Amalrose Vayalinkal

Education	**PhD in Mathematics,** University of Toronto, Toronto, ON	Since **Fall 2022**
	Honours Bachelor of Science, University of Toronto, Toronto, ON	
	Math Specialist and Psychology Major	Convocated in **June 2022**

Awards	Ontario Graduate Scholarship ($15, 000)	2023
	Women in STEM Scholarship ($9,000)	Spring 2023
	NSERC USRA with Prof. Almut Burchard ($8,000)	Summer 2021
	G.Harold Martin Award and Scholarship ($1,000)	2018

Research

Dynamics of Braid Group Action via Middle Convolution 2023-Present

Area of Study: Algebraic Geometry
Advisor: Prof. Daniel Litt
Classifying finite orbits of the braid group that arises via middle convolution to tuples of matrices in the finite complex reflection groups.

Virtual Ring Routing Project University of Toronto 2021-2022

Area of Study: Graph Theory and Probability
Advisor: Prof. Almut Burchard
Developing models for Virtual Ring Routing (VRR) and exploring the efficiency of the algorithm. Studying the scaling limits of aggregate stretch and other efficiency factors in the network.

SPCL Lab Research Assistant University of Toronto Feb 2021- Sep 2021

Area of Study: Social Cognitive Psychology
Advisor: Prof. Nicholas Rule
Working in the SPeCiaL Lab, updating data analysis pipeline in R and preparing experimental stimuli. Currently working on a project exploring gender classification of faces via mousetracking analysis.

Invited Talks

Math Union Colloquium University of Toronto Fall 2021
Virtual Ring Routing
Introduced Virtual Ring Routing schemes and original findings, including worst case scenario when physical network is also a ring. Discussed future directions
Undergraduate Seminar University of Toronto - Mississauga Summer 2021
Virtual Ring Routing

Teaching

Teaching Assistant University of Toronto

MAT257 Analysis II	Fall 2023 Spring 2024
MAT354 Complex Analysis Fall 2023 MAT235 Multivariable Calculus	Summer 2023
MAT257 Analysis II	Fall 2022 Spring 2023
MAT354 Complex Analysis	Fall 2022
MAT136 Calculus 1(B)	Spring 2022
MAT135 Calculus 1(A)	Fall 2021
Math Learning Centre	Fall 2021
MAT133 Calculus for Commerce	Fall 2020 Spring 2021

Mentorship	**High-School Mentorship Program** University of Toronto	Spring 2023
	Girls in STEM Workshop University of Toronto	Jan 2023

Leadership	**Association for Women in Math** University of Toronto	2020-2021

Secretary

Facilitated communication between members, executive team and faculty administration.Provided a space for math students to socialize and find support. Succeeded in passing a motion for a wider variety of courses, including gender studies, to meet the Mathematics ethics requirement

Math Union University of Toronto   2018-2019

Academic Officer