PhD in CS Program

MINGLUN GONG

Background

- SoCS unwillingly lost our PhD in CS as the result of the previous review
  - Concerns on quality of students, limited funding supports, & graduation delays, when compared to neighboring universities
- SoCS proposed PhD in Computational Sciences to address the concerns
  - Removed course requirement & reduced program duration to 3 years
  - Added the requirement for Application Discipline (AD) Co-Advisor
- PhD in CS was turned into PhD in Computational Sciences
  - Done through internal major modification
  - The detailed proposal was not shared with provincial government

PhD in Computational Sciences

Benefits:

- Worked great for interdisciplinary research
- Attracted good students who do not fit to conventional PhD in CS degree
- Well aligned with CEPS' goal for capitalizing interdisciplinary opportunities in research & teaching

Limitations:

- Not all students are trending to meet the program objective of "produce interdisciplinary scholars"
  - May raise concerns during the upcoming Cyclical Program Review
- Few students can graduate in 3 years
- Some faculty members find AD advisor requirement limiting

Feedback at Retreat

- Voting result:
  - Red sticker (highest priority; 5 per person): 9 votes
  - Green sticker (important & doable with existing resources; unlimited): 2 votes
  - Yellow sticker (important but a stretch goal; 3 per person): 1 vote
  - Blue sticker (bad idea): 1 vote

My Understandings

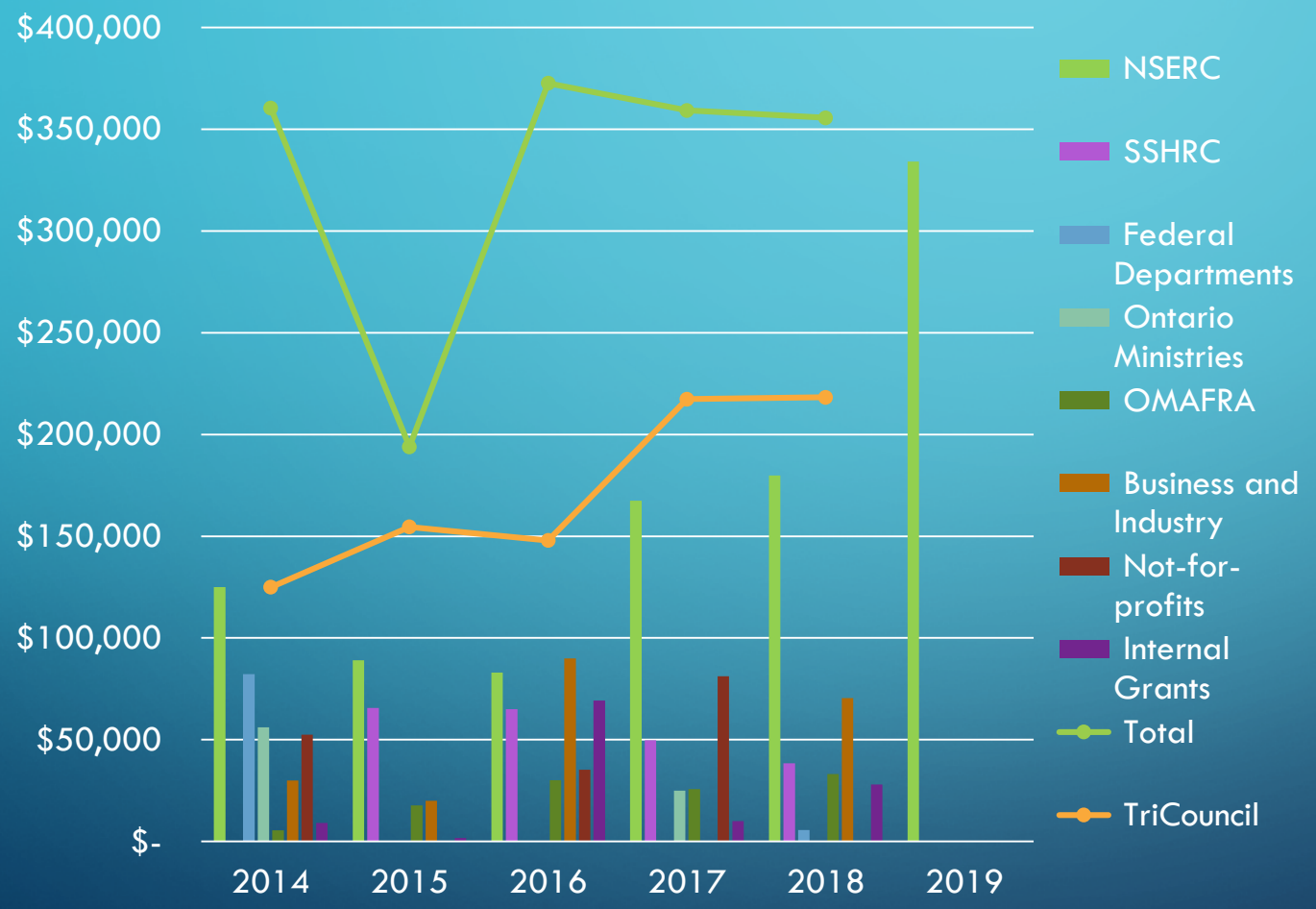
Consensus:

- Some faculty members can benefit for an independent PhD program
  - We want to support our colleagues
- PhD in CS cannot replace the current PhD in Computational Sciences
  - They target different students & have different admission requirement
- We have supports from CEPS & OGPS

Concerns:

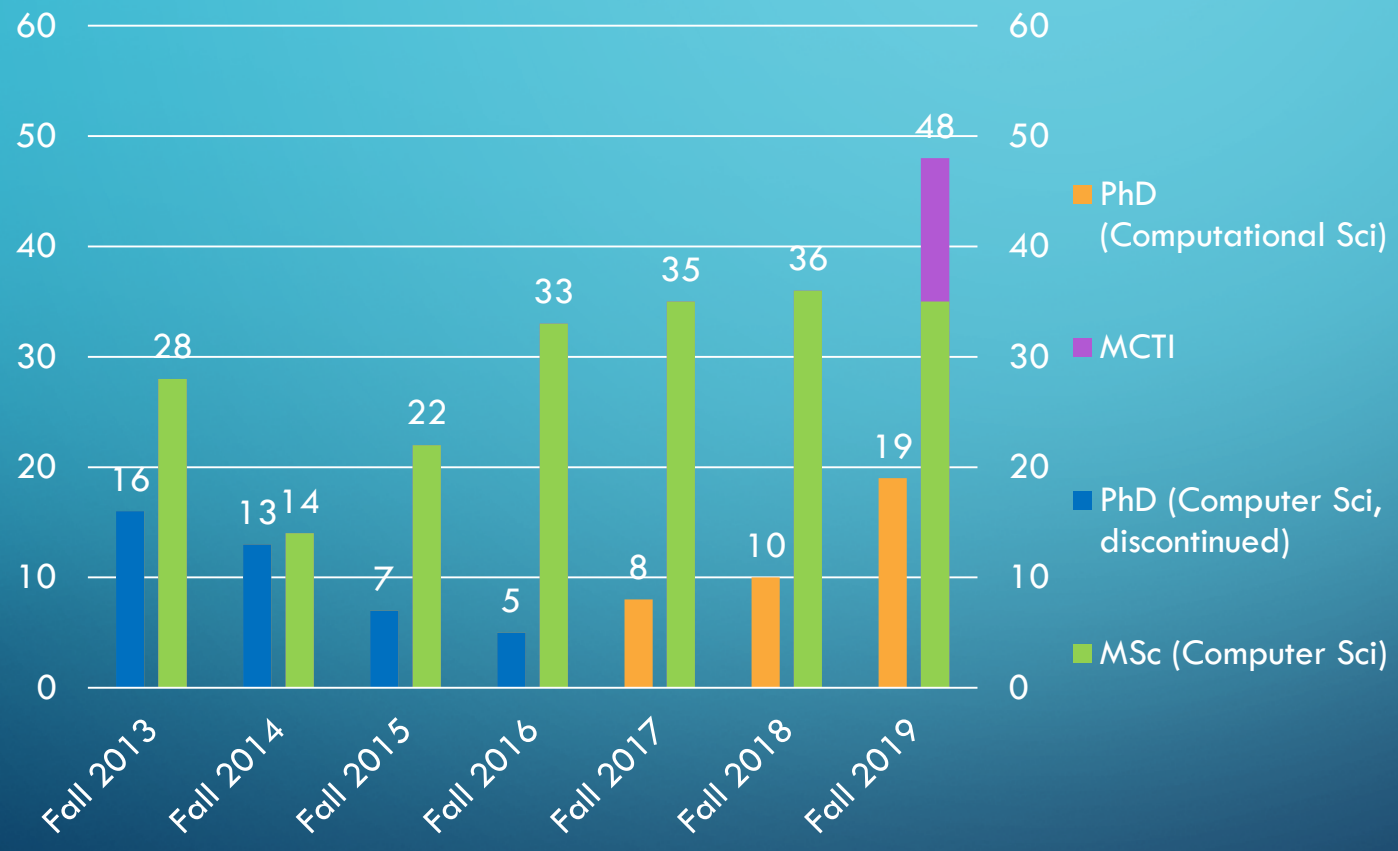
- Does SoCS have capacity to support 2 PhD programs?
  - How are the situations different now?
- How to protect the PhD in Computational Sciences program?
  - Can we maintain enough students?
  - Can we count on University's support in future?

Increases in Research Funding



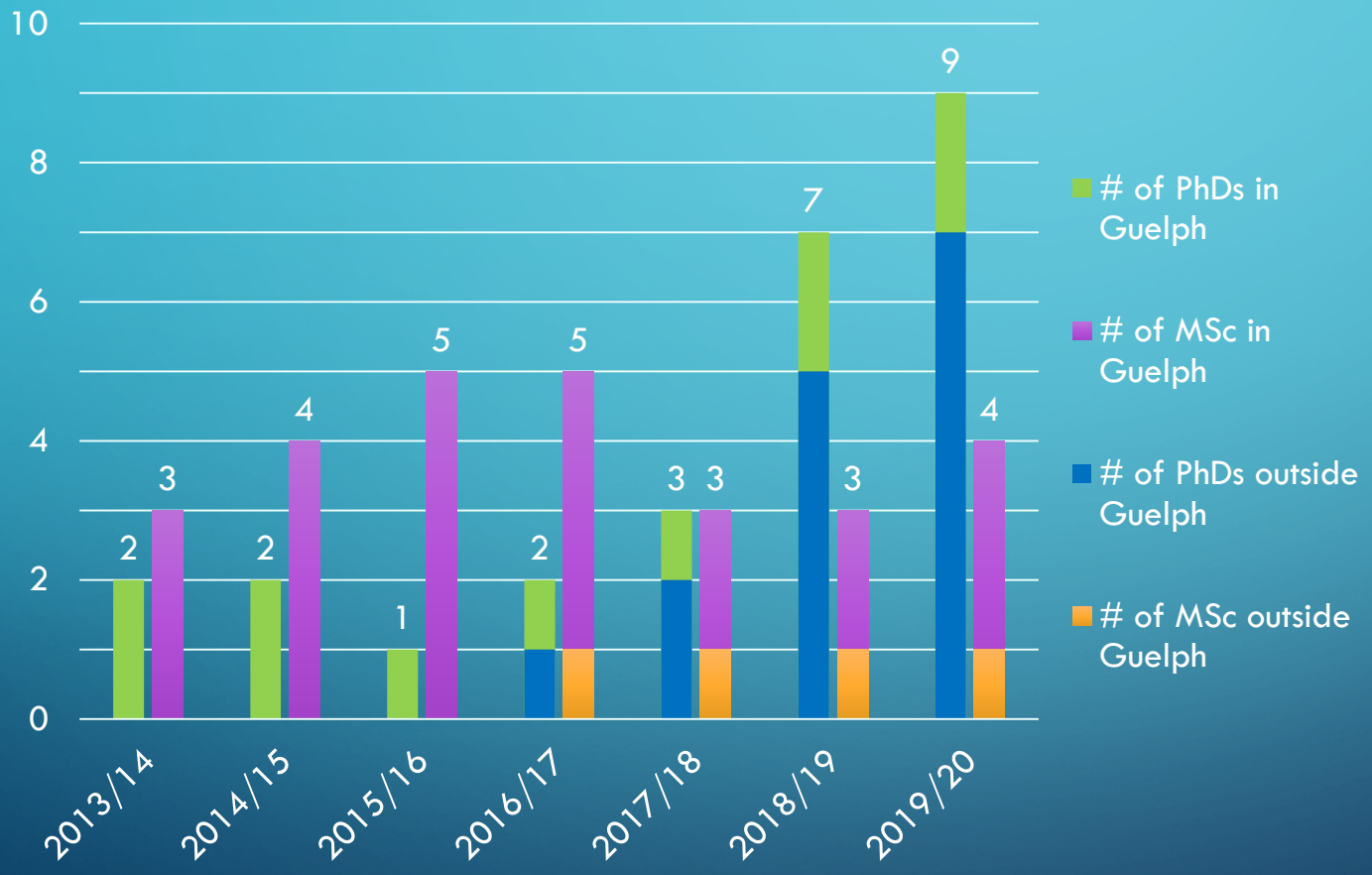
- TriCouncil funding almost doubled from 2014 to 2018
  - $125K in 2014 to $218K in 2018
- Only NSERC DG is known for 2019
  - $334K, which is 82% higher than total NSERC grant in 2018

PhD Students at SoCS



- 19 PhD students in 2019
  - 24 regular faculty members (excluding teaching-focused)
- The PhD student per faculty ratio is 0.8
  - Lower than the CEPS average at 1.08

PhD Student Supervised outside SoCS



- 9 PhD students are being (co-)supervised outside of SoCS
  - Account for 47% of SoCS PhD population
- 7 in CS departments outside of Guelph
  - If they were in SoCS, PhD student per faculty ratio would rise to 1.08

Observations

- SoCS research capacity has noticeably improved since 5 years ago
  - We have strong arguments for supporting a PhD in CS program
- PhD in Computational Sciences does not meet the needs for all faculty members
  - Some colleagues are spending efforts to supervise students outside of Guelph
- A PhD in CS program can help to improve SoCS' research profile
  - Motivate faculty members to supervise more PhD students in SoCS
  - Make SoCS more attractive for both new hires & grad applicants

Development Option #1

- Leave the current PhD in Computational Sciences unchanged
  - Propose PhD in CS as a new program
- Merits:
  - Minimize the impact to the current PhD program
  - Have 2 degrees serving different groups
- Concerns:
  - Can we count on University's continuous support for both programs?
  - May need to explain why we changed PhD in CS through major modification in the first place

Development Option #2

- Aim for a single PhD in CS degree with 2 streams for completion
  - Could be done through internal major modifications
- Merits:
  - Have 1 strong program rather than 2 weaker ones
- Concerns:
  - Can the 2 streams have different admission requirements?
  - The name “PhD in Computational Sciences” does not cover all CS fields
    - PhD degrees in CS units in Canada are called “Computer Science” or “Computing Science”

Development Option #3

- Propose PhD in Computational Sciences as a new program
  - Change the existing PhD in Computational Sciences back through internal major modification
- Merits:
  - Opportunity to fine tune PhD in Computational Sciences
    - Change it to 4 years?
  - Could reuse the previous proposal and have data support its feasibility
- Concerns:
  - How to ensure the already have PhD in Computational Sciences will be approved?

Motions

- Support the development of PhD in CS program in principle, with the understanding that there will be consultation during the development and opportunity for voting before the proposal is moved forward.