

Ciprian Mircea Bonciocat

Curriculum Vitae

Contact Information

Stanford University
Department of Mathematics
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Education

Stanford University

PhD in Mathematics, *In progress.*

Sep 2022 – Jun 2027

Advisor: Ciprian Manolescu

University of California, Los Angeles

B.S. and M.A. in Mathematics.

Sep 2018 – Jun 2022

Research Interests

Various forms of **Floer theory**; algebraic and homotopical methods.
Applications to **symplectic geometry** and **low-dimensional topology**.

Selected Awards and Fellowships

Stanford University, *Robert Osserman Teaching Award*, 2025.

Stanford University, *William R. and Sara Hart Kimball Fellowship*, 2022.

University of California, Los Angeles, *Math Undergraduate Merit Scholarship*, 2018.

Publications and Preprints

- (1) Real Heegaard Floer homology with integral coefficients (2026), [arXiv:2608.15027](https://arxiv.org/abs/2608.15027).
- (2) Parameterized Lagrangian Floer homotopy (2025, with K. Blakey), [arXiv:2506.20122](https://arxiv.org/abs/2506.20122).
- (3) Floer homotopy theory for monotone Lagrangians (2025), [arXiv:2506.17431](https://arxiv.org/abs/2506.17431).
- (4) Revisiting the Cohen-Jones-Segal construction in Morse-Bott theory (2024) [arXiv:2409.11278](https://arxiv.org/abs/2409.11278).
- (5) Irreducibility criteria for some classes of compositions of polynomials with integer coefficients (with N.C. Bonciocat, Y. Bugeaud, M. Cipu, M. Mignotte) *Bull. Math. Soc. Sci. Math. Roumanie* (N.S.) 65(113) (2022), no. 2, 149–180.
- (6) Zero-free angular sectors and lens-shaped regions for polynomials, with applications to irreducibility; (joint work with N.C. Bonciocat), *Comm. Algebra* 50 (2022), no. 6, 2604–2620.
- (7) The order of the product of two elements in finite nilpotent groups (2020), [arXiv:2001.11106](https://arxiv.org/abs/2001.11106).

Research Talks

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| (1) AIM (short talk), New Structures in Low-Dim. Topology Workshop | Jun 5, 2026 |
| (2) Caltech, Geometry and Topology Seminar | May 1, 2026 |
| (3) Inst. of Math. of the Romanian Academy (online), GeMAT Seminar | Mar 20, 2026 |
| (4) Institute for Advanced Studies (online), Symplectic Zoominar | Feb 27, 2026 |
| (5) UC Berkeley, Northern California Symplectic Geometry Seminar | Dec 1, 2025 |
| (6) University of Southern California, Topology Seminar | Nov 3, 2025 |
| (7) Columbia University, Algebraic Topology Seminar | Feb 7, 2025 |
| (8) Stanford University, Topology Seminar | Oct 17, 2023 |

Conferences and Workshops attended

- (1) (future) *Interactions between quantum and homotopical geometry*, SCGP, Stony Brook NY, November 16 – 20, 2026.
- (2) (future) *Workshop on Lagrangian Floer Theory and Applications*, Harvard CMSA, Cambridge MA, September 28 – October 2, 2026.
- (3) *New Structures in Low-Dimensional Topology Workshop*, Caltech AIM, Pasadena CA, June 1 – 5, 2026.
- (4) *Simons Collaboration on New Structures in Low-Dimensional Topology Annual Meeting*, New York City NY, March 26 – 27, 2026.
- (5) *Homotopy Theory and Floer Homology*, IML, Djursholm, Sweden, June 23 – 27, 2025.
- (6) *Conference on Modern Developments in Low-Dimensional Topology*, ICTP, Trieste, Italy, June 9 – 13, 2025.
- (7) *Summer School on Modern Tools in Low-Dimensional Topology*, ICTP, Trieste, Italy, June 2 – 6, 2025.
- (8) *Moduli spaces of pseudo-holomorphic curves Workshop*, mentored by John Pardon, Oneonta NY, May 11 – 17, 2025.
- (9) *Simons Collaboration on New Structures in Low-Dimensional Topology Annual Meeting*, New York City NY, March 27 – 28, 2025.
- (10) *Simons Collaboration on New Structures in Low-Dimensional Topology Annual Meeting*, New York City NY, March 28 – 29, 2024.
- (11) *Gauge Theory and Topology: in Celebration of Peter Kronheimer's 60th Birthday*, Oxford, UK, July 24 – 28, 2023.
- (12) *Geometry, Topology and Algebra of Singular Spaces*, Bucharest, Romania, July 7 – 11, 2023.
- (13) *The 10th Congress of Romanian Mathematicians*, Pitesti, Romania, June 30 – July 5, 2023.
- (14) (online) *The Nearly Carbon Neutral Geometric Topology Conference*, June 21 – 30, 2023.
- (15) *Stanford Topology Celebration in honor of G. Carlsson, R. Cohen, S. Kerckhoff*, Stanford CA, May 20 – 21, 2023.
- (16) *Simons Collaboration on New Structures in Low-Dimensional Topology Annual Meeting*, New York City NY, March 30 – 31, 2023.

Teaching and Mentorship Experience

Teaching Assistant, Stanford University:

- *Linear Algebra and Differential Calculus of Several Variables* (Math 51)
Instructor: Christine Taylor, Fall Quarter 2024 – 2025.
Received the Robert Osserman Teaching Award on the basis of this teaching.
- *Graduate Differential Topology* (Math 215B)
Instructor: Mohammed Abouzaid, Winter Quarter 2025 – 2026.
Duties include preparing graduate students for the Qualifying Exam.

Course Assistant, Stanford University:

- *Foundations for Calculus* (Math 18)
Instructor: Charles Brittenham, Fall Quarter 2025 – 2025.

Directed Reading Mentor, Stanford University:

- Algebraic K -theory, Fall 2024 – 2025.

School Math Circle, University of California, Los Angeles:

- Olga Radko Math Circle (formerly LA Math Circle), October 2018 – June 2021.