

JULIA V.E. KIM¹

57 McMurrich Street, Toronto, ON, M5R 3S6 • juliaym.kim@mail.utoronto.ca • (647) 884 0236

EDUCATION

Honours Bachelor of Science in Mathematics and Physics, University of Toronto 2019-2024

- cGPA of 4.0; sessional GPA of 4.0; overall average of 97.5%
- University of Toronto Chair's Scholar and Dean's List Scholar
- NSERC Award and University of Toronto Excellence Award (UTEA) Recipient
- 3T0 M.&P. & Associates, Class of 3T0 & Associates, Patricia Massel 5T1 Bursary Recipient

Secondary School Diploma, Humberside Collegiate Institute (HCI) 2018

- Ontario Scholar, Humberside Gold Medal and Governor's General Medal Recipient
- Overall average of 99.4%

Certificat d'Honneur d'Études Bilingues en Français Immersion, HCI 2018

Standard First Aid & CPR/AED Level HCP 2018

Diplôme National du Brevet des Collèges, Toronto French School 2016

Advanced Rudiments Certificate, Royal Conservatory of Music 2015

Bronze Cross, Royal Life Saving Society Canada 2014

(REFEREED) PUBLICATIONS

1. Julia V.E. Kim & John R. Percy, "Pulsating Red Giants in a Globular Cluster: ω Centauri", 2022, JAAVSO, 50, 2. https://app.aavso.org/media/jaavso/3835_Skfwez7.pdf

2. Natasha Leclerc, Julia V.E. Kim *et al.* "Barium Depletion in Canadian Coastal Waters Points to Planktonic Phytoplankton Bloom Intensification in the Arctic" (work in progress)

RESEARCH POSITIONS

► PHYSICS & ENGINEERING

Dr. Zilman's Biological Physics Group May 2023-present

UTEA Awardee Research Assistant

- Build stochastic models and neural networks for receptor signalling with pleiotropy
- Investigate the specificity and accuracy of signalling in the presence of stochastic noise

Dr. Leclerc's Climate Geology Research Group May 2023-present

UTM Indicium STEM Research Fellow

- Analyse *C. compactum* data for a multi-proxy study of paleoenvironmental reconstructions

University of Toronto Aerospace Team June 2021-present

SAE Structures Division Research Assistant

- Encode analysis of aircraft boom aerodynamics and rocket tank thermal dynamics

ATLAS Canada Group May-Aug. 2022

NSERC Awardee Research Assistant to Dr. Krieger

- Design and investigate new kinematics variables for mass estimates of $t\bar{t}$ -decay chains

SuperCDMS SNOLAB Group Sept.-April 2022

PHY479Y1 Research Assistant to Dr. Miriam Diamond

- Produce sensitivity projections in WIMP parameter space for dark matter experiments

Dr. Percy's Astronomy & Astrophysics Group Sept.-April 2022

Research Assistant

- Use Fourier analysis to study light curves of pulsating red-giants in ω -Centauri cluster

¹Vera Elizabeth, abbreviated as V.E., is my preferred middle name, though I am recognised legally as Julia Yong-Mi Kim.

- Correct and provide solutions to classifications acquired by automated ASAS-SN algorithms

► ECONOMICS

Dr. Zárate's Economics Research Group

May 2023

Jackman Scholar's-in-Residence Awardee Research Assistant

- Test experiments designed to assess leadership and teamwork skills in South American youth
- Generate sentiment-analysis code and analyse data to study performance indicators

Drs. Hossain & Lyons' Economics Research Group

May 2022-present

Lead Research Assistant

- Implement experiments on group dynamics and productivity in Bangladesh & East Africa
- Supervise and train fellow research assistants to follow the desired methodology

SCIENCE OUTREACH

► DIRECTORSHIPS & EXECUTIVE POSITIONS

Girls in STEAM Organisation

Jan. 2023-present

Vice President of Content

- Write articles and design illustrations on new developments in STEAM for popular audiences
- Help increase scientific literacy; facilitate women and minority group's access to opportunities

UofT Machine Intelligence Student Team

Jan. 2023-present

Co-ordinator of the Academics Department

- Organise academic events, create mentorship and AI-education programmes promoting machine learning resources for undergraduate students

Canada's C3 CyberSTEAM Challenge with TeamUP Science

Sept. 2022-present

Director of the Virtual Challenge Design Team

- Design competition tasks for youth from underprivileged, rural and Indigenous backgrounds
- Lead & film programming tutorials

UofT Peer Tutoring Society

Sept. 2020-Apr. 2023

Information & Technology Officer

- Design, implement and manage a new website, create virtual educational resources

Science Rendezvous Festival

Sept. 2021-Apr. 2022

Finance Executive

- Assist to organise and run the largest science festival in Canada!
- Manage budgets, process financial statements, write letters of re-imbursements...

McMaster University's deSCIpher Competition

Sept. 2018-Apr. 2019

Finance Executive

- Assist to organise and run the largest science competition at McMaster
- Design the delivery, presentation, trivia questions and awards for the Biochemistry Round
- Prepare financial statements, acquire and manage funds from sponsors

PEDAGOGY

► TEACHING

Scholar Radiance Youth Club

Jan. 2023-present

Junior Olympiad and Standard Mathematics Teacher

- Hold weekly live classes for standard and advanced mathematics students, the latter of which are being trained to participate in the Canadian Junior Mathematical Olympiad (CJMO)
- Write report cards, mark assignments, regularly answer student queries in a discussion forum

BlueKey Education

July 2022-present

Tutor and Examination Preparation Instructor

- Tutor and hold test preparation sessions for mathematics, physics and CS students at UofT
- Wize Academy** Aug. 2021-present

Live Examination Preparation Instructor

- Hold live midterm preparation sessions for mathematics students; prepare packages of examination-like exercises

Mathstronauts STEAM Engine After-School Program Sept. 2018-Apr. 2019

Instructor

- Develop and deliver lesson plans; teach middle-school students how to use FreeCAD3D Design and Arduino circuitry
- Lead workshops on 3D printing and circuit-assembly

► TEACHING ASSISTANTSHIPS

OCAD University Teaching Assistantship May-July 2023

Marking Teaching Assistant to SCTM-2003: Astronomy-Scales & Structures

University of Toronto Teaching Assistantship Sept. 2020-Apr. 2021

Teaching Assistant to MAT137Y1: Calculus!

► COURSE DEVELOPMENT

Pinney Learning Centre Aug. 2021-Apr. 2023

Tutor & Course Development Supporter

- Teach, develop course content for Black students, especially those with learning disabilities & attention-deficit disorders

Dr. Siefken's Textbook, Linear Algebra: MAT233 Workbook Spring 2020

Editor

- Revise and correct errors in textbook; add and edit pages for clarity; create new exercises

► CAMP COUNSELLING

Toronto Kidz Summer Camp May-Aug. 2019

Assistant Camp Counsellor

Toronto Montessori Discovery Day Camp May-Aug. 2018

Assistant Camp Counsellor

- Design and lead camp activities for groups of children between 4 to 12 years of age
- Teach them to read, perform arithmetic, speak French, make crafts...

SCIENCE OUTREACH

► STEM MENTORSHIP

STEM in Indigenous Communities Program with Pueblo Science Jan. 2022-present

Assistant Workshop Leader

- Lead virtual STEM workshops for junior and senior students of Indigenous backgrounds

Mathstronauts STEM Hacks, UofT Hacks X, McHacks 10 Competitions Jan. 2019, 2023

Mentor

- Supervise middle-schoolers to design innovative science and engineering projects
- Supervise undergraduate students to ideate and build a soft/hardware project in Python and MATLAB

► SCIENCE COMMUNICATION

Critical Links Newsletter at the Centre for Inquiry Canada Aug. 2022-present

The Varsity, University of Toronto Newspaper Aug. 2022-present

Science Writer

- Write articles concerning developments in STEM for technical and popular audiences

► CONFERENCE PRESENTATIONS

1. “*Investigating C. Compactum as an Arctic Erosion Proxy*”, **UTM Indiciu Talk** (July 2023).
2. “*Promotion of Careers for Women in STEM*”, **Girls in Tech Conference** (April 2023).
3. “*Generalising mt^2 for decay chains and mass measurements*”, **ATLAS Talk** (July 2022).

AWARDS

2023	Lucia Colavita Memorial Scholarship (\$1,500)
2023	University of Toronto Excellence Award (\$7,500)
2023	Jackman Scholars-in-Residence Award (\$1,000)
2021, 2023	The 3T0 M.&P. and Associates Scholarship (\$2,390)
2022	Patricia Massel 5T1 Bursary (\$5,000)
2022	NCERC USRA (\$10,000) & University of Toronto Chair’s Scholar (\$800)
2022	St. Micheal’s College In-Course Scholarship (\$1,500)
2019-2022	University of Toronto Scholar’s Award (\$1,500)
2021	The Class of 3T0 and Associates Scholarship in Mathematics and Physics (\$2,180)
2020	Joseph Alfred Whealy In-Course Scholarship (\$1,500)
2020	Samuel Beatty In-Course Scholarship (\$1,000)
2018	Ontario Scholar and Governor’s General Medal
2018	The Humberside Proficiency Awards in:
	(1) Physics
	(2) Mathematics in Memory of Peter Bryce: Advanced Functions
	(3) Core French in Memory of M. Fugler
	The William E. Taylor Memorial Award in Senior Biology
	The James J. Morwick Award in Senior Sciences
	The J.H. Couke Memorial Award in Chemistry
	The Humberside Gold Medal