

Anton Iliashenko

CV 2025

Contact Information:

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Occupation:

2024-Current Postdoc, BIMSА

Mentor: Kotaro Kawai, BIMSА

Education:

2020-2024: PhD, Pure Mathematics, University of Waterloo

Supervisor: Spiro Karigiannis

2019-2020: MMath, Pure Mathematics, University of Waterloo

Project: The moduli space of ASD connections on compact 4-manifolds

Supervisor: Spiro Karigiannis

2016-2019: Bachelor of Mathematics, Pure Mathematics, University of Waterloo

Research Interests: Differential Geometry

Academic/Research Experience: Summer 2019: NSERC – Undergraduate Student Research Awards

Topic: Mean curvature flow

Supervisor: Spiro Karigiannis

Publications:

- “Hyperbolicity and Schwarz Lemmas in Calibrated Geometry”, with Kyle Broder and Jesse Madnick, 2025. arXiv:2507.16313
- “A special class of k -harmonic maps inducing calibrated fibrations”, with Spiro Karigiannis, to appear in *Mathematical Research Letters*, 2024. arXiv:2311.14074.
- “Betti numbers of nearly G_2 and nearly Kähler manifolds with Weyl curvature bounds”, *Geometriae Dedicata*, 2024. arXiv:2303.18208

Talks in Workshops:

- BIRS Workshop Spring 2023, June 1: Betti numbers of nearly G_2 and nearly Kähler manifolds with Weyl curvature bounds.
- MIST 2024, October 29: A special class of k -harmonic maps inducing calibrated fibrations.

Talks as a Visitor:

- University of Waterloo, 2025, August 8: Hyperbolicity and Schwarz Lemmas in Calibrated Geometry.

Posters in Workshops:

- IMPA Workshop 2024, March 12: A special class of k -harmonic maps inducing calibrated fibrations.

Talks in BIMSA Differential Geometry Working Seminar:

- Fall 2024: A special class of k -harmonic maps inducing calibrated fibrations.

Talks in Tsinghua University Geometry Seminar:

- Fall 2024: Smith maps.

Talks in BIMSA Postdoc Workshop:

- Fall 2024: Smith maps.

Talks in Waterloo Differential Geometry Working Seminar:

- Spring 2024: Bubble tree construction in the context of harmonic maps.
- Fall 2023: A special class of k -harmonic maps inducing calibrated fibrations.
- Spring 2023: Betti numbers of nearly G_2 and nearly Kähler manifolds with Weyl curvature bounds.
- Winter 2023: The third Betti number of nearly Kähler 6-manifolds.
- Fall 2022: Using Weitzenböck formulas to get Betti numbers using bounds on curvature operators.
- Spring 2022: Pinching estimates for curvature operators.
- Spring 2022: Some results about Riemannian submersions.
- Spring 2022: Instantons on Flat Spaces.
- Winter 2022: Curvature of almost Hermitian manifolds.
- Fall 2022: Riemannian Submersions, Part II.
- Fall 2022: Riemannian submersions and the O'Neill tensors. Part I.
- Spring 2021: Harmonic Mappings.
- Spring 2020: Mean curvature flow of a manifold inside the tangent bundle.
- Spring 2020: First and Second variation of the Volume functional.

Teaching Assistant Experience:

2019-2024: marking, office hours, running tutorials for various courses, including but not limited to, Linear algebra, Calculus, Real/Complex analysis, Differential geometry, Groups and Rings, Fields and Galois Theory, Representation theory of finite groups.

References:

Spiro Karigiannis, University of Waterloo, Email: karigiannis@uwaterloo.ca

Ruxandra Moraru, University of Waterloo, Email: moraru@uwaterloo.ca

Shengda Hu, University of Waterloo, Email: shu@wlu.ca

Jason Lotay, University of Oxford, Email: jason.lotay@maths.ox.ac.uk

Shubham Dwivedi, Humboldt University Berlin, Email: dwivedis@hu-berlin.de

Sebastian Heller, BIMSA, Email: sheller@bimsa.cn

Akito Futaki, Tsinghua University, Email: futaki@tsinghua.edu.cn