



**2023
UNDERGRADUATE
RESEARCH
CONFERENCE**

HOSTED BY

*The Arts and Science Students' Union (ASSU)
at the University of Toronto
January 27, 2023*





2023 Undergraduate Research Conference

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2023 Undergraduate Research Conference

Letter from the Conference Directors

We are excited to have you join us for the sixth annual ASSU Undergraduate Research Conference!

This conference has been in the works for many months and we have dedicated numerous hours to organizing this event. An event like this is a team effort and we would like to thank all the student presenters, volunteers, faculty members, programs, departments, and Course Unions who supported us along the way. We would especially like to thank the students of our Selections Committee, along with the committee chairs: Professors John De Backere, Dr. Chandni Desai, and Dr. Christopher Warley.

Our purpose is to showcase the research that is being undertaken by undergraduate students across all academic fields within the Faculty of Arts and Science. Presenters will have the opportunity to break barriers between disciplines and present their research to a wide audience; such opportunities are often few and far between for undergraduates. Audience members will have the opportunity to listen to expertise on the innovative research that is being done at U of T, engage with students, and think critically about the knowledge that is being shared.

We are delighted to be fully back in person this year. Though COVID has presented many setbacks, we wanted to ensure that the conference was still able to go on. We believe that now more than ever, students can benefit from learning from and supporting their peers, and appreciate that accomplishments continue to be made despite barriers. We are truly inspired by the resilience and hard work of our students. Today's presentations will illuminate the work that our students continue to do and, most importantly, highlight their dedication to learning, finding solutions, and contributing to global change.

We hope that you enjoy the conference, and we cannot thank you enough for supporting our Arts and Science community.

Sincerely,

Sidrah Rana
Chemistry | Physics | Mathematics
Executive, Arts & Science Students' Union

Jolie Gan
Health Studies | Political Science | Epidemiology
Executive, Arts & Science Students' Union

Arts & Science Students' Union | University of Toronto | Room 1068, 100 St George Street, Toronto | 416-978-4903 | assu.ca

The University of Toronto is situated on the territory of the Huron-Wendat and Petun First Nations, the Seneca, and most recently, the Mississaugas of the Credit River.

#URC2023



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Keynote Address

About the Keynote Speaker

Dylan Clark is a cultural anthropologist whose work centers on the production of collectivities, including cultures, nations, genders, and subcultures. He is particularly interested in the assumption of culture by youths and young adults.

His areas of interests include environmental issues, gender studies, urban studies, youth studies, foodways, and popular culture, among others.





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Selections Committees

SCIENCES SELECTIONS COMMITTEE

Academic Chair: **Dr. John De Backere**
Student Members: **Dima El Hassanieh**
Ungku Zoe Anysa Ungk Fa'iz
Ofek Gross

HUMANITIES SELECTIONS COMMITTEE

Academic Chair: **Dr. Christopher Warley**
Student Members: **Kai Zhang**
Manraj Johal
Carmina Cornacchia

SOCIAL SCIENCES SELECTIONS COMMITTEE

Academic Chair: **Dr. Chandni Desai**
Student Members: **Ranya Sharma**
Aditi Upadhyaya
Serena Honekin



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Day Schedule

Friday, January 27, 2023

Time	Location(s)	Item
10:00 AM – 11:00 AM EST	SS1069	Opening Remarks
11:00 AM – 12:00 PM EST	Various Sidney Smith Rooms	Morning Session
12:00 PM – 2:00 PM EST	Sidney Smith Lobby	Poster Session + Lunch
3:00 PM – 5:00 PM EST	Various Bissel Rooms	Afternoon Session

Detailed Itinerary

10:00 AM – 11:00 AM	Opening Remarks Keynote Speaker
11:00 AM – 12:00 AM	Morning Session <i>Session I: Reflections & Perceptions (SS 1069)</i> <i>Session II: Climate, Health & Environment (SS 1072)</i> <i>Session III: Biological Mechanisms, Disease & Treatment (SS1084)</i> <i>Session IV: Explorations & Deeper Findings (SS 2106)</i>
12:00 PM – 2:00 PM	Poster Presentations + LUNCH BREAK
3:00 PM – 5:00 PM	Afternoon Session <i>Session V: Social Injustices & Equity (BL 112)</i> <i>Session VI : Science & Environment (BL 114)</i> <i>Session VII : Investigations, Languages, & Thought (BL 313)</i>



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Morning Session: 11:00 AM – 12:00 AM

Session 1: Reflections & Perceptions (SS 1069)

Room Moderator: Fatemeh Nami

11:00 AM

Hot or Not: How Does an Instructor's Physical Attractiveness Impact a Student's Perceptions of the Instructor's Teaching Abilities?

Stephanie Saab

11:15 AM

Narrating Slow Violence through Form: "The remains / Of the unfinished Sheep-fold" in Wordsworth's "Michael."

Amory Zhao

11:30 AM

Profiting From Reproduction: Women as Bearers of Male Citizenship

Lucy Stark

11:45 AM

Figuring Tough Subjects: Vague Labour and Narratorial Detection in Bleak House

Alexander Lynch

Session 2: Climate, Health & Environment (SS 1072)

Room Moderator: Fayo Baker

11:00 AM

Reactive Uptake of Gas-Phase NO₂ by Urban Road Dust in the Dark

Zoë Golay

11:15 AM

Practitioners' Current Experience and Future Expectation of the Impact of Climate Change on Urban Agriculture in Toronto

Aden Fisher

11:30 AM

Relationship Between Global Protein Content Claim Regulatory Frameworks and Nutrient Intakes of Canadians

Songhee Back

11:45 AM

Ionic composition of particulate matter across Canada shows evidence for near-ubiquitous chloride activation and sulphate neutralization

Emma McLay



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Session 3: Biological Mechanisms, Disease & Treatment (SS1084)

Room Moderator: Mariam Ali

11:00 AM

Identifying Novel Nematicides to Combat Plant Parasitic Nematodes

Savina Cammalleri

11:15 AM

Stress fiber mediated mechanical stress on the nucleus allows for proper inflammatory signaling and fibroblast to myofibroblast differentiation

Daphne Jiang

11:30 AM

Effect of Liver X Receptors on Protein Levels of Key Low-Density Lipoprotein

Transcytosis Receptors

Matea Maurice

11:45 AM

Using COBWEB to model the efficacy and mechanisms of autologous faecal microbiota transplantation in a dysbiotic gut microbiota

Christopher Ryan Tan and Chuyun Zhang

Session 4: Explorations & Deeper Findings (SS 2106)

Room Moderator: Sarah Rana

11:00 AM

Examining the association between Cognition and Occupation: Cognitive differences predicting Occupations

Xianze Meng

11:15 AM

Practice what you preach: Children persist less when values and reward structures are inconsistent

Yi Lin (Elaine) Wang

11:30 AM

Identifying Exoplanet Candidates in Gaia Data Release 3

Daniella Morrone

11:45 AM

Training multisensory perceptual binding improves visual object memory

Eliz Shimshek



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Poster Presentation Sessions and Lunch Break: 12:00 PM – 2:00 PM

Afternoon Session: 3:00 PM – 5:00 PM

Session 5: Social Injustices & Equity (BL 112)

Room Moderator: Sarah Rana

3:15 PM

Racial Disparities in Mortality Among African-Americans

Shayaan Kaleem

3:30 PM

A Manipulation of Ethnic Divisions; How Neopatrimonialism Affects Democratic Transition in Côte D'Ivoire and Ghana

Gregor Hrelja

3:45 PM

The Politics of Outgroup Resentment Among White Canadians: Attitudes Towards Multiple Outgroups and Effects on Welfare Spending Preferences

Reshad Mubtasim-Fuad

4:00 PM

Great Transformations in the Mountains and the Hills: The Advent of Modernism in the Kurdish Nation and its Divergence from European Modernism

Jevan Konyar

4:15 PM

Behind 'Made in Bangladesh' Labels: Individual and Structural Violence Against RMG Workers

Abyaaz Khan

Session 6: Science & Environment (BL 114)

Room Moderator: Eugene Seo

3:15 PM

Microplastics Identified in Arctic Char and Their Summer Feeding Habitat in Byron Bay, Nunavut

Emilie Nero

3:30 PM

Two-Dimensional Numerical Simulations of Mixing under Ice Keels

Sam De Abreu



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3:45 PM

Chronic Stress Impairs Recognition Memory in Middle-Aged Mice

Anna Mouzenian

4:00 PM

The Application of Propensity Score and Random Forest in the Causal Inference: The Causality of Stroke

Yanke Mao

4:15 PM

Investigating the Mechanism of Neuron-Dependent Chemo-Resistance in Glioblastoma

Xiaodi Chen

Session 7: Investigations, Languages, & Thought (BL 313)

Room Moderator: Firdaus Sadid

3:15 PM

The Mystery of the Evolvment of Language

Owen Meunier

3:30 PM

An Analysis on the Performance of Cap-and-Trade Systems

Sihan Ren

3:45 PM

Comparative Constructions in Kirundi

Mechelle Wu

4:00 PM

Policy Prescription for Misdiagnosis in Indigenous Women of Canada

Bhavnoor Pannu

4:15 PM

Exploring The Potential of Chatbots to Provide Mental Well-being Support for Computer Science Students

Kunzhi Yu and Andrew Chung

4:30 PM

What Are Patient Perspectives on Privacy and Trust in Digital Genomic Tools? A Qualitative Study

Vedika Jha