

Jean-Philippe Chassé, Ph.D. [they/he]

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Academic Positions

2022 – 2025 ■ **Postdoctoral researcher**, ETH Zürich, Zurich.
Mentor: *Paul Biran*.

Education

- 2018 – 2022 ■ **Ph.D. in Mathematics**, Université de Montréal, Montreal.
Supervisor: *Octav Cornea*
Thesis title: *Sur la relation entre les métriques de nature symplectique et la métrique de Hausdorff en présence de bornes riemanniennes*
Accolade: *Rector's honor list*
- 2020 – 2021 ■ **Microprogram in German Studies**, Université de Montréal, Montreal
- 2017 – 2018 ■ **M.Sc. in Mathematics**, Université de Montréal, Montreal.
Supervisor: *François Lalonde*
Thesis title: *Sur le h -principe pour les immersions coisotropes et les classes caractéristiques associées*
- 2014 – 2017 ■ **B.Sc. in Mathematics & Physics**, Université de Montréal, Montreal.

Research

Preprints

- 1 Chassé, J.-P. (2024). Lagrangian metric geometry with Riemannian bounds. arxiv:2405.19144.
- 2 Chassé, J.-P. & Leclercq, R. (2023). A Hölder-type inequality for the Hausdorff distance between Lagrangians. arxiv:2308.16695.
- 3 Chassé, J.-P., Hicks, J., & Nho, N. (2023). Reverse isoperimetric inequalities for Lagrangian intersection Floer theory. arxiv:2306.04761.

Publications

- 1 Chassé, J.-P. (2024). Hausdorff limits of submanifolds of symplectic and contact manifolds. *Differential Geom. Appl.* 94. [🔗 https://doi.org/10.1016/j.difgeo.2024.102123](https://doi.org/10.1016/j.difgeo.2024.102123)
- 2 Chassé, J.-P. (2023). Convergence and Riemannian bounds on Lagrangian submanifolds. *Internat. J. Math.* 34(5). [🔗 https://doi.org/10.1142/S0129167X23500246](https://doi.org/10.1142/S0129167X23500246)
- 3 Chassé, J.-P. (2019). Coisotropic characteristic classes. *Ann. Math. Québec*, 44(2), 393–400. [🔗 https://doi.org/10.1007/s40316-019-00126-1](https://doi.org/10.1007/s40316-019-00126-1)

Invited Talks

- 1 Chassé, J.-P. (2024). La géométrie métrique de l'espace des lagrangiennes avec des bornes riemanniennes. Séminaire de Géométrie et Topologie de Toulouse.
- 2 Chassé, J.-P. (2024). The metric geometry of geometrically bounded Lagrangians. ETH Zürich Symplectic Geometry Seminar.

- 3 Chassé, J.-P. (2024). Metric geometry and geometrically bounded Lagrangian submanifolds. Montreal's Symplectic Seminar.
- 4 Chassé, J.-P. (2023). Metric Lagrangian topology. Cambridge's Junior Geometry Seminar.
- 5 Chassé, J.-P. (2022). The behavior of Hausdorff-converging sequences of Lagrangian submanifolds. Symplectix, Institut Henri Poincaré.
- 6 Chassé, J.-P. (2022). Sequences of Lagrangian submanifolds respecting uniform Riemannian bounds and their limits in various metrics. ETH Zürich Symplectic Seminar.
- 7 Chassé, J.-P. (2021). Convergence and Riemannian bounds on Lagrangian submanifolds. Symplectic Zoominar, CRM-Montréal, Princeton/IAS, Tel Aviv, and Paris.
- 8 Chassé, J.-P. (2020). The impact of metric constraints on the behavior of shadow metrics. 2020 CMS Winter Meeting (Symplectic Topology Session).
- 9 Chassé, J.-P. (2020). The topology of Lagrangian submanifolds calibrated by curvature. Montreal Symplectic Seminar, CIRGET.

(Parts of) Mini-courses

- 1 Chassé, J.-P. (2024). Proof of the main theorem, part I (part of a week-long school on *Foundation of Floer Homotopy Theory I: Flow Categories* by M. Abouzaid and A. Blumberg). Homotopy Floer theory spring school.
- 2 Chassé, J.-P. (2024). Bordism spectral sequence (part 2 of a 4-part minicourse on bordisms). Rencontre ANR COSY: Homotopy Floer theory.

Selected Honors & Funding

Distinctions & Scholarships

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|-------------|--|
| 2020 – 2022 | <ul style="list-style-type: none"> ■ FRQNT Doctoral Research Scholarship. Scholarship awarded by the <i>Fonds de recherche du Québec - Nature et technologies</i> (FQRNT) [B2X]. |
| 2019 – 2021 | <ul style="list-style-type: none"> ■ NSERC Alexander Graham Bell Canada Graduate Scholarship — Doctoral Program. Scholarship awarded by the Natural Sciences and Engineering Research Council of Canada (NSERC) [CGS D]. |
| 2021 | <ul style="list-style-type: none"> ■ NSERC Michael Smith Foreign Study Supplements (canceled due to the COVID-19 pandemic). Supplement awarded by the Natural Sciences and Engineering Research Council of Canada (NSERC) [CGS-MSFSS]. |
| 2017 – 2018 | <ul style="list-style-type: none"> ■ FRQNT Master's Research Scholarship. Scholarship awarded by the <i>Fonds de recherche du Québec - Nature et technologies</i> (FQRNT) [B1X]. ■ NSERC Alexander Graham Bell Canada Graduate Scholarships — Master's Program. Scholarship awarded by the Natural Sciences and Engineering Research Council of Canada (NSERC) [CGS M]. |
| 2016 | <ul style="list-style-type: none"> ■ FRQNT Supplement of the NSERC Undergraduate Student Research Awards. Supplement awarded by the <i>Fonds de recherche du Québec - Nature et technologies</i> (FQRNT) [BPCA]. ■ NSERC Undergraduate Student Research Awards. Financial support awarded by the Natural Sciences and Engineering Research Council of Canada (NSERC) [USRA]. |
| 2015 | <ul style="list-style-type: none"> ■ NSERC Undergraduate Student Research Awards. Financial support awarded by the Natural Sciences and Engineering Research Council of Canada (NSERC) [USRA]. |

Selected Honors & Funding (continued)

Funding

- 2022 – 2025 **Swiss National Science Foundation.** Partial funding during postdoctoral position at ETH Zürich [200021_204107].

Participation to Academic Events

Conferences, Workshops & Summer Schools

- 2024 **From Hamiltonian Dynamics to Symplectic Topology and Beyond.** IHP (Paris, France).
 Floer Homotopy Theory Spring School. Grand-Varennes (Sens, France).
 CAST 2024. Ruhr-Universität Bochum (Bochum, Germany).
 Rencontre ANR COSY: Floer homotopy theory. IMRA (Strasbourg, France).
- 2023 **SFT10 Workshop (including precourse).** HU Berlin (Berlin, Germany).
 From smooth to C^0 symplectic geometry: topological aspects and dynamical implications. CIRM (Marseille, France).
 LP-60: Geometry and Dynamics. ETH Zürich (Zurich, Switzerland).
- 2022 **Séminaire de mathématiques supérieures: Floer homotopy theory.** UBC (Vancouver, Canada).
 Frontiers of quantitative symplectic and contact geometry. Mittag-Leffler Institute (Djursholm, Sweden).
 Recent developments in Lagrangian Floer theory. Simons Center (online; planned in 2020 in person).
- 2021 **Advances in Symplectic topology.** IHP (online; planned in person).
 From Hamiltonian Systems to Symplectic Topology and Beyond. IHP (online; planned in person).
 Spring school on symplectic and contact topology. CIRM (online; planned in person).
- 2019 **Persistent homology and barcodes.** JLU Giessen (Marburg, Germany).
 Graduate summer school on homological algebra of mirror symmetry. Fields Institute (Toronto, Canada).
 Séminaire de mathématiques supérieures: Currents trends in symplectic topology. CRM (Montreal, Canada).
 Homological algebra, microlocal analysis and symplectic geometry. CRM (Montreal, Canada).
- 2018 **Workshop on immersed Lagrangian cobordisms.** Fields Institute/University of Ottawa (Ottawa, Canada).

Seminars & Working Groups

- 2022 – **Junior symplectic geometry seminar.** ETH Zürich (Zurich, Switzerland).
- 2021 – 2022 **Little hybrid symplectic seminar.** Université de Montréal (Montreal, Canada).
- 2020 – 2022 **Working group on geodesics and symplectic topology.** Université de Montréal (Montreal, Canada).
- 2018 – 2022 **J -seminar.** Université de Montréal (Montreal).
- 2018 **Working group on the symplectic homology of cotangent bundles.** Université de Montréal (Montreal, Canada).

Teaching History & Other Professional Experience

- 2023 **📌 Seminar organizer.** Department of Mathematics, ETH Zürich, Zurich.
- 2022 **📌 Lecturer.** Department of Mathematics & Statistics, Université de Montréal, Montreal.
- 2016 – 2021 **📌 Teaching Assistant.** Department of Mathematics & Statistics (9 courses), and Department of Physics (3 courses), Université de Montréal, Montreal.
- 2016 **📌 Undergraduate Researcher.** Department of Mathematics & Statistics, Université de Montréal, Montreal.
Supervisor: *François Lalonde*.
- 2015 **📌 Undergraduate Researcher.** Department of Physics, Université de Montréal, Montreal.
Supervisor: *Luc Vinet*.

Service for the Mathematical Community

Master Student Mentor

- 2023 – 2024 **📌 Master's in Mathematics,** ETH Zürich, Zurich.
Student: *Lukas Oestmann*
Tentative thesis title: *Calabi quasimorphism on the torus*

Conference Organizer

- 2019 **📌 22nd ISM Graduate Student Conference.** Colloquium for graduate students from across the province of Quebec (Montreal, Canada).
- 2017 **📌 2017 Canadian Undergraduate Mathematics Conference.** Colloquium for undergraduate students from across Canada (Montreal, Canada).

Weekly Seminar Organizer

- 2018 – 2022 **📌 J-Seminar.** Student reading group on quantum and Floer (co)homology at Université de Montréal (Montreal, Canada).
- 2018 – 2021 **📌 Séminaire étudiant de mathématiques de l'Université de Montréal.** Weekly seminar for and by graduate students from Université de Montréal (Montreal, Canada).
- 2016 – 2017 **📌 Club mathématique de l'Université de Montréal.** Weekly seminar for undergraduates from Université de Montréal (Montreal, Canada).

Committee member

- 2020 – 2022 **📌 Femmes en maths.** Student committee focused on underlining past and present contributions of women in mathematics (Montreal, Canada).

Reviewer




- 2023 – **📌 zbMATH Open.** Open access reviewing services for papers in mathematics.

Referee for peer review

- 2024 **📌 Differential geometry and its applications.**

Outreach




Articles & Posters

- 1 Chassé, J.-P. (2021). Frances Hardcastle. *Femmes en maths*. 
<https://femmesenmaths.org/frances-hardcastle/>
- 2 Chassé, J.-P. (2019). Comment (ne pas) accrocher un cadre. *SUMM 2019*.
- 3 Chassé, J.-P. (2018). Quelques mots sur les courbes remplissantes. *Notes from the Margin*, 13, 8–9.
 <https://issuu.com/cms-studc/docs/margin-spring2018>
- 4 Chassé, J.-P. (2017). Le h -principe de Gromov: Une introduction. *Journal étudiant de mathématiques de l'Université de Montréal*, 2, 1–6. 
<https://dms.umontreal.ca/~clubmath/journal.html>

Talks for a wider mathematical audience

- 1 Chassé, J.-P. (2022). Dans les petites sphères, les meilleurs plongements. Club mathématique de l'Université de Montréal.
- 2 Chassé, J.-P. (2021). Ellipsoïdes et escaliers infinis. 23rd ISM Graduate Student Conference.
- 3 Chassé, J.-P. (2021). Une histoire de ficelles et de clous. Club mathématique de l'Université de Montréal.
- 4 Chassé, J.-P. (2019). Comment distinguer deux espaces? Séminaire étudiant de mathématiques.
- 5 Chassé, J.-P. (2018). Du dernier théorème géométrique de Poincaré à la conjecture de Arnol'd. 21st ISM Graduate Student Conference.
- 6 Chassé, J.-P. (2018). La topologie algébrique à la rescousse de l'analyse de données. SAPHARI 2018.
- 7 Chassé, J.-P. (2018). Brève excursion dans le monde des courbes remplissantes. SUMM 2018.
- 8 Chassé, J.-P. (2017). Introduction à la topologie (algébrique). Séminaire étudiant de mathématiques.
- 9 Chassé, J.-P. (2017). Finite groups in physics - Groupes finis en physique. CUMC 2017.
- 10 Chassé, J.-P. (2017). Sandwich et topologie algébrique. SUMM 2017.
- 11 Chassé, J.-P. (2016). Le théorème de Nash-Kuiper. Club mathématique de l'Université de Montréal.
- 12 Chassé, J.-P. (2016). Résultats ludiques en topologie. Conférences des stagiaires d'été en physique de l'Université de Montréal.

Skills & Interests

Languages	 French (native language), English (C2), German (B2)
Research Interests	 Symplectic topology and Riemannian geometry
Personal Interests	 Cinema, literature, political philosophy, coffee making, mushroom foraging, and weird ferments.