

Chi Cheuk Tsang

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Employment

- 2026 - Tongji University
Distinguished Researcher
- 2026 Simons Laufer Mathematical Sciences Institute
McDuff Endowed Postdoctoral Fellow
- 2023 - 2025 Université du Québec à Montréal
CRM Postdoctoral Fellow

Education

- 2018 - 2023 University of California, Berkeley
PhD in Mathematics, Advisor: Ian Agol
- 2014 - 2018 Chinese University of Hong Kong
BSc in Mathematics, First Class Honours
- 2017 University of Waterloo
Semester exchange program

Awards

- 2023 Herb Alexander Prize in Pure Mathematics
- 2018 - 2021 Croucher Scholarship for Doctoral Study

Publications and Preprints

15. Antonio Alfieri and Chi Cheuk Tsang; “Heegaard Floer theory and pseudo-Anosov flows II: Differential and Fried pants”, *Preprint* (2025). arXiv:2506.07163
14. Antonio Alfieri and Chi Cheuk Tsang; “Heegaard Floer theory and pseudo-Anosov flows I: Generators and categorification of the zeta function”, *Preprint* (2025). arXiv:2504.15420
13. Catherine Eva Pfaff and Chi Cheuk Tsang; “A ‘cubist’ decomposition of the Handel-Mosher axis bundle”, *Preprint* (2025). arXiv:2503.16360
12. Chi Cheuk Tsang and Xiangzhuo Zeng; “Minimum dilatations of pseudo-Anosov braids”, *Preprint* (2024). arXiv:2412.01648
11. Erwan Lanneau, Livio Liechti, and Chi Cheuk Tsang; “Minimal stretch factors of fully-punctured orientation-reversing pseudo-Anosov maps”; *Transactions of the American Mathematical Society*, **378** (2025), no. 4, 2943–2968. doi:10.1090/tran/9350
10. Chi Cheuk Tsang; “Examples of Anosov flows with genus one Birkhoff sections”; *Preprint* (2024). arXiv:2402.00229
9. Chi Cheuk Tsang; “Horizontal Goodman surgery and almost equivalence of pseudo-Anosov flows”; *Preprint* (2024). arXiv:2401.01847
8. Chi Cheuk Tsang; “On the set of normalized dilatations of fully punctured pseudo-Anosov maps”; *Annales de l’Institut Fourier*, to appear. arXiv:2306.10245
7. Michael Landry and Chi Cheuk Tsang; “Endperiodic maps, splitting sequences, and branched surfaces”; *Geometry and Topology*, **29** (2025), no. 9, 4531–4663. doi:10.2140/gt.2025.29.4531
6. Eriko Hironaka and Chi Cheuk Tsang; “Standardly embedded train tracks and pseudo-Anosov maps with minimum expansion factor”; *Groups, Geometry, and Dynamics*, **19** (2025), no. 4, 1263–1317. doi:10.4171/ggd/805
5. Chi Cheuk Tsang; “Constructing Birkhoff sections for pseudo-Anosov flows with controlled complexity”; *Ergodic Theory and Dynamical Systems*, **44** (2024), no. 8, 2308–2360. doi:10.1017/etds.2023.105
4. Chi Cheuk Tsang; “Veering branched surfaces, surgeries, and geodesic flows”; *New York Journal of Mathematics* **29** (2023), 1425–1495.
3. Ian Agol and Chi Cheuk Tsang; “Dynamics of veering triangulations: infinitesimal components of their flow graphs and applications”; *Algebraic and Geometric Topology*, **24** (2024), no. 6, 3401–3453. doi:10.2140/agt.2024.24.3401
2. Ki Fung Chan, Spiro Karigiannis, and Chi Cheuk Tsang; “The \mathcal{L}_B -cohomology on compact torsion-free G_2 manifolds and an application to ‘almost’ formality”; *Annals of Global Analysis and Geometry* **55** (2019), no. 2, 325–369. doi:10.1007/s10455-018-9629-x
1. Ki Fung Chan, Spiro Karigiannis, and Chi Cheuk Tsang; “Cohomologies on almost complex manifolds and the $\partial\bar{\partial}$ -lemma”; *Asian Journal of Mathematics* **23** (2019), no. 4, 561–584. doi:10.4310/AJM.2019.v23.n4.a2

Selected talks

- 25 Nov 2025 Tongji University, “Heegaard Floer theory and pseudo-Anosov flows”
- 24 Nov 2025 Nanjing University, “Flows and foliations on 3-manifolds”
- 13 Nov 2025 2K-GATE Workshop II, KAIST, “Pseudo-Anosov flows and veering triangulations”
- 19 Aug 2025 Workshop on “Low dimensional topology and Floer theory”, Centre de Recherches Mathématiques, “Heegaard Floer theory and periodic points of pseudo-Anosov maps”
- 31 Mar 2025 MIT Geometry and Topology Seminar, “Canonical axes for outer automorphisms of free groups”
- 18 Feb 2025 Institute for Advanced Studies Dynamics and Group Seminar, “Minimum entropies of braids”
- 29 Oct 2024 Yale University Geometry and Topology Seminar, “Birkhoff sections for Anosov flows”
- 19 Sep 2024 Princeton Topology Seminar, “A connection between pseudo-Anosov flows and sutured Floer homology”
- 18 May 2024 St. Louis Topology Conference, “Pseudo-Anosov flows, finite depth foliations, and veering branched surfaces”

Selected conferences and workshops

- 13-14 Nov 2025 *Speaker*, 2K-GATE Workshop II, Korea Advanced Institute of Science and Technology
- 18-29 Aug 2025 *Speaker*, Low dimensional topology and Floer theory, Centre de Recherches Mathématiques
- 2-6 Jun 2025 *Participant*, LG&TBQ2: geometry, topology, and dynamics, Centre de Recherches Mathématiques
- 19-30 May 2025 *Speaker*, 2025 Georgia International Topology Conference
- 12-18 Jan 2025 *Organizer*, Log cabin workshop 2025, St. George, Utah
- 17-19 May 2024 *Speaker*, St. Louis Topology Conference, Washington University in St. Louis

Service

- Refereed for journals such as *Geometry and Topology*, *Groups, Geometry, and Dynamics*, *Journal of Differential Geometry*, *L'Enseignement Mathématique*, *Mathematische Annalen*, and *Memoirs of the AMS*.
- Organized the Log Cabin Workshop 2025 with Siddhi Krishna and Jonathan Zung.
- Organized the student 3-manifold seminar at UC Berkeley between 2021 and 2023.

Supervising

Feb-Jul 2025	Clément Perault Predoctoral research Internship, UQAM
May-Aug 2024	Xiangzhuo Zeng Undergraduate Research Internship, UQAM

Teaching

Fall 2024	<i>Instructor</i> , MAT993F: Représentations $SL(2, \mathbb{C})$ et la géométrie hyperbolique en dimension 3, UQAM
Winter 2024	<i>Instructor</i> , MAT993V: Homéomorphismes pseudo-Anosov des surfaces, UQAM
Spring 2023	<i>Graduate student instructor</i> , Math 113 Introduction to Abstract Algebra, UC Berkeley
Spring 2022	<i>Graduate student instructor</i> , Math 55 Discrete Mathematics, UC Berkeley
Fall 2021	<i>Graduate student instructor</i> , Math 16A Analytic Geometry and Calculus, UC Berkeley
Spring 2021	<i>Graduate student instructor</i> , Math 54 Linear Algebra and Differential Equations, UC Berkeley