

GUINEAPIG = GeV and Under Invisibles with New Experimental Assays for Particles in the Ground – Meeting Agenda

July 11-13, 2023

Université of Montréal, Montréal, Quebec

Virtual links will be provided on the Indico Page to those registered.

After a successful 2022 edition, **GUINEAPIG 2023** is returning even **furrer and squeakier than before** to bring together leading experts to discuss new ideas and direct search methods for lighter, sub-GeV, particle dark matter.

Please Note: In-person attendance at the GUINEAPIG workshop will be limited by the capacity of the venue. Priority for in-person attendance will be given to invited speakers. We invite people to register for the workshop and indicate their preference. We will accommodate virtual attendees.

Thank you in advance for making this event a success, two years in a row!

2023 GUINEAPIG Organizing Committee:

- Pietro Giampa, TRIUMF
- David Morrissey, TRIUMF
- David McKeen, TRIUMF
- Erica Brunelle, SNOLAB
- Jeter Hall, SNOLAB
- Katelin Schutz, McGill University
- Alan Robinson, Université de Montréal
- Miriam Diamond, University of Toronto



Logo Artwork by: Dr. Saniya Heeba

Day 1: Tuesday July 11, 2023		
10:00 AM	Welcome to GUINEAPIG – Opening Remarks	Planning Committee
Invited Talks – Session 1 Chair: Katelin Schutz		
10:15 AM	Probing cosmic histories in the lab	Jessie Shelton
10:45 AM	New Opportunities to Detect Axion Dark Matter	Asher Berlin
11:15 AM	<i>Discussion</i>	<i>30 mins.</i>
11:45 AM	<i>Lunch</i>	<i>60 mins.</i>
Invited Talks – Session 2 Chair: David Morrissey		
12:45 PM	Improving dark matter sensitivities with new ionization detectors	Daniel Egana-Urinovic
1:15 PM	New directions for direct detection with dielectrics	Ben Lehmann
1:45 PM	<i>Discussion</i>	<i>30 mins.</i>
2:15 PM	<i>Break</i>	<i>30 mins.</i>
Invited Talks – Session 3 Chair: Jeter Hall		
2:45 PM	The entanglement of quantum computing and dark matter searches	Chris Wilson
3:15 PM	Leveraging Quantum Sensors for Dark Matter Detection	Daniel Baxter
3:45 PM	Sub GeV DM Detection using Superconducting Tunnel Junction Sensors	Geon-Bo Kim
4:15 PM	<i>Discussion</i>	<i>30 mins.</i>
4:45 PM	<i>Closeout Day 1</i>	Planning Committee
<i>Evening Dinners TBD – Various Sign-Up Sheets with several cuisines will be provided at the venue for interested in-person attendees. Stay tuned for more details about this on Day 1.</i>		

Day 2: Wednesday July 12, 2023

10:00 AM	Welcome to Day 2 – Morning Coffee & Gather	
Invited Talks – Session 4 Chair: Miriam Diamond		
10:15 AM	Searching for sub-GeV dark matter with SuperCDMS	Ziqing Hong
10:45 AM	Reaching the meV Scale for Direct Detection with Quantum Sensors	Noah Kurinsky
11:15 AM	<i>Discussion</i>	30 mins.
11:45 AM	<i>Lunch</i>	60 mins.
Invited Talks – Session 5 Chair: Saniya Heeba		
12:45 AM	Latest results from the NEWS-G experiment	Jean-Marie Coquillat
1:15 AM	QUEST-DMC: Probing Dark Matter with Nanowires, Superfluid Helium-3, and Quantum Sensors	Paolo Franchini
1:45 PM	<i>Discussion</i>	30 mins.
2:15 PM	<i>Break</i>	30 mins.
Invited Talks – Session 6 Chair: David McKeen		
2:45 PM	Expanding Dark Matter Direct Detection Reach Through Loops	Melissa Diamond
3:15 PM	Thermal-ish targets for Dirac-ish dark matter	Saniya Heeba
3:45 PM	Update on the Montreal X17 Search Experiment	Viktor Zacek
4:15 PM	<i>Discussion</i>	30 minutes
4:45 PM	<i>Closeout Day 2</i>	Planning Committee

Day 3: Thursday July 13, 2023

10:00 AM	Welcome to Day 3 – Morning Coffee & Gather	
Invited Talks – Session 7		
Chair: Pietro Giampa		
10:15 AM	Progress Toward Low-Mass Dark Matter Detection with Superfluid He (HeRALD) and Polar Crystals (SPICE)	David Osterman
10:45 AM	CUTE: A Cryogenic Underground TEst Facility at SNOLAB	Andy Kubik
11:15 AM	An Analytic Approach to Light Dark Matter Attenuation	Christopher Cappiello
11:45 AM	<i>Discussion</i>	<i>30 minutes</i>
12:15 PM	<i>Lunch</i>	<i>60 minutes</i>
Montreal Ice Cream March		
1:15 PM	<p><i>The planning committee invites you to attend a Montreal-driven Ice Cream March, which will allow participants to experience multiple frozen treats!</i></p> <p><i>A Café Crawl will be substituted in case of bad weather.</i></p>	<i>Led by Katelin Schutz (& Planning Committee)</i>
4:15 PM	<p><i>Closeout Day 3</i></p> <p><i>Thank you for attending GUINEAPIG 2.0!</i></p>	<i>Planning Committee</i>