

Farid Rajkotia-Zaheer

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Education

2022–Present **Ph.D. in Mathematics**, University of Victoria, Victoria, BC.

- Research Areas: Fluid Dynamics, Partial Differential Equations, Variational Analysis, Non-linear Dynamics.
- Supervisor: Prof. David Goluskin

2016–2020 **B.A.Sc with concentration in Mathematics and Physics**, Quest University Canada, Squamish, BC.

- Thesis: *On the Hydrodynamics of Sphere Pairs within a Viscous Fluid.*
- Advisor: Prof. Andrew Hamilton

Publications

Feb 2025 *Bounds on dissipation in three-dimensional planar shear flows: reduction to two-dimensional problems*

- Co-author: David Goluskin
- Submitted

Conferences, summer schools and workshops

Winter 2024 **Annual APS DFD conference**, Salt Lake City, Utah, USA.
Contributed talk.

Summer 2024 **WHOI GFD Summer Program**, Woods Hole Oceanographic institution, Woods Hole, USA.
Visiting graduate student to the 2024 geophysical fluid dynamics program.

June 2024 **NCTS-PIMS Workshop in PDE**, National Centre for Theoretical Sciences, Taipei, Taiwan.
Contributed talk in biennial workshops organized by PIMS and NCTS.

Summer 2023 **200 Years of Navier–Stokes and Turbulences**, École De Physique, Les Houches, France.

Awards and Scholarships

JJEM Graduate Award in Mathematics

Awarded to graduate students in mathematics of high academic standing.
Awarded by Faculty of Graduate studies based upon departmental recommendation. Academic years 2023-2024 and 2024-2025.

BGK Scholarship in Mathematics	Awarded to graduate students in mathematics of high academic standing by FGS based upon departmental recommendation.
UVic Math Graduate Student Award	Awarded to graduate students of high academic standing at the University of Victoria via departmental recommendation. The award was given for the 2022-2023 and 2023-2024 academic year through the faculty of graduate studies.
UVic Research Assistantship	Received for the duration of the Ph.D degree at University of Victoria, through funding of Prof. David Goluskin.
S.N. Bhatt Memorial Excellence Fellow	Competitive fellowship hosted by the International Centre for Theoretical Sciences, India. Given to 10 applicants from around the country. 2020 program cancelled due to pandemic.
Book Prize	Academic excellence and citizenship prize at Quest University. Awarded for work and classroom citizenship within mathematics and physics between the years 2017 and 2019.
President's Scholarship	Awarded to students that demonstrate academic prowess and excellence. A scholarship of 18,000 CAD yearly was received over the four year Bachelor's degree at Quest University from 2016 to 2020.

Professional Experience

2022–Present	Research Assistant , <i>University of Victoria, Department of Mathematics and Statistics</i> , Victoria, BC.
	<ul style="list-style-type: none"> ○ Member of Prof. David Goluskin's research team in non-linear dynamics, PDEs and mathematical fluid dynamics within the Applied Mathematics group at UVic.
Summer 2019	Research Intern , <i>International Centre for Theoretical Science (ICTS)</i> , Bangalore, India.
	<ul style="list-style-type: none"> ○ Selected for an internship within the fluid dynamics group at ICTS under the supervision of Prof. Rama Govindarajan. ○ Conducted research and experiments into the nature of sedimentation dynamics. ○ Assisted in the research of PhD students and post-docs within the fluid dynamics group.
2017–2019	Student Ambassador , <i>Quest University (Admissions Department)</i> , Squamish.
	<ul style="list-style-type: none"> ○ Facilitating admissions related work at the university. ○ Organizing admissions related events. ○ Providing campus tours.
2016–2017	Laboratory Technician , <i>Quest University (Labs)</i> , Squamish.
	<ul style="list-style-type: none"> ○ Tasked with the general upkeep of the laboratory facilities. ○ Responsible for the preparation of various instruments and materials needed for science classes. ○ Preparation of various chemicals needed for chemistry and biology courses.

Summer 2015 **Internship**, *National Centre for Biological Sciences (NCBS)*, Bangalore, India.

- Selected for an internship within the Bio-physics group at NCBS.
- Assisted in research and experimentation related to the study of the physics of insect flight.

Teaching Experience

2022-present **Marker**, *University of Victoria, Department of Mathematics and Statistics*, Victoria, BC.

- MATH 444/550, mathematical models in fluid dynamics
- MATH 346, introductory partial differential equations
- MATH 377, mathematical modelling
- MATH 301, introductory complex analysis
- MATH 342, introductory ordinary differential equations.
- MATH 204, vector calculus (also led exam review sessions).
- MATH 151, discrete mathematics.
- MATH 101, first year calculus.

2022-present **Tutor**, *University of Victoria, Math and Stats Assistance Centre*, Victoria, BC.

- Drop in tutor for mathematics.

2020–2021 **Teaching Fellow**, *Ashoka University, Mathematics Department*, Sonepat, India.

- Worked alongside faculty members to administer courses being offered at the university.
- Assisted in teaching foundational Quantitative Reasoning and Mathematical Thinking courses, Differential Equations and Linear Algebra.
- Responsibilities included providing supplementary instruction sessions, grading assessments, writing original solution manuals and course administrative duties.

2019–2020 **Peer Tutor**, *Quest University (Learning Commons)*, Squamish.

- Learning Commons at Quest University employs students who are excelling academically to be peer tutors (teaching assistants).
- Course guiding various mathematics and physics courses being offered at the university.
- Courses Tutored- Calculus 1, Abstract Algebra and Mathematical Logic.
- Tutoring first year students within quantitative reasoning.

Languages

English	Native speaker	<i>First language.</i>
Hindi	Native speaker	<i>First language.</i>
Urdu	Intermediate	<i>Second language.</i>

References

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