Women+ in Computer Science Orientation

WICS
WOMEN IN COMPUTER SCIENCE

WICS Partners:
Google  Wish  Scotiabank  HRT  Amazon  OpenText  splunk  zynga  Faire  Shopify  Deloitte

Meta  Amazon  Bloomberg  Gem  ITEX  MEF  SAP
LAND 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 tready to the Six Nations that includes six miles on each side of the Grand River.
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Topic</th>
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<tbody>
<tr>
<td>2:30</td>
<td>Jo Atlee</td>
<td>Women in Computer Science</td>
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<td></td>
<td>Prof/Director of WiCS</td>
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<tr>
<td>2:50</td>
<td>Anneliese Wen</td>
<td>Imposter Syndrome</td>
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<td></td>
<td>5th-year Computer Science</td>
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<td>3:00</td>
<td>Khloe Ramdhan</td>
<td>Student Portals</td>
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<td>2nd-year CS/BBA</td>
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<td>3:10</td>
<td>Claudia McComb</td>
<td>Organizing your Term w/Notion</td>
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<td>2nd-year Computer Science</td>
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<tr>
<td>3:20</td>
<td>Anjali Gupta</td>
<td>Side Projects</td>
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<td>3rd-year Computer Science</td>
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<tr>
<td>3:30</td>
<td>Yzabelle Perez</td>
<td>Recovering from Failure</td>
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<td>2nd-year Computer Science</td>
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<td>3:40</td>
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<td>Snack Break!</td>
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<td>4:20</td>
<td>Dora Su</td>
<td>3rd-year Computer Science</td>
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<tr>
<td>4:40</td>
<td>Athena Liu</td>
<td>4th-year Computer Science</td>
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<td>4:50</td>
<td>Yi Lin Li</td>
<td>2nd year BMath/BBA</td>
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<td>Shriya Kulkarni</td>
<td>2nd-year CS</td>
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<td>5:00</td>
<td>Chang Liu</td>
<td>4th-year Computational Math</td>
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<td>5:10</td>
<td>Kitty Li</td>
<td>3rd-year Computer Science</td>
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<td>5:20</td>
<td>PANEL</td>
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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

Stacey Watson  
Co-Chair WiCS Committee

Hillary Matt  
WiCS Outreach Coordinator

Calahndra Brake  
WiCS Event Coordinator Co-op

Priya Saha  
WICS Undergrad Committee Directors

Molly Xu
Women+ in CS at Waterloo

Admissions 2022
- 23% in CS
- 24% in CFM
- 50% in CS/BUS
- 29% in SE
- 26.4% overall

Enrolment
25.9% women
Women in the Tech Industry

https://www.diversityreports.org

~25%
Why So Few Women?

Are men innately better programmers?

Are women innately less interested in computing?
Innate Cognitive Differences

- 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.
WORLD – Women Enrolment in CS

Percentage of Women Enrolled in CS University Programs

United Nations Educational, Scientific, and Cultural Organization, Statistics 2018
Computing was “Women’s Work”

First programmer
Computing was "Women’s Work"

First Programmers
Computing was “Women’s Work”

Bletchley Park Codebreakers
Computing was “Women’s Work”

Mary Jackson  Katherine Johnson  Dorothy Vaughan

NASA “computers”
Women in University CS Programs

Percentage of Women Graduating from University CS Programs in the US

- Biological Sciences
- Mathematics / Stats
- Physical Sciences
- Computer Sciences
- Engineering

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

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• 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](http://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
- WiCS Bubbles
- Resume Critiques
- Technical Interview Prep
- Responding to Everyday Biases
- Panel on Careers in Tech
- Student/Industry Lunch
- Technical Workshops
- Professional-Development Workshops

- WiCS Con
- Grace Hopper Celebration
  - post-conference take-aways
- CAN-CWIC Conference
- Women Distinguished Lecturers

WICS Partners:
What is “Little WiCS”?

• The undergraduate committee that is student-run!
• Events they regularly host:
  – Beginning-of-term event!
  – Speaker series
  – Mock interviews & resume critiques
  – Panels
  – Discussion circles
  – De-stress events
  – Movie & bonfire night
WiCS Study Room (DC 3150)

Obtain the passcode from the Little WiCS Office (MC 3029) during their office hours.
Upcoming Events

Sept. 14, 8:30-10:00 Breakfast. Building your Technical Career (w/ Google)

Sept. 14, 4:30-6:00 Women in Math (WiM) Welcome Event

Sept. 15, 4:30-6:00 Women in Tech Panel (w/ Google)

Sept. 16, 11:30-1:00 Lunch Women in Tech Panel (w/ Bloomberg)

Sept. 24, 7:30-10:30pm Play! One-women play about “MIT male math maze”
  • Sept. 27, 4:00-5:30 (online) Mock Interviews (w/ Splunk)

Sept. 28, 11:30-1:30 Lunch Women in Leadership (w/ OpenText)
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
- 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!