

Conference Schedule

Friday, October 13, 2023

| Time | Activity | Location |
|-------------|--|-----------------------------|
| 12:00-3:00 | Registration | MCDH 237 |
| 12:00-12:30 | CS Programming Competition briefing | MCDH 242 |
| 1:00-6:00 | Computer Science Programming Competition | CASS 101, 104, 105 |
| 2:00-5:30 | Mathematics Competition | MCDH Room 328 |
| 2:30-3:30 | Joint meeting of Math/Stats and CS committees | MCDH 242 |
| 3:30-5:00 | Math & Stats committee meeting | MCDH 243 |
| 3:30-5:00 | CS committee meeting | MCDH 246 |
| 5:00-7:00 | Registration | MCDH 245 |
| 6:00-7:00 | Pizza Party | MCDH-Schurman Market Square |
| 7:00-7:15 | Official Welcome and opening remarks | MCDH 242 |
| 7:15-8:15 | Blundon Lecture: Franklin Mendivil <i>Sets of sums and sums of sets</i> | MCDH 242 |
| 8:15-9:15 | Reception | MCDH-Schurman Market Square |

Saturday, October 14

| Time | Activity | Location |
|-------------|--|--|
| 8:00-11:00 | Registration | MCDH 245 |
| 8:10-10:30 | Undergraduate Talks in Mathematics/Statistics | MCDH 328 & 329 |
| 8:10-10:30 | Undergraduate Talks in Computer Science | MCDH 246 |
| 10:30-11:00 | Refreshment Break | MCDH-Schurman Market Square |
| 11:00-12:00 | Field Lecture: Joanna Mills Flemming <i>Portholes into an Underwater World: Data and Models Unveil Secrets of the Sea</i> | MCDH 242 |
| 12:00-1:30 | Lunch Break | |
| 1:30-3:30 | Undergraduate/Graduate Talks in Mathematics/Statistics | MCDH 328 & 329 |
| 1:30-3:30 | Undergraduate/Graduate Talks in Computer Science | MCDH 246 |
| 3:30-4:00 | Refreshment Break | MCDH-Schurman Market Square |
| 4:00-5:00 | Sedgwick lecture: Kathleen Fraser <i>Ethical AI: What does it mean, how can we do it, and why should we care?</i> | MCDH 242 |
| 5:30-6:30 | Conference Banquet | WA Murphy Student Centre-McMillan Hall-110 |

1 Detailed Program for Saturday, October 14

Talks are held in three parallel sections.

2 Session I¹

MCDH 246

| Time | Speaker | Title | |
|-------------|---------------------|---|------|
| | Spandana Chereddy | An Alignment-Free Approach to DNA Sequence Classification and Microbial Adaptation Analysis | U-CS |
| 8:10-8:30 | Aakanksha Khandwaha | Analysis of racial and gender bias in MIMIC-IV clinical notes via natural language processing | U-CS |
| 8:30-8:50 | M. A. Agowun | A Two Stream GNN for Point Cloud Classification | U-CS |
| 8:50-9:10 | S. Wadhwa | Unveiling the Potential of Ubuntu Touch OS: Privacy-Centric Features, and Private Server Integration | U-CS |
| 9:10-9:30 | Baxter Madore | A Submodelling-Based Approach to Expected Points in North American Football using Scikit-Learn | U-CS |
| 9:30-9:50 | Xinyi Li | Saving energy for multitask soft real-time system using RL and DVFS | U-CS |
| 9:50-10:10 | Lai T Uyen | Verification of Heaps' law in large language model emulated text with implications for energy-efficient query processing | U-CS |
| 10:10-10:30 | Wenwen Wang | Fourier Transform-based Unsupervised Clustering of DNA Sequences | U-CS |
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| 1:30-1:50 | Charanpreet Singh | Enhancing Potato Crop Disease Detection and Classification Using Deep Learning and Robotic Imaging | G-CS |
| 1:50-2:10 | Ethan Heavey | The Art of Contradiction Detection | G-CS |
| 2:10-2:30 | Riya Pandey | Exploring the Genomic Signatures in a lower Dimensional Space | G-CS |
| 2:30-2:50 | Mingyue Guo | A Solution to The Four-Dogs Pursuit Problem by a System of Ordinary Differential Equations and a Description of Instantaneous Position During the Process Based on the Solution | U-MS |
| 2:50-3:10 | Hudson X. Forance | The Proper Spherically Symmetric Frame in Teleparallel Geometries | U-MS |
| 3:10-3:30 | Timothy Power | An Extension of the Solow-Swan Growth Model | U-MS |

¹All Computer Science talks and two Mathematics and Statistics undergraduate talks.

3 Section II²

MCDH 328

| Time | Speaker | Title | |
|-------------|-----------------------|--|------|
| 8:10-8:30 | Kevin Saville | The Science of Selection: Predicting NBA All-Stars Through Analytics | U-MS |
| 8:30-8:50 | Anders Cornect | An Improved Algorithm for Gromovs Approximating Tree | U-MS |
| 8:50-9:10 | Ethan Saunders | Proper Circular Arc Graphs and Circular Robinson Spaces | U-MS |
| 9:10-9:30 | Andrew Allen | Reducing the T-count of quantum C^n -NOT gates | G-MS |
| 9:30-9:50 | Anson Green | QFASApp: A Friendly Interface for QFASA | U-MS |
| 9:50-10:10 | Griffin Bartlett | Submission Ideas in Orlicz Spaces | U-MS |
| 10:10-10:30 | Heather MacTavish | Modelling the Effectiveness of Non-Pharmaceutical Interventions on Influenza A & B | U-MS |
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| 1:30-1:50 | Erin Hughes | Domination Polynomials of Graph Operations | U-MS |
| 1:50-2:10 | Ethan Saunders | Misère Cricket Pitch | U-MS |
| 2:10-2:30 | Nimarjeet Bajwa | All oriented paths and cycles are unimodal | U-MS |
| 2:30-2:50 | Logan Pipes | Mixing Models for Domination Reconfiguration | U-MS |
| 2:50-3:10 | Samuel Sarria Hurtado | Maximum Nim with a Pass using Fractional Restrictions | U-MS |
| 3:10-3:30 | Simon Maltby | Investigating the Spatial Distribution of the Underlying Risk Factors for Covid-19 in Canada | U-MS |

²The Mathematics and Statistics Undergraduate Student Session

4 Section III³

MCDH 329

| Time | Speaker | Title | |
|-------------|-----------------|--|------|
| 8:10-8:30 | Aadesh Nunkoo | Well-being of Blind or Low Vision Canadian Adolescents | G-MS |
| 8:30-8:50 | Daniel Teixeira | Dualizability through 2-categories | G-MS |
| 8:50-9:10 | Saurav Neupane | Causal Effect of Factors Impacting Participation in Music Education in Canadian Adolescents | G-MS |
| 9:10-9:30 | Janet Cheng | Prediction models of mortality for people with cystic fibrosis | G-MS |
| 9:30-9:50 | Éloïse Soucy | Identifying Gambling Personae Through Machine Learning Algorithms | G-MS |
| 9:50-10:10 | Louis Bu | A Comparative Study on Optimization Methods for Maritime Transport Routing | G-MS |
| 10:10-10:30 | Joy Liu | Spatiotemporal Models for Exploring Variability in Scallop Condition across the Bay of Fundy | G-MS |
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| 1:30-1:50 | Linh Dinh | Quaternionic methods in exact synthesis | G-MS |
| 1:50-2:10 | Jingyu Li | Exploring the Impact of Bubble Strategies on the Spread of Infectious Diseases | G-MS |
| 2:10-2:30 | Dylan Pearson | Modelling Virus Containment with Self-disseminating Vaccines on n-Dimensional Grids | G-MS |
| 2:30-2:50 | Claire Cui | Copula Mixture Regression Models for Multivariate Response Data | G-MS |
| 2:50-3:10 | Scott Wesley | Visualizing Qudit Controls With Sheets | G-MS |
| 3:10-3:30 | Ethan O'Connell | Validation of Earth System Models | G-MS |

1. MCDH = MacDougall and Marion Hall
2. G-CS = Graduate Student Computer Science
3. G-MS = Graduate Student Mathematics and Statistics
4. U-CS = Undergraduate Student Computer Science
5. U-MS = Undergraduate Student Mathematics and Statistics

³Mathematics and Statistics Graduate Student talks