

# Yurij Salmaniw

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## EDUCATION

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**University of Alberta, Edmonton, Alberta**

Doctor of Philosophy, September 2018 – Present

Major: Applied Mathematics

Advisors: Dr. Hao Wang, Dr. Zhongwei Shen

**McMaster University, Hamilton, Ontario**

Master of Science, Thesis stream, September 2016 – May 2018

Major: Applied Mathematics

Advisors: Dr. Lia Bronsard, Dr. Stanley Alama

Thesis: “Existence and Regularity of Solutions to Some Singular Parabolic Systems”

**Cape Breton University, Sydney, Nova Scotia**

Bachelor of Science with Honours, September 2012 – April 2016

Major: Mathematics

Advisor: Dr. Shaohua Chen

Thesis: “Global Existence for a Singular General Activator-Inhibitor Model”

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## WORK EXPERIENCE

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### Teaching Assistant

Edmonton, Alberta

September 2018 – Present

- Work as a teaching assistant for introductory calculus, linear algebra, and differential equations
- During the COVID-19 pandemic, responsible for delivering engaging and accessible lectures virtually, along with providing lecture recordings and personal notes for students in distant time zones
- Responsible for creating lab notes, worked examples and quiz questions for differential equations and multivariable calculus courses
- Responsible for grading assignments/quizzes in a timely manner using the Assign2 grading system

### Tutorial Instructor

Hamilton, Ontario

January 2018 – April 2018

- Responsible for conducting tutorials for a differential equations course three times a week
- Responsible for creating an interactive and encouraging learning environment while also providing a clear and understandable presentation of the relevant material
- Responsible for holding regular office hours to help students in a more personal environment
- Responsible for marking midterms in a timely manner

### Teaching Assistant

Hamilton, Ontario

September 2016 – December 2017

- Working as a teaching assistant for introductory calculus and differential equations courses
- Responsible for helping students with the Matlab components of the courses
- Responsible for grading assignments and exams in a timely manner
- Responsible for providing interactive review sessions before midterms and final exams

### Tutor

Hamilton, Ontario

September 2016 – December 2017

- Working as a tutor at the math help center within McMaster University
- Responsible for teaching and assisting students in various mathematical subjects, usually first- and second-year calculus or linear algebra

- Provide a welcoming environment and a positive attitude for undergraduate students

### Student Research Assistant

Sydney, Nova Scotia

May 2016 – August 2016

- Worked as a research assistant under the supervision of Dr. Shaohua Chen
- Explored properties of some parabolic partial differential equations, primarily concerned with the existence and regularity of solutions to singular parabolic systems
- Reviewed papers for publication, wrote up sections of documents into latex, explored numerical simulations for theoretical results using Matlab

### SCHOLARSHIPS AND AWARDS

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- President's Doctoral Prize of Distinction – (\$5800) 2021
- Josephine Mitchell Research Prize – (\$7500) 2021
- President's Doctoral Prize of Distinction – (\$5800) 2020
- Graduate Student Teaching Award 2020
- Alberta Graduate Excellence Scholarship – (\$12,000) 2020
- Eoin L Whitney Scholarship – (\$2200) 2019
- President's Doctoral Prize of Distinction – (\$10,000) 2019
- NSERC PGS-D Graduate Scholarship – (\$63,000 over 3 years) 2019
- Pundit RD Sharma Memorial Award – (\$5000) 2019
- University of Alberta Entry Scholarship – (\$10,000) 2018
- Ontario Graduate Scholarship – (\$15,000) 2017
- McMaster Research Scholarship – (\$6000) 2016
- Milos Novotny Fellowship – (\$4000) 2016
- McMaster Graduate Scholarship – (\$6000) 2016
- NSERC Undergraduate Student Research Award – (\$6800) 2016
- NSERC Undergraduate Student Research Award – (\$6800) 2015
- Cape Breton University Incourse Scholarship – (\$500 per semester) 2012 – 2016

### PUBLICATIONS

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- (With Z. Shen & H. Wang) *"Global dynamics of a diffusive competition model with habitat degradation"*, (2021) – Accepted – Journal of Mathematical Biology.
- (With Z. Wang & H. Wang) *"Persistence and propagation of a discrete-time map and PDE hybrid model with strong Allee Effect"*, Nonlinear Analysis: Real World Applications 61(2021).
- *"Global Boundedness of Weak and Classical Solutions to a Singular Parabolic Equation and Applications"*, J. Math. Anal. Appl. (2020), No 1.
- (With S. Chen & R. Xu) *"Bounded Solutions to a Singular Parabolic System"*, J. Math. Anal. Appl. 455(2017), No. 2, 963-978.
- (With S. Chen & R. Xu) *"Global Existence for a Singular Gierer-Meinhardt System"*, J. Diff. Eqs. 262(2017), No. 3, 2940-2960.

### CONFERENCES AND PRESENTATIONS

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- (Invited) CMS Winter Meeting – *Recent Advancement in Nonlinear PDEs* December 2021
- (Attended only) SMB Annual Meeting June 2021
- (Invited) Wisconsin Analysis/Applied Mathematics Seminar March 2021
- (Invited) McMaster AIMS Lab Seminar November 2020
- University of Alberta MathBio Seminar November 2019
- (Invited) Cape Breton University Summer Research Speaker Series August 2018
- 6<sup>th</sup> G.J. Butler Memorial Conference – *DE's Session* July 2018

- CMS Summer Meeting – *Student Research Session* June 2018
- McMaster University AIMS Lab Seminar January 2018
- McMaster University AIMS Lab Seminar November 2017
- Mathematical Congress of the Americas – *Student Research Session* July 2017
- CMS Winter Meeting – *Student Research Session* December 2016
- McMaster University AIMS Lab Seminar November 2016
- Cape Breton University SnapShot Thesis April 2016
- Science Atlantic Mathematics and Statistics Conference – *Student Session* October 2015
- Cape Breton University Student Research Talk Series August 2015

## EXTRA CURRICULAR ACTIVITIES

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### **President of SIGMAS (Society in Graduate Mathematics and Statistics)**

Edmonton, Alberta

July 2021 – Present

- Primary organizer of societal endeavors, including bimonthly meetings between other executive members and delegation of duties for societal events (movie nights, pizza nights, trivia nights etc.)
- Attend monthly departmental meetings and monthly meetings with other departmental societies within the faculty of science
- Act as a representative for all departmental graduate students and relay important information to the department on behalf of the graduate students
- Coordinate with the undergraduate mathematics and statistics society for events and outreach
- Solicit nominations for the annual departmental mentorship award and aid in determination of winner

### **Graduate Student Representative of Departmental EDI (Equity, Diversity & Inclusivity) Committee**

Edmonton, Alberta

January 2021 – Present

- Act as one of the intermediates between graduate students and the departmental EDI initiatives
- Responsible for helping create a graduate student exit survey to identify key issues amongst undergraduate as well as graduate students as they relate to EDI
- Responsible for helping organize outreach initiatives related to EDI, such as workshops tailored for undergraduates or grade school children focusing on the success of women and indigenous students in science and mathematics

### **Academic Coordinator of SIGMAS**

Edmonton, Alberta

September 2019 – July 2021

- Primary role to organize and host the weekly graduate student colloquium (MATH601) course
- Provide students with relevant information regarding the graduation requirements related to completing the MATH601 course
- Act as a student representative for any academic issues faced by my fellow students, forwarded to the president of SIGMAS during our regular executive team meetings

### **Treasurer of SIAM McMaster Student Chapter**

Hamilton, Ontario

April 2017 – May 2018

- Responsible for maintaining the SIAM student chapter bank account, particularly as it relates to using funds for student events
- Report to the President for the creation of the annual expense report

### **Co-President of CBU Mathematics Society**

Sydney, Nova Scotia

September 2016 – April 2018

- Responsible for the continuation of the newly created math society at Cape Breton University
- Organize events and activities to encourage collaboration between undergraduate students in mathematics and engineering
- Provide prospective students with information regarding the math program and how they can get involved
- Organize and volunteer for outreach programs, such as visitations to local grade schools and assisting with the WISE (Women in Science and Engineering) outreach event

## TECHNICAL SKILLS

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- Proficient in Matlab, C++, Maple
- Highly proficient in the use of latex for creating mathematical documents and presentations
- Advanced knowledge within Microsoft Office Suite (Word, Excel, Powerpoint)