

Guillem Cazassus

Curriculum Vitae

Positions

- 2020–2023 **Postdoctoral Research Associate in Symplectic Topology**, University of Oxford.
2017–2020 **Zorn postdoctoral fellow**, Indiana University, Bloomington.
2016–2017 **A.T.E.R.**, (*Visiting Assistant Professor*), Laboratoire de Mathématiques Jean Leray, Nantes.
2015–2016 **A.T.E.R.**, (*Visiting Assistant Professor*), Institut de Mathématiques de Toulouse.

Education

Institut de Mathématiques de Toulouse, Université Paul Sabatier

- 2012–2016 **Ph.D. Candidate**, *Mathematics*.
◦ Defense : April 12th, 2016.
◦ Dissertation Topic: Instanton Symplectic Homology and Dehn Surgery.
◦ Advisors: Michel Boileau, Paolo Ghiggini.

Ecole Normale Supérieure (ENS) de Lyon

- 2011–2012 **Agrégation de Mathématiques**, *french teaching examination*.
2009–2011 **M.Sc., Mathematics**, *Master's thesis under the supervision of Michel Boileau*.
2008–2009 **B.Sc., Mathematics**.

Research papers

- In preparation Equivariant Floer homology via A_∞ -actions on the Floer complex *G. Cazassus, P. Kirk, M. Miller-Eismeier and W. Yeung*.
- In preparation A_∞ bialgebras and Hopf algebras *G. Cazassus, A. Hock and T. Mazuir*.
- In preparation A new construction of Fukaya categories for semipositive symplectic manifolds *G. Cazassus, D. Joyce and A. Ritter*.
- In preparation Bridgeland stability for Calabi–Yau 2-folds *G. Cazassus, D. Joyce, J. Lotay and A. Ritter*.
- Equivariant Lagrangian Floer homology via cotangent bundles of EG_N , arXiv:2202.10097 *G. Cazassus*, preprint.
- The correspondence induced on the pillowcase by the earring tangle, arXiv:2010.04320 *G. Cazassus, C. Herald, P. Kirk, A. Kotelskiy*, **Journal of Topology**.
- A two-category of Hamiltonian manifolds, and a (1+1+1)-field theory, arXiv:1903.10686 *G. Cazassus*, **Indiana University Mathematics Journal**.

Tangles, relative character varieties, and holonomy perturbed traceless flat moduli spaces, arXiv:2102.00901 *G. Cazassus, C. Herald, P. Kirk*, **The Open Book Series**.

Symplectic Instanton Homology: Naturality, and maps from cobordisms, arXiv:1710.03872 *G. Cazassus*, **Quantum Topology**.

Symplectic Instanton Homology: twisting, connected sums and Dehn surgery, arXiv:1606.00239, *G. Cazassus*, **Journal of Symplectic Geometry**.

Invited talks

- 2023 Montpellier University, Algebra, Algebraic Geometry, Algebraic Topology seminar, April 6.
Humboldt University Berlin, Differential Geometry seminar, January 25.
Humboldt University Berlin, Symplectic Geometry seminar, January 23.
- 2022 UCL London, Oxford-London Gauge Assembly, November 11.
Université de Grenoble, AMS-SMF-EMS International Meeting, July 18-22.
Université libre de Bruxelles, Geometry seminar, April 19.
Institut Henri Poincaré, "Symplectix" seminar, April 1.
- 2021 James Madison University, colloquium, September 27.
Sofia, 14th ed. Workshop "Lie Theory and Its Applications in Physics", June 20-26.
University of Warsaw, Knot theory seminar, May 14.
Regensburg University, low-dimensional Geometry and Topology seminar, April 27.
Uppsala University, Geometry and Topology seminar, April 7.
Gauge Theory Virtual, March 31, video available at: <https://gaugetheoryvirtual.wordpress.com/c-cazassus-3-31-2021/>.
Gauge Theory, Geometry, and Low-Dimensional Topology special session, AMS Spring Virtual Meeting, March 20-21.
Université Paris-Saclay, Geometry, Topology and Dynamics seminar, March 11.
University of Nevada RENO, Topology seminar, February 5.
University of Oxford, Geometry and analysis seminar, January 25.
- 2019 Texas AMU, Geometry seminar, November 22.
University of Wisconsin, AMS Sectional meeting, September 15.
University of Illinois, Symplectic Geometry seminar, May 6
IMJ Paris Topology seminar, March 12.
Simons Center for Geometry and Physics, Symplectic Geometry and Topology seminar, February 28.
Rutgers University, Geometry and Topology seminar, February 26.
- 2018 Indiana University Bloomington, Topology and Geometry seminar, September 19.
Indiana University Bloomington, Midwest Topology Seminar, April 28.
Princeton University, Topology seminar, March 15.
Michigan State University, Topology and Geometry seminar, February 1.
- 2017 MIT, Topology and Geometry seminar, October 23.

- Indiana University Bloomington, Topology and Geometry seminar, September 6.
 Erlangen University, Algebra and Geometry seminar, July 3.
 UCLA, Topology seminar, May 17.
 Indiana University Bloomington, Topology and Geometry seminar, May 9.
 UQAM (Montreal), Topology and Geometry seminar, May 5.
 McMaster University, Topology and Geometry seminar, May 2.
 Simons Center for Geometry and Physics, "Gauge Theory and Low Dimensional Topology" Workshop, April 27, video available at: http://scgp.stonybrook.edu/video_portal/video.php?id=3166.
 Grenoble University, Topology and Geometry seminar, March 31.
 Lille University, "Quantum topology" Workshop, March 9–10.
 Nantes University, "Contact and Symplectic Topology" Workshop, January 26–28.
- 2016 Nantes University, Geometry and Topology seminar, October 10.
 Regensburg University, "3-Manifolds and Floer Theories" Workshop, July 19-22.
 Toulouse University, Topology and Geometry seminar, January 12.
- 2015 Institut Henri Poincaré, "Symplectix" seminar, December 4.
 Grenoble University, Topology and Geometry seminar, June 19.
 Regensburg University, Oberseminar Globale Analysis, April 29.
 Geneva University Topology and Geometry seminar, March 12.
- 2014 Pisa University Topology and Geometry seminar, December 16.
 IMJ Paris Topology seminar, October 7.
 Nantes University Geometry and Topology seminar, May 5.

Community Service

Referee for peer-reviewed journals

Adv. Math.
 Geom. Topol.
 Indiana Univ. Math. J.
 Trans. Amer. Math. Soc.

Seminar and conference organization

- 2023 Wrote scientific program for the "Topology between the waves III" winter school on Morse/Floer theory and Fukaya categories.
- 2022-2023 With Shih-Kai Chiu, Ilyas Khan and Henry Liu, co-organization of Oxford's Geometry and Analysis seminar.
- 2021-2022 With Shih-Kai Chiu, Ilyas Khan and Henry Liu, co-organization of Oxford's Geometry and Analysis seminar.
- 2021 With Jason Lotay, co-organization of a reading seminar on Fukaya-Seidel categories and gauge theory.
- 2020-2021 With Markus Upmeyer, co-organization of Oxford's Geometry and Analysis seminar.

2018-2019 With Artem Kotelskiy and Paul Kirk, co-organization of a reading seminar on Fukaya categories.

Outreach

November 2016 Talk at the "5 minutes Lebesgue" on the ham sandwich theorem, video available at: https://www.youtube.com/watch?v=JqEpURyW_Y4.

May 2015 "Hippocampe" initiation to research, aimed at high-school students, on "combinatorial games".

Other academic activities

2021 "Mental Health First Aid" training, University of Oxford.

May 2014 Four lectures on moduli spaces of flat connections and the construction of Symplectic Instanton Homology, for Nantes topology team.

2013-2014 Co-organization of the Toulouse graduate students seminar.

Fall 2013 Nine informal exercise sessions on Algebraic Topology, for Thomas Fiedler's Master's course students.

Fall 2012 Four lectures on Riemannian Geometry and Curvature, for Ph.D. Students in Applied Mathematics, jointly with Jeremy Toulisse.

Teaching Experience

At Indiana University:

2019-2020 M211 (Calculus 1), M722 (Selected topics in Topology: Symplectic Topology and Fukaya categories).

2018-2019 M211 (Calculus 1), M301 (Linear Algebra and Applications).

2017-2018 M211 (Calculus 1), M120 (A brief survey of Calculus 2).

At Nantes University:

2016-2017 First year course and exercise classes for biology undergraduate students. Exercise classes for first year undergraduate students who plan to apply for engineering school.

At Toulouse University:

2015-2016 Oral evaluations for third year math undergraduate students, and exercise classes for first year biology undergraduate students.

2014-2015 First year undergraduate course and exercise classes for students who plan to apply for engineering school. Exercise classes and oral evaluations for Agregation (French teaching examination requiring a Master's degree).

2013-2014 First year undergraduate course and exercise classes. Exercise classes and oral evaluations for Agregation.

2012-2013 Exercise classes for second year undergraduate students who plan to apply for engineering school.

Student supervision

2022-2023 Part B dissertation of Andres Klene-Sanchez, University of Oxford.

Visiting period

Fall 2014 Pisa University (ATUPS grant).

Language Skills

French (Native), English (Fluent), Spanish (Fluent).