



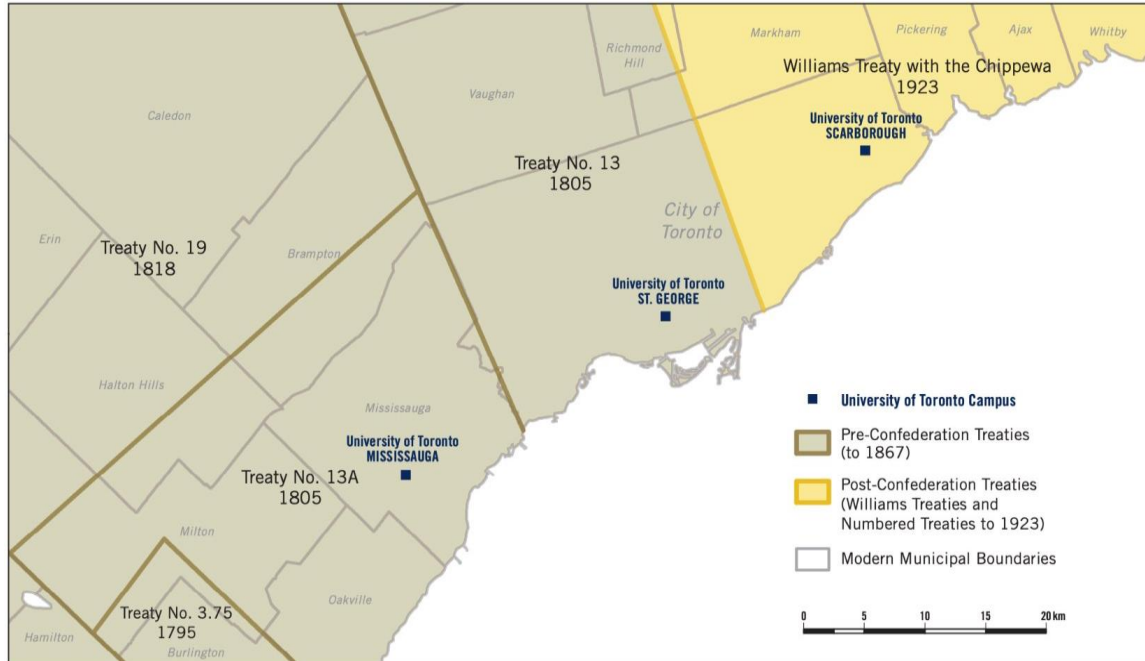
UNIVERSITY OF
TORONTO

Welcome to the Foundation Models for Science Workshop

Introductory Remarks and Logistics



Land Acknowledgement



I acknowledge the original stewards of the land on which we stand on today, which is covered by Treaty 13: the Huron-Wendat, the Seneca and the Mississaugas of the Credit River.

I am grateful for the opportunity to live and work on this land and acknowledge that Western and colonizer influences have largely shaped my own education, but these are not the only ways of learning and teaching.

I will continue to broaden my understanding of the world through the lens of the indigenous ways of knowledge and learning which are deeply rooted in relationship with land, tradition, and wisdom.

Code of Conduct

All members of our community are expected to follow these guidelines:

1. **Behave in a professional manner** as outlined in the University's Guideline on Civil Conduct. This includes:
 - Treating others with dignity, courtesy, respect, politeness and consideration.
 - Being respectful of others' right to express their views, even if you disagree.
 - Managing conflict with others in a respectful way rather than in a confrontational way.
 - Making decisions concerning the use of alcohol that are responsible, legal and in compliance with any obligations arising from the individual's relationship with the University.
2. All communication, whether it be in person or electronically, should be kept appropriate and respectful for a professional audience including people of many different backgrounds and identities.
3. **Be kind to others.** Do not insult or put down peers, colleagues or attendees.

The complete code of conduct is available for review at : <https://ai-for-science.org/code-of-conduct.html>.

Adherence to this code is a condition of attendance for all participants. The workshop organizers reserve the right to enforce these policies, up to and including removal from the event for any violations.

Welcome to Toronto

- Canada's largest city and fourth largest in North America.
- One of the world's most multicultural cities with 50% of its population born outside Canada.
- One of the world's largest AI hub.



Welcome to the University of Toronto



- Founded in 1827, consistently ranked the top research University in Canada and in top 10 in the world.
- One of the world's largest institutions with over 100,000 enrolled students coming from 175 countries.



The AI Revolution Started Here!

- University of Toronto is a global leader in AI research with over 40 years of pioneering work.
- Faculty and alumni have founded and led leading AI companies such as OpenAI, Cohere, Waabi, Deep Genomics, etc.



Prof. Geoffrey Hinton
Awarded Nobel Prize in 2024

Goals for this workshop

FOUNDATION MODELS
for SCIENCE



- **Hands on learning:** Talks, tutorials and Hackathon.
- **Interdisciplinary community building:** Hackathon and social activities

Come as strangers leave as collaborators (or friends!)

Workshop Schedule: Day 1 (Nov 3)

9:00 AM	Breakfast & Registration
9:30 AM	Opening Remarks & Logistics
10:00 AM	Keynote 1: "Foundation Models for Genome Biology and Drug Discovery" by Albi Celaj
11:00 AM	Morning Break
11:15 AM	Tutorial 1: Introduction to Foundation Models, Data Preparation and the Hackathon Compute Platform
12:30 PM	Lunch
1:30 PM	Tutorial 2: Using Foundation Models for Your Specific Tasks
2:45 PM	Afternoon Break
3:00 PM	Team Formation and Ice-Breaker
3:30 PM	Tutorial 3: Uncertainty Quantification for Foundation Models
4:30 PM	Head out for the CN Tower
5:15 PM	Dinner and Sightseeing at the CN Tower

Workshop Schedule: Day 2 (Nov 4)

9:00 AM	Breakfast
10:00 AM	Keynote 2: "Foundation Models for Atomistic Systems" by Chris Sutton
11:00 AM	Morning Break
11:15 AM	Tutorial 4: Interpreting What a Foundation Model Has Learnt
12:30 PM	Lunch
1:30 PM	Hackathon Kickoff and Project Conceptualization
2:45 PM	Afternoon Break
3:00 PM	Group Photo
3:30 PM	Hackathon Continues: First Push to GitHub
5:15 PM	Head out for the Rec Room Toronto Roundhouse
5:45 PM	Dinner, Drinks and Team Games at the Rec Room Toronto Roundhouse

Workshop Schedule: Day 3 (Nov 5)

9:00 AM	Breakfast
10:00 AM	Talks by Participants
11:00 AM	Morning Break
11:15 AM	Hackathon: Check-In with Tutors
12:30 PM	Lunch
1:30 PM	Hackathon Wrap-Up: Push Final Code to GitHub
2:45 PM	Afternoon Break
3:00 PM	Hackathon: Make 1-Slide Summary
3:30 PM	Hackathon Summary Presentations
4:15 PM	Hackathon Prize Distribution
4:30 PM	Closing Remarks by Lisa Strug
5:45 PM	Head out for Pogue Mahone
6:00 PM	Drinks and Dinner at Pogue Mahone

Hackathon Milestones

- **By End of Day-1:** Know your teammates and start planning your work
- **By Afternoon Break of Day-2:** Finalize your plan and set goals and expectations
 - Choose a project that takes ~5 hours of work.
 - Focus on one single result/demonstration.
 - Build on top of the tutorial notebooks: e.g., use a data set and model from your domain and repeat the same exercises.
- **By end of Day-2:** Preliminary code pushed to GitHub
 - Share your GitHub repos in the group chat
- **By Lunch time Day-3:** Discuss your progress with the tutors
- **By Afternoon Break of Day-3:** Work completed, and results finalized
- **Post Afternoon Break of Day-3:** Make 1 slide summary, present the results and prizes!

Computing Support

A Jupyter-based cloud instance:

- Individual links and passwords will be shared.
- Environment already setup to run tutorials. You can install any additional software for your hackathon project.
- 1x A100 40 GB, 14 vCPUs, 110 GB RAM, 1.7 TB storage.
- More **details in Tutorial-1**.
- Reach out to Alex Olson in person or via “Tech Support” group chat for any technical assistance.
- **Backup all code and data at the end of Day-3!**



Alex Olson

We acknowledge the support of [Denver Dataworks](#) for providing cloud computing services for this workshop. **DENVR**



Socials Activities: Day-1 (Nov 2)

Visit the CN Tower and have dinner at the restaurant on top

- **4:30 PM:** Head out for the CN Tower from here in groups.
- Take the subway and then short walk.
- **5:15 PM:** Reach CN Tower and pass security check.
- **6:00 PM:** Seated dinner service.
- **7:30 PM:** Move to the viewing gallery
- Head back at your own pace.

*Bring your nametags with you for check-in



Socials Activities: Day-2 (Nov 4)

Dinner, drinks and arcade games at the Rec Room

- **5:15 PM:** Head out for the Rec Room from here in groups.
- Take the subway and then short walk.
- **5:45 PM:** Reach the Rec Room and check in.
- **6:30 PM:** Drinks, Dinner and Games.
- Head back at your own pace.



*Bring your nametags with you for check-in

Socials Activities: Day-3 (Nov 5)

Dinner and Drinks at Pogue Mahone

- **5:45 PM:** Head out for Pogue Mahone from here or the hotel.
- About a 10 min walk.
- **6:00 PM:** Check in at Pogue Mahone, drinks and appetizers.
- **6:30 PM:** Seated dinner service.
- Head back at your own pace.

*Bring your nametags with you for check-in



Vector Institute Events



Vector Foundation Models for Science Workshop November 6th at the MaRS Discovery District (across the street)

Time	Session
9:30 AM	Welcome & Student Lightning Talks
11:00 AM	Keynote Talk: Kyunghyun Cho , Professor of Computer Science and Data Science at NYU and Executive Director of Frontier Research at Genentech
12:00 PM	Mid-day intermission (in-person programing)
2:00 PM	Faculty Talk: Evan Shelhamer , Assistant Professor at the University of British Columbia; Faculty Member at Vector Institute, and Canada CIFAR AI Chair
2:30 PM	Faculty Talk: Anna Goldenberg , Professor at the University of Toronto; Senior Scientist at SickKids Research Institute; Faculty Member at Vector Institute, and Canada CIFAR AI Chair
3:00 PM	Industry Talk: Justin Donnelly , Technical Team Member - Scientist, Axiom Bio
4:00 PM	Panel Discussion Ends



Vector Institute Events



Vector Institute Information Booth

At the registration desk during breakfast, morning break and lunch on November 4 and 5



Amanda Ferneyhough

Faculty Engagement and
Program Development Officer

Organizers



Ashley Dale



Amanda
Mohabeer



Biprateep Dey



Ishrath Mohamed
Irshadeen



David Pellow

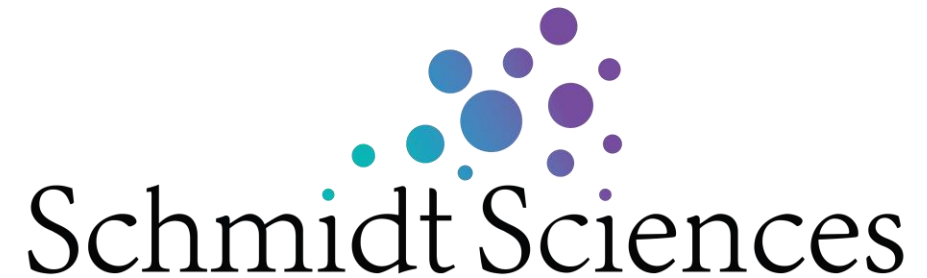
Please reach out to them for any help in-person, via the WhatsApp group or email to contact@ai-for-science.org

Acknowledgements

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Let's get started!

FOUNDATION MODELS
for SCIENCE



Schedule and event details: <https://ai-for-science.org>