	Welcoming remarks	SJ2 1002
9:00 - 10:20 a.m.	<i>"Wetlands - Scale and connectivity"</i> <i>Invited talk with Nandita Basu &amp; Rebecca Rooney (TBC)</i>	SJ2 1002
	Break (15 minutes)	
10:40 a.m. - 12 p.m.	<i>"Modelling coupled Social-Climate systems and using data-driven dynamical systems to predict climate tipping points"</i> <i>Invited talk with Chris Bauch &amp; Madhur Anand</i>	SJ2 1002
12 - 1:30 p.m.	Lunch & networking	TBD
1:30 - 2:45 p.m.	15 Minute talks ( <i>suggested topics TBC</i> ): <ul style="list-style-type: none"> <li>• Protected areas / reserve design</li> </ul>	SJ2 1002 OR SJ2 2001/ 2003/2007

	<ul style="list-style-type: none"> <li>• Energy networks / supply chains-design and resilience</li> <li>• Social networks and social imitation/contagion/norm adoption</li> </ul>	
	30 Minute small group question harvesting	
	Break (30 minutes)	
3:15 - 4:30 p.m.	(Round 2) 15 Minute talks ( <i>3 topics TBD by submissions</i> ): <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul> 30 Minute small group question harvesting	SJ2 1002 OR SJ2 2001/ 2003/2007
	Break (15 minutes)	
4:45 - 5:00 p.m.	Interactive commenting & wrap up discussion ( <i>virtual whiteboard or poster board?</i> )	SJ2 1002
5:00 - 6:00 p.m.	Art Reception	Atrium

## DAY THREE

Time	Event	Room
8:00 a.m.	Breakfast Meet-and-greet	Atrium
8:45 a.m.	Welcoming remarks	SJ2 1002
9:00 - 10:20 a.m.	“Climate finance/macroeconomics” <i>Invited talk (speaker TBC)</i>	SJ2 1002
	Break (15 minutes)	
10:40 a.m. - 12 p.m.	“Statistics for complex climate problems” <i>Invited talk (speaker TBC)</i>	SJ2 1002
12 - 1:30 p.m.	Lunch & networking	TBD
1:30 - 2:45 p.m.	15 Minute talks ( <i>suggested topics TBC</i> ):	SJ2 1002 OR

	<ul style="list-style-type: none"> <li>• Climate economics and governance</li> <li>• Decarbonization (including carbon currencies) and climate risk</li> <li>• Carbon sequestration</li> </ul>	SJ2 2001/ 2003/2007
	30 Minute small group question harvesting	
	Break (30 minutes)	
3:15 - 4:30 p.m.	(Round 2) 15 Minute talks (3 topics TBD by submissions): <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul>	SJ2 1002 OR SJ2 2001/ 2003/2007
	30 Minute small group question harvesting	
	Break (15 minutes)	
4:45 - 5:00 p.m.	Select breakout rooms for grant development groups	SJ2 1002
6:00 - 8:00 p.m.	Dinner	Federation Hall

## DAY FOUR

Note: Day 4 envisions three topic moderators to lead planning on three research topics (identified during days 1-3), with target grant proposal development in mind.

Time	Event	Room
8:00 a.m.	Breakfast	Atrium
9:00 - 10:20 a.m.	<i>Research Planning Workshops</i>	SJ2 1002, 2001 & 2002
	Break (20 minutes)	
10:40 a.m. - 12 p.m.	<i>Research Planning Workshops (rotate rooms)</i>	SJ2 1002, 2001 & 2002
12 - 1:30 p.m.	Closing remarks & Lunch	TBD

1:30 - 3:30 p.m.	MfCC Steering Committee Meeting (TBC)	SJ2 2001
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