Caleb Suan Kai Wen (孙凯文) **Curriculum Vitae**

CONTACT INFORMATION

- Email: *calebkw@math.ubc.ca*
- Personal Website: *https://calebsuan.github.io*

RESEARCH INTERESTS

Geometric analysis; Geometric flows (G_2 Laplacian Flow/ Coflow, Anomaly Flow); Manifolds with special holonomy ($\mathrm{SU}(3), G_2, \mathrm{Spin}(7)$); Conifold Transitions; Hull–Strominger system.

EDUCATION

The University of British Columbia, Vancouver, BC, Canada

PhD, Mathematics — Sep 2021 - Present (Expected Apr 2025)

- Thesis: *Deformations of Special Geometric Structures in Dimensions* 6 *and* 7
- Supervisor: Sébastien Picard

University of Waterloo, Waterloo, ON, Canada

MMath, Pure Mathematics, — Jan 2020 - Dec 2020

- Thesis: *Differential Operators on Manifolds with G_2-Structure*
- Supervisor: Spiro Karigiannis

BMath, Pure Mathematics/ Combinatorics and Optimization, — Sep 2013 - Dec 2019

- Honors, Co-operative Program
- With Distinction, Dean's Honours List

PREPRINTS AND PUBLICATIONS

[1] Caleb Suan
"Anomaly Flow: Shi-Type Estimates and Long-time Existence",
preprint, arXiv:2408.15514

[2] Henrique N. Sá Earp, Julieth Saavedra, and Caleb Suan
"Laplacian Coflows of G_2-Structures on Contact Calabi–Yau 7*-Manifolds"*,
preprint, arXiv:2406.15254

[3] Benjamin Friedman, Sébastien Picard, and Caleb Suan
"Gromov–Hausdorff Continuity of Non-Kähler Calabi–Yau Conifold Transitions",
preprint, arXiv:2404.11840

[4] Sébastien Picard and Caleb Suan
"Flows of G_2 Structures associated to Calabi–Yau Manifolds",
to appear in *Mathematical Resesarch Letters*, arXiv:2209.03411

INVITED TALKS

- University of British Columbia Mathematics Colloquium (Mar 2025)
  TBD
- Universität Hamburg Differential Geometry Research Seminar (Jan 2025)
  "Conifold Transitions and the Anomaly Flow"
- Rutgers - Newark Mathematics Colloquium (Nov 2024)
  "Long-time Existence of the Anomaly Flow"
- CRM Workshop: Special Riemannian Geometries in Dimensions 6, 7, 8 (Apr 2024)
  "Gromov–Hausdorff Continuity of Non-Kähler Calabi–Yau 3*-Folds"*
- UC - Irvine Generalized Ricci Flow Learning Seminar (Dec 2023)
  "Flows of G_2 Structures associated to Calabi–Yau Manifolds"
- BIRS Workshop: Spinorial and Octonionic Aspects of G_2 and $\mathrm{Spin}(7)$ Geometry (May 2023)
  "Flows of G_2 Structures associated to Calabi–Yau Manifolds"

Teaching

The University of British Columbia, Vancouver, BC, Canada

Small Class/ Workshop Instructor — Sep 2021 - Present

- MATH 100: Differential Calculus with Applications to Physical Sciences and Engineering (2024 Winter Term II)
- MATH 180: Differential Calculus with Physical Applications (2024 Winter Term I)
- MATH 180: Differential Calculus with Physical Applications (2023 Winter Term I)
- MATH 190: Calculus Survey (2022 Winter Term I)

Teaching Assistant — Sep 2021 - Present

- MATH 264: Vector Calculus for Electrical Engineering (2023 Winter Term II)
- MATH 220: Mathematical Proof (2022 Winter Term II)
- MATH 421: Real Analysis II (2021 Winter Term II)
- MATH 223: Linear Algebra (2021 Winter Term I)

University of Waterloo, Waterloo, ON, Canada

Teaching Assistant — Jan 2020 - Dec 2020

- PMATH 465: Geometry of Manifolds (Fall 2020)
- MATH 147: Calculus 1 (Advanced Level) (Fall 2020)
- PMATH 352: Complex Analysis (Spring 2020)
- PMATH 365: Differential Geometry (Winter 2020)
- MATH 136: Linear Algebra 1 for Honours Mathematics (Winter 2020)

Undergraduate Tutor — Sep 2016 - Dec 2016

- MATH 137: Calculus 1 for Honours Mathematics (Fall 2016)

Other Research

University of Waterloo, Waterloo, ON, Canada

NSERC Undergraduate Research Assistant — May 2019 - Aug 2019

- Project: *The Almost Invariant Subspace Problem*
- Supervisor: Laurent Marcoux

NSERC Undergraduate Research Assistant — May 2018 - Aug 2018

- Project: *Vortex Solutions on Riemann Surfaces from Hyperbolic Tessellations*
- Supervisor: Benoit Charbonneau

Awards and Scholarships

- Stanley M. Grant Scholarship in Mathematics — 2024
  The University of British Columbia
- Four Year Doctoral Fellowship — 2021
  The University of British Columbia
- President's Academic Excellence Award — 2021
  The University of British Columbia
- NSERC Alexander Graham Bell Canada Graduate Scholarship - Masters — 2021
  University of Waterloo
- President's Graduate Scholarship — 2021
  University of Waterloo
- Outstanding Teaching Assistant Award — 2020
  University of Waterloo

- NSERC Undergraduate Student Research Award — 2020
  University of Waterloo
- NSERC Undergraduate Student Research Award — 2019
  University of Waterloo
- University of Waterloo 50th Anniversary Scholarship — 2018
  University of Waterloo
- Faculty of Mathematics Scholarship — 2014
  University of Waterloo
- University of Waterloo President's Scholarship — 2014
  University of Waterloo

SERVICE

- UBC Differential Geometry Learning Seminar — Jan 2024 - Present
  Co-organiser