

Tristan OZUCH(-MEERSSEMAN)

ADDRESS : 182 Memorial Dr, Cambridge, MA 02142

PHONE : +33 6 79 59 57 91

EMAIL : ozuch@mit.edu

WEBPAGE : <https://tristanozuch.github.io/>

EMPLOYMENT

-	C.L.E. Moore Instructor
2020	MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA

EDUCATION

2020	PhD Student at ENS, Mathematics, Paris, France Advisor : Olivier Biquard Subject : <i>Completion of the moduli space of Einstein 4-manifolds.</i>
2017	
2017	Student at École Normale Supérieure (ENS), Paris, France
2013	2016-2017 PRE-PHD INTERNSHIPS supervised by Olivier Biquard and Aaron Naber
	2015-2016 MASTER'S DEGREE (Analysis, Arithmetics, Geometry, Paris 11), with honors
	2014-2015 MASTER'S DEGREE (ENS, UPMC), with honors
	2013-2014 LICENCE (equivalent to a <i>Bachelor's degree</i>) (ENS, UPMC), with honors

PUBLICATIONS AND PREPRINTS

2021	<i>Higher order obstructions to the desingularization of Einstein metrics</i> , preprint arXiv, math.DG, 2012.13316, 2021, submitted
2020	<i>Completion of the Moduli Space of Einstein 4-manifolds</i> , PhD thesis, 2020.
2020	(with Alix Deruelle) <i>A Łojasiewicz inequality for Ricci-flat ALE spaces</i> , preprint arxiv, math.DG, 2007.09937, 2020.
2019	<i>Noncollapsed degeneration of Einstein 4-manifolds II</i> , preprint arXiv, math.DG, 1909.12960, 2019, submitted to Geometry & Topology
2019	<i>Noncollapsed degeneration of Einstein 4-manifolds I</i> , preprint arXiv, math.DG, 1909.12957, 2019, submitted to Geometry & Topology
2019	<i>Perelman's functionals on cones and Construction of type III Ricci flows coming out of cones</i> , to appear in <i>J. Geom. Anal.</i> 2019, https://doi.org/10.1007/s12220-018-00131-w .
2019	(with Dmitri Burago and Jinpeng Lu) <i>How large isotopy is needed to connect homotopic diffeomorphisms (of T^2)</i> , to appear in <i>J. Topol. Anal.</i> 2019, https://doi.org/10.1142/S1793525320500028 .

RESEARCH EXPERIENCE

December 2019	Visit at Courant institute
September 2019	<i>Advisor</i> : Bruce KLEINER Desingularization of Einstein manifolds and Ricci flows.
July 2017	Pre-PhD internship at Northwestern University
September 2016	<i>Advisor</i> : Aaron NABER Study of the degeneration of Einstein 4-manifolds.
February 2017	Pre-PhD internship at ENS
September 2016	<i>Advisor</i> : Olivier BIQUARD Study of the desingularization of Einstein orbifolds and obstructions
July 2016	Internship at UC Berkeley/MSRI
February 2016	<i>Advisor</i> : Richard BAMLER Study of Ricci flows and Perelman's functionals on cones – Conditions on the possible conical singularities of a Ricci flow and construction of asymptotically conical expanding solitons. Presentation of several theorems of the proof of the “Codimension 4 conjecture” at the Graduate student seminar. Proofreading of Richard Bamler's notes on “Structure theory of singular spaces”.
July 2015	Internship at Penn. State University
February 2015	<i>Advisor</i> : Dmitri BURAGO Study of some Geometric flows, Finslerian geometry and other topics in differential geometry. Some isotopy existence results proven (explicit constructions) by geometric flows.
June 2014	Undergraduate thesis
February 2014	<i>Advisor</i> : Irène WALDSPURGER Semester long study of of “Riemannian geometries on the space of plane curves” Peter W. Michor, David Mumford. And redaction of a memoir explaining this article to an undergraduate level written in collaboration with Siarhei Finski.

TEACHING

-	C.L.E. Moore Instructor, MIT, Cambridge, MA, USA
2020	Spring 2020 Course-head Differential Equations (18.032). Fall 2020 TA Multivariable Calculus (18.02).
2020	Teaching assistant, ENS, Paris, France
2017	2020 - In charge of the class Mathematics for Humanities . 2019 - Coorganizer and jury of the undergrad ‘mémoires’ (theses) at ENS. - Supervision of an undergraduate thesis.
	2019 - In charge of the class Mathematics for Humanities . 2018 - Coorganizer and jury of the undergrad ‘mémoires’(theses) at ENS. - Supervision of an undergraduate thesis on the level set methods for curve shortening flow and mean curvature flow.
	2018 - In charge of the class Mathematics for Humanities . 2017 - Coorganizer and jury of the undergrad ‘mémoires’ (theses) at ENS.

SEMINARS AND CONFERENCES

AS AN INVITED SPEAKER :

- March 2021 **Differential Geometry and Geometric Analysis Seminar, Princeton University.**
Presentation of *Higher order obstructions to the desingularization of Einstein metrics.*
- November 2020 **UCSD Seminar on Cheeger–Colding theory, Ricci flow, Einstein metrics, and Related Topics , USCD.**
Presentation of *Completion of the moduli space of Einstein 4-manifolds.*
- November 2020 **Stanford’s Geometry seminar, Stanford University.**
Presentation of *Higher order obstructions to the desingularization of Einstein metrics.*
- November 2020 **BOWL Seminar, Brussels, Oxford, Warwick, London.**
Presentation of *Higher order obstructions to the desingularization of Einstein metrics.*
- June 2020 **Oberseminar of Differential Geometry, Münster.**
Presentation of *Completion of the moduli space of Einstein 4-manifolds.*
- February 2020 **Séminaire Darboux, Montpellier.**
Presentation of *Noncollapsed degeneration of Einstein 4-manifolds I & II.*
- December 2019 **Differential Geometry Seminar, UC Berkeley.**
Presentation of *Noncollapsed degeneration of Einstein 4-manifolds I & II.*
- November 2019 **Geometric Analysis and Topology Seminar, Courant institute, NYU.**
Presentation of *Noncollapsed degeneration of Einstein 4-manifolds I & II.*
- October 2019 **Geometry/Topology Seminar, Stony Brook University.**
Presentation of *Noncollapsed degeneration of Einstein 4-manifolds I & II.*
- May 2019 **Convergence and Low Regularity in General Relativity, Simons Center, Stony Brook.**
Presentation of *Noncollapsed degeneration of Einstein 4-manifolds.*
- March 2019 **Geometry seminar, Bruxelles.**
Presentation of *Noncollapsed degeneration of Einstein 4-manifolds.*
- February 2019 **Geometry seminar, Nantes.**
Presentation of *Noncollapsed degeneration of Einstein 4-manifolds.*
- March 2018 **Masters-PhD meeting, Jussieu.**
Presentation of geometric analysis to masters students through the study of Einstein manifolds and Ricci flows.
- February 2018 **Geometry seminar of IMJ, Paris Diderot.**
Presentation of *Perelman’s functionals on cones and Construction of type III Ricci flows coming out of cones.*
- January 2018 **Graduate students seminar, ENS.**
Presentation of the study of singularity formations in 3D Ricci flows.
- April 2016 **Graduate student seminar on the proof of Cheeger-Naber of the codimension 4 conjecture, MSRI, Berkeley.**
Presentation of Colding’s volume stability for Gromov-Hausdorff convergence with lower bounds on the Ricci curvature.

AS A PARTICIPANT :

- October 2019 **Recent advances in nonlinear problems Symposium**
Graduate Center, CUNY
- May 2019 **Master class in differential geometry : the structure of limit spaces**
Institut Henri Poincaré, Paris
- December 2018 **Geometric analysis at IHP**
Institut Henri Poincaré, Paris
- 27 July 2018 **McGill University Geometric Analysis Workshop 2018**
23 July 2018 McGill University, Montréal
- 1 June, 2018 **Geometric Analysis**
28 May, 2018 ICMS, Edimburgh
- 16 February 2018 **Géométrie : échanges et perspectives**
Institut Henri Poincaré, Paris
- 9 December 2017 **Riemannian Geometry Past, Present and Future: an homage to Marcel**
6 December 2017 **Berger**, IHES, Bures-sur-Yvette
- 13 October 2017 **Conference - Geometric Analysis at Roscoff**,
9 October 2017 Centre Henri Lebesgue, Roscoff
- 21 July 2017 **Summer school in Geometric Analysis**,
10 July 2017 The Fields institute, Toronto
"Ricci flow and intrinsic flat convergence" research team.
- July 2016 **Differential geometry semester at MSRI**,
February 2016 MSRI, Berkeley

OTHER SKILLS

Languages French : Native speaker
 English : Fluent
 Italian : Good command

Activities Competitive swimming, running, cycling, sculpting