

Women+ in Computer Science Orientation



TERRITORIAL ACKNOWLEDGEMENT

We acknowledge that the University of Waterloo is located on the traditional territory of the Neutral, Anishnaabeg and Haudenosaunee people. The University of Waterloo is situated on the Haldimand Tract, the land granted in legally binding treaty to the Six Nations that includes six miles on each side of the Grand River



IMAGE CREDIT: SIX NATIONS COUNCIL



UNIVERSITY OF
WATERLOO

DAVID R. CHERITON SCHOOL
OF COMPUTER SCIENCE

WICS
WOMEN IN COMPUTER SCIENCE

Schedule

2:30	Jo Atlee Prof/Director of WiCS	Women in Computer Science
2:50	Chunxin Zheng 2nd-year Computer Science	Challenging Yourself
3:00	Emily Zhang 2nd-year Computing Science	Time Management + Notion + Google Calendar
3:10	Areena Akhter 5th-year Computer Science	Health (balancing, mental health, community)
3:25	Skylar Ji 2nd-year Computer Science	Navigating Transportation in Waterloo
3:35		Q&A
3:45	Snack Break!	

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4:15	Amanda Bishop 4th-year Software Engineering	How to Get Your First Co-op
4:25	Dora Su 4th-year Computer Science	How to Succeed in Co-op
4:35	Ashnoor Kaur Randhawa 2nd-year Computer Science	How to Build a Good Resume
4:55	Nina Tan 4th-year Computer Science	Networking
5:05	Rebecca Zhou 3rd-year Computer Science	Little WiCS
5:15	Grace Feng 3rd-year Computer Science	What I wish I knew in First Year
5:25	Maryam Afshar 3rd-year CS Claudia McComb 2nd-year Math/CS	
5:35	Q&A	
5:45	Dinner! Panel: What I Wish I Knew in First Year	

What is WiCS?

WiCS exists to advance gender equity in computing by advocating for and supporting women, trans, gender-fluid, gender-queer, and non-binary students enrolled in computer science and related programs at the University of Waterloo.



Who is WiCS?

Jo Atlee

Director of WiCS

Edith Law

Co-Chair WiCS Committee

Valentina Adelola

WiCS Event Coordinator Co-op

Maryam Afshar

Co-Directors of WiCS Undergraduate

Claudia McComb

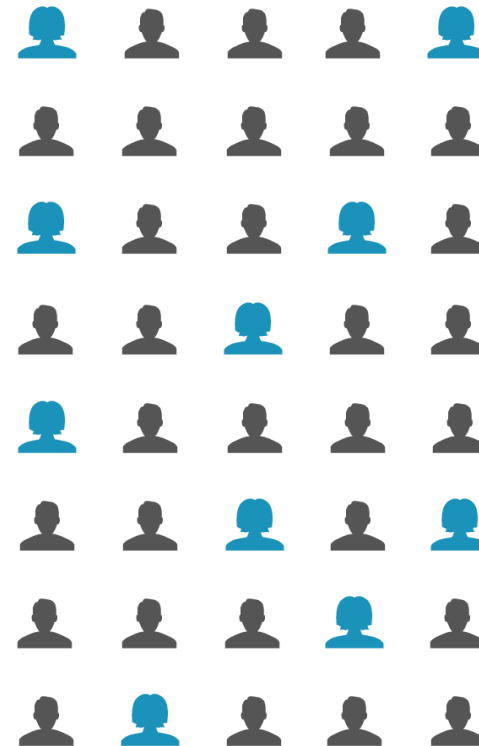
Committee



Women+ in CS at Waterloo

Admissions 2027

- 91 (24.1%) in CS
- 17 (26.6%) in CFM
- 31 (30.7%) in CS/BUS
- 50 (39.4%) in SE
- **28.2% overall**

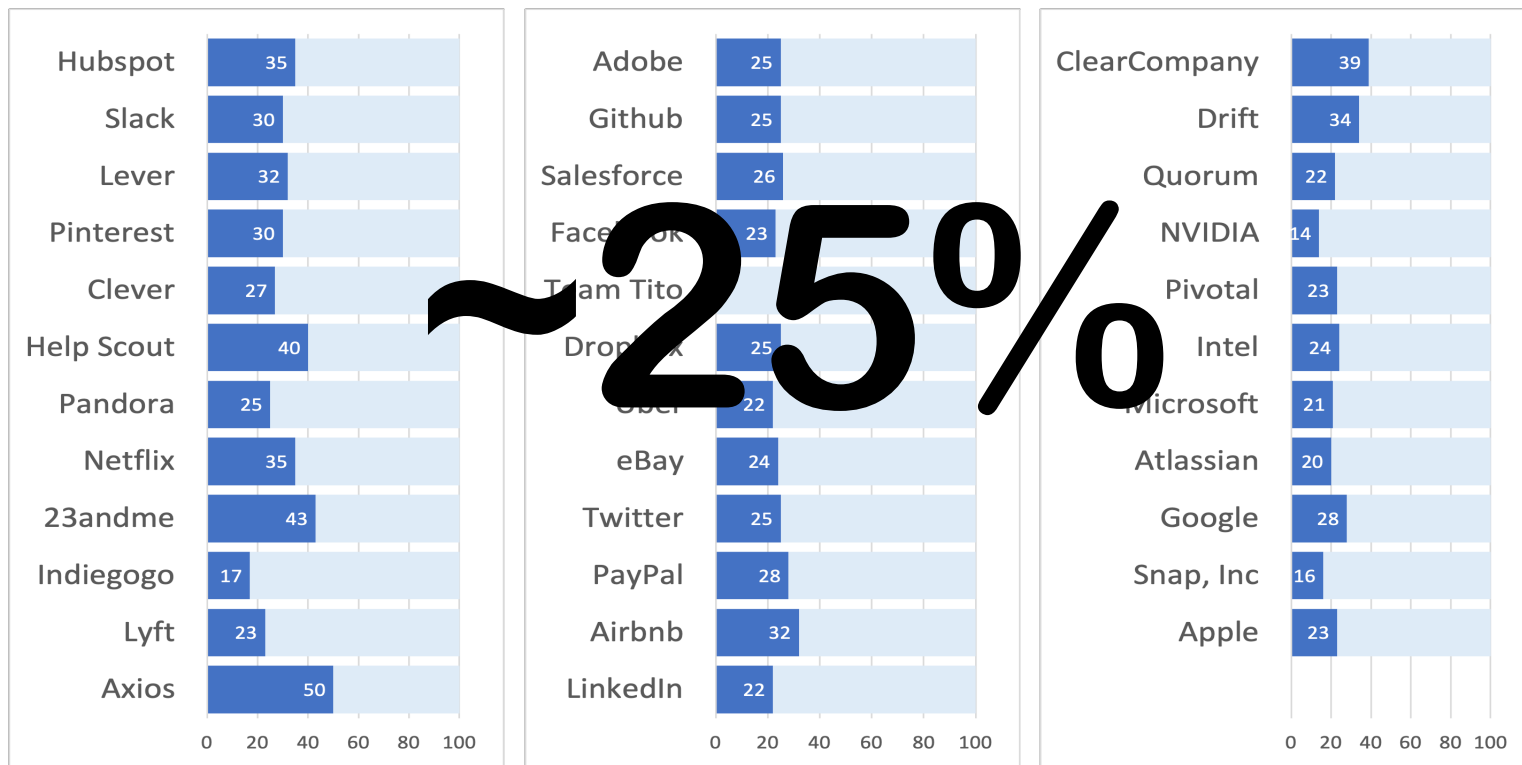


Enrolment

25.7% women

Women in the Tech Industry

<https://www.diversityreports.org>



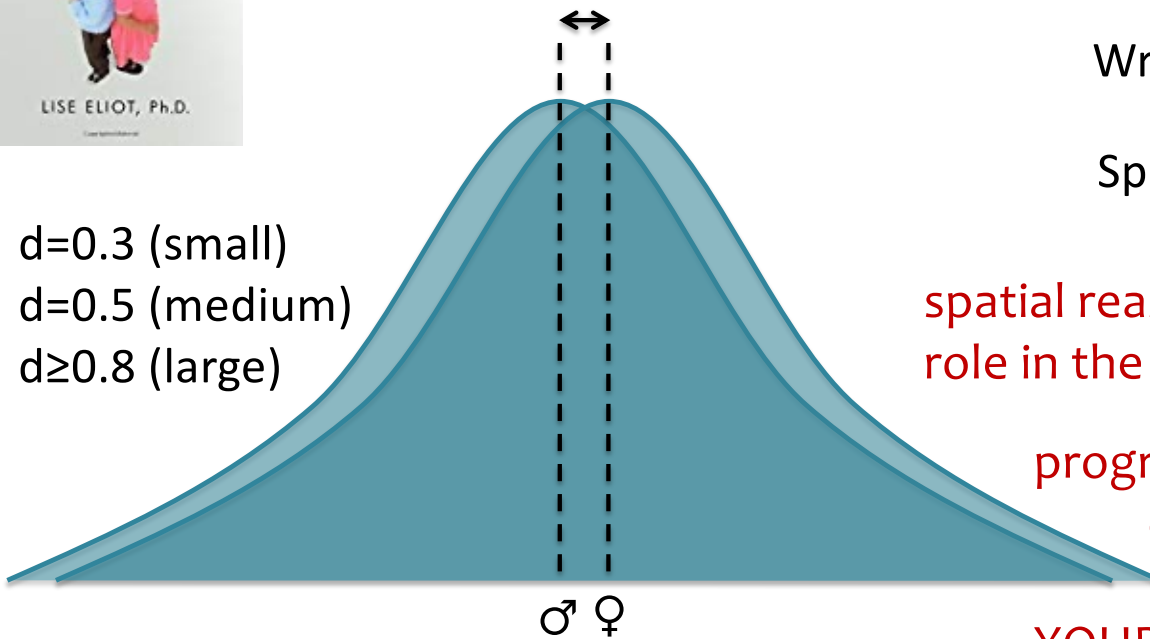
Why So Few Women?

~~Are men innately better programmers?~~



Innate Cognitive Differences

difference value (d)



d=0.3 (small)
d=0.5 (medium)
d≥0.8 (large)

Verbal skills ♀ (d= 0.33)

Writing ♀ (d= 0.6)

Spatial reasoning ♂ (d= 0.56-0.90)

spatial reasoning does not play much of a role in the math used in computing

program-comprehension activates regions of the brain associated with **language**

YOUR BRAIN IS WHAT YOU DO WITH IT

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Why So Few Women?

~~Are men innately better programmers?~~

~~Are women innately less interested in computing?~~

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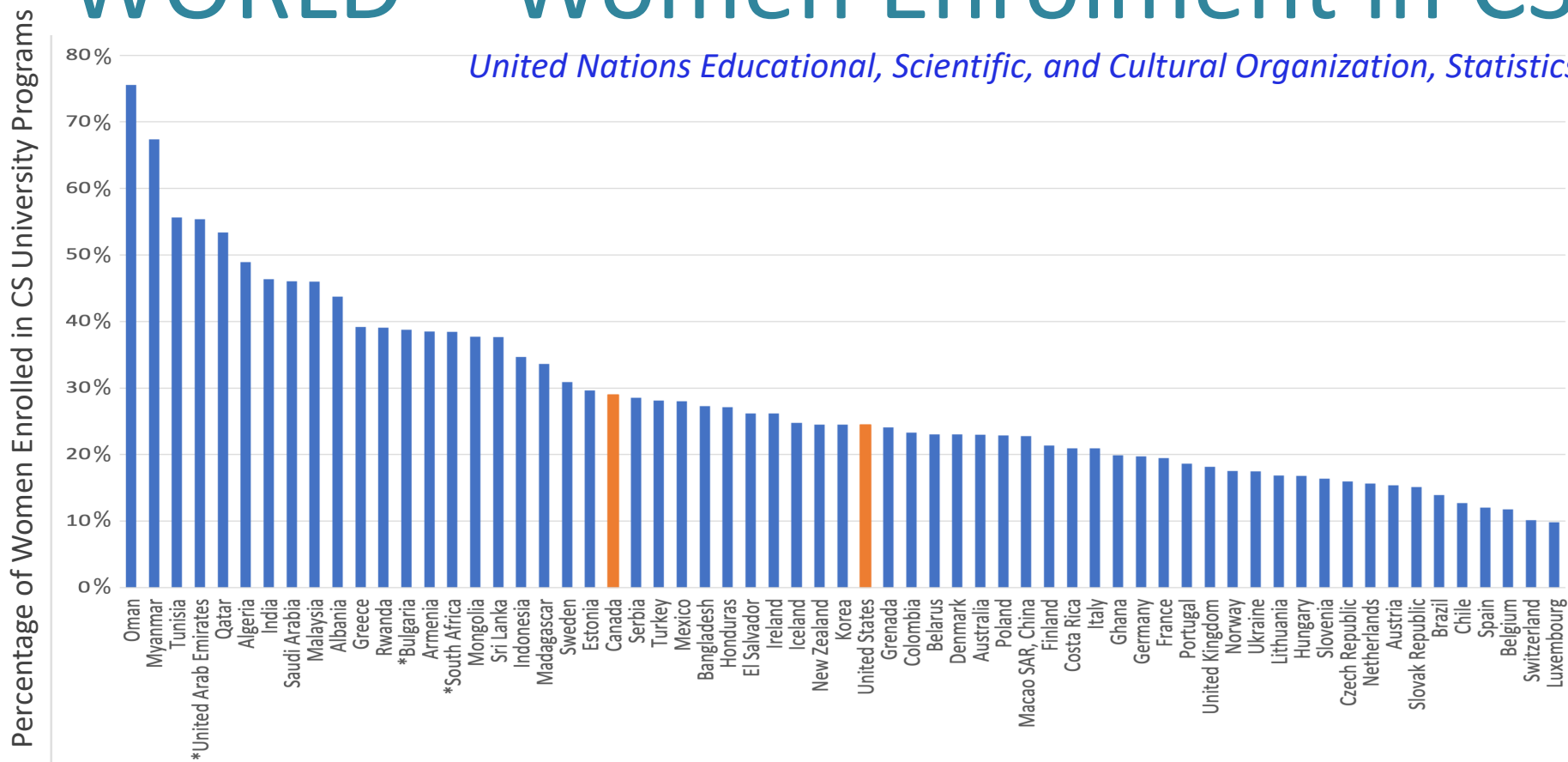


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WORLD – Women Enrolment in CS

United Nations Educational, Scientific, and Cultural Organization, Statistics 2018



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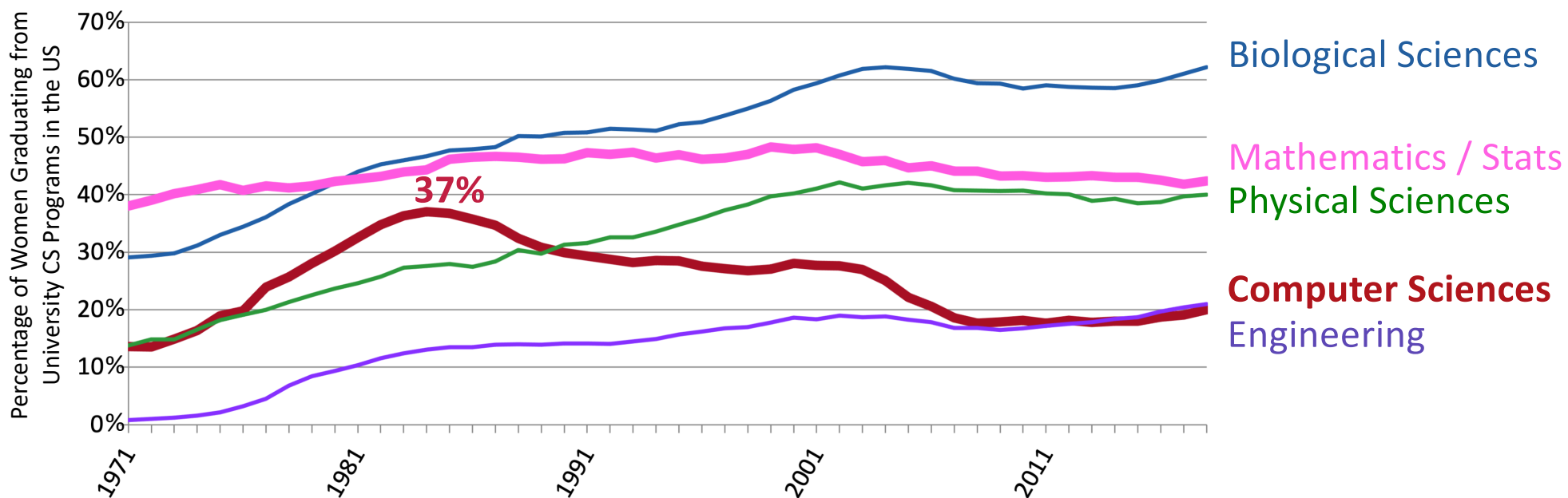
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Women in University CS Programs



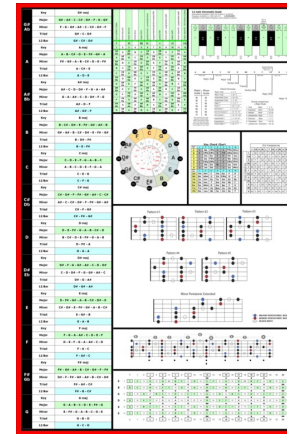
US National Center for Education Statistics, Statistics 1971-2018

Pre-University CS Experience

- Most students assume that everyone else in the class has more computer experience than they have.
- **Pre-university experience is not necessary**



VS



playing songs

formal music lessons

Pre-University CS Experience

- Most students assume that everyone else in the class has more computer experience than they have.
- **Pre-university experience is not necessary**
- Report nearly equal mastery of CS concepts in intro courses
- Have equal GPAs

men's and women's experiences are different

Stereotypes and Biases

Good News

- Overt gender bias is rare

Bad news

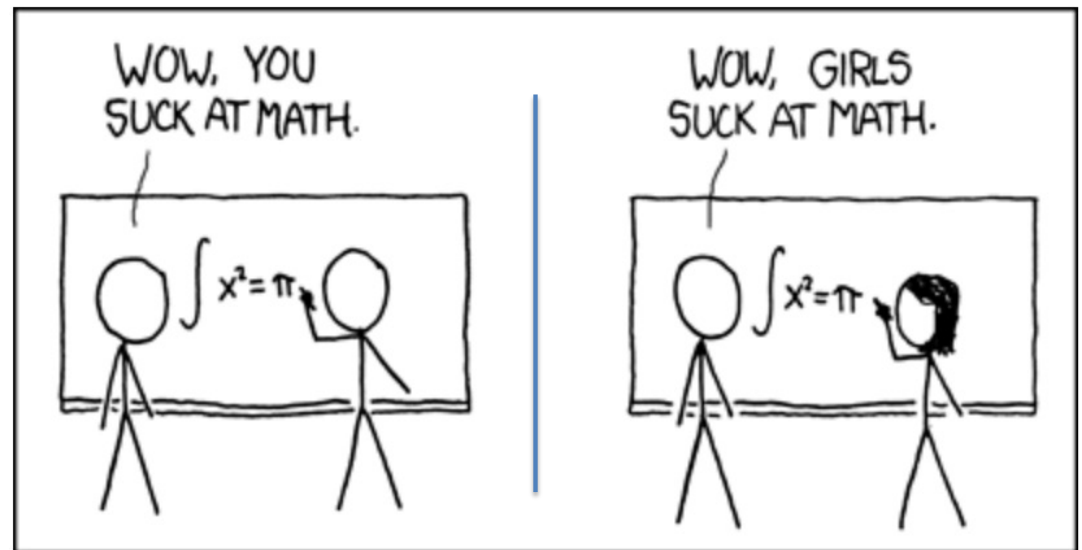
- Unconscious or **implicit gender bias** remains widespread
- Women are as guilty of implicit bias as men are!
- Harvard Implicit Bias Test (implicit.harvard.edu)

Self-Confidence Gap (Imposter Syndrome)



Letting the Side Down

Women students are less apt to speak out in class for fear that mistakes or dumb questions it will be taken as proof that women can't do CS



Micro-aggressions

social exchange in which a member of a dominant culture says or does something, **usually without intended malice**, that belittles and alienates a member of a marginalized group

Women just aren't interested in CS.

Really? You don't look like a CS major.

WHY DO YOU WANT TO HANG OUT WITH GEEKS?

Why would you want to study CS?
The guys will be better than you.

You only got into UW CS because you are a girl.

Want me to help you with your CS homework?

Some Sexism

- Undervalued by teammates on course projects
- Undervalued by co-op employers
 - Not given challenging work
 - Assigned quality assurance or technical writing tasks rather than development tasks

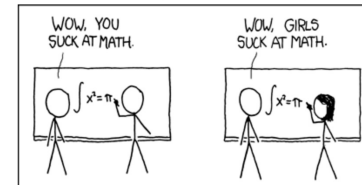
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Technical Network

It helps a lot to build a network of technical women

- UW CS guys are great
 - They will be your best friends, study partners, project partners
 - But their experiences are not the same as yours
- Women friends (who aren't in STEM) are great
 - But their experiences are not the same as yours

WiCS

“Quit whining.
It’s the same distance”



WiCS exists not because women+ students need extra help to succeed in CS.

We exist to help remove, reduce and overcome the **extra** obstacles that women+ in computing might face.

WiCS

- Orientation
- Resume Critiques
- Technical Interview Prep
- Responding to Everyday Biases
- Panel on Careers in Tech
- Student/Industry Lunch
- Technical Workshops
- Professional-Development Workshops
- Speed Networking/Mentoring
- Speakers from the Trenches
- WiCS Con
- Grace Hopper Celebration
 - post-conference take-aways
- CAN-CWIC Conference
- Women Distinguished Lecturers

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What is “Little WiCS”?

- The undergraduate committee that is student-run!
- Events they regularly host:
 - Beginning-of-term event!
 - Speaker series
 - Mock interviews & resume critique
 - Panels
 - Discussion circles
 - De-stress events
 - Movie & bonfire night



WiCS Study Room (DC 3150)



Obtain a fob from <https://uwaterloo.ca/women-in-computer-science/wics-study-room>



Upcoming Events

- ➔ Sept. 13, 4:30-5:30 **Women in Math (WiM) Welcome Event**
- ➔ Sept. 15, 9:00-10:30 **Breakfast Hackathon Primer (w/ Citadel Securities)**
- ➔ Sept. 18, 6:00-7:30 **Dinner Algorithmic Trading (w/ Hudson River Trading)**
- ➔ Oct. 4, 12:00-1:30 **Lunch Careers in Data Science (w/ OpenText)**
- ➔ Oct. 18, 5:00-7:00 **Dinner Resume Critique (w/ Google)**
- ➔ Oct. 27, 3:15-4:30 **(online) Speed Mentoring (w/ Amazon and Bloomberg)**

Keep up with WiCS!

- Subscribe to WiCS newsletters:
<https://lists.uwaterloo.ca/mailman/listinfo/wics-undergrads>
- Join the WiCS Discord Server
<https://discord.com/invite/mHyPD2mXqv>
- Follow us on Instagram
[uwaterloowics](https://www.instagram.com/uwaterloowics)
- Read the CS blog
<http://csatuwaterloo.blogspot.ca/>

Parting Words

- Build and use your network of technical women.
- Be yourself. This is what a computer scientist looks like!

