Jesse Madnick

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Education

- 2014 - 2018 Ph.D. Mathematics (expected 2018), Stanford University
  Advisors: Robert Bryant (Duke), Richard Schoen (UC Irvine)

- 2012 - 2014 M.S. Mathematics, Stanford University

- 2008 - 2012 Sc.B. Mathematics, Brown University

- 2004 - 2008 Stuyvesant High School

Research Interests

Differential Geometry & Geometric Analysis
Special Holonomy, Calibrated Geometry, Gauge Theory

Publications and Preprints

1. Nearly Kähler 6-Manifolds of Cohomogeneity Two: Local Theory (https://arxiv.org/abs/1710.05254)

Teaching

- Jul 2017 - Aug 2017 Instructor for Math 19 (Calculus I) at Stanford
- Apr 2017 - Jun 2017 Teaching Assistant for Math 51 (Multi Calc & Lin Alg) at Stanford
- Sep 2016 - Dec 2016 Teaching Assistant for Math 53 (ODEs with Lin Alg) at Stanford
- Jan 2016 - Mar 2016 Teaching Assistant for Math 51 (Multi Calc & Lin Alg) at Stanford
- Jul 2015 - Aug 2015 Teaching Assistant at SUMaC (Program II: Topology)
- Jan 2015 - Mar 2015 Teaching Assistant for Math 42 (Accelerated Calculus II) at Stanford
- Jul 2014 - Aug 2014 Teaching Assistant at SUMaC (Program II: Topology)
- Sep 2013 - Dec 2013 Teaching Assistant for Math 41 (Accelerated Calculus I) at Stanford
- Aug 2012 Specialized H.S. Admissions Test teacher at C.C.B. School of Flushing
- Jun 2012 - Sep 2012 Math tutor for WyzAnt Tutoring - Five-star rated tutor
- Sep 2008 - May 2012 Math tutor for BearPaw Tutors LLC - Five-star rated tutor
- Jun 2009 - Aug 2009 Math tutor and ESL teacher at C.C.B. School of Flushing
- Sep 2007 - Jun 2008 Math team captain at Stuyvesant High School (required daily teaching)

Awards and Grants

- Apr 9, 2015 Centennial Teaching Award (for outstanding teaching by TAs)
- Oct 8, 2012 First-year fellowship: NSF RTG (Research Training Grant)
- Feb 6, 2011 Henry Parker Manning Examination ($50 prize)
- Mar 12, 2010 Karen T. Romer Undergraduate Teaching and Research Award (UTRA)
- Jun 20, 2008 Harry and Sarah O'Kean Scholarship for excellence in pure and applied math

Talks

- Nov 11, 2016   Stanford Student Geometric Analysis Seminar: *Hyperkähler Manifolds*
- May 27, 2016   Stanford Student Geometric Analysis Seminar: *The Cartan-Kähler Theorem*
- May 17, 2016   Stanford Student 4-Manifolds Seminar: *Basics of Complex Surfaces*
- Feb 19, 2016   Stanford Student Geometric Analysis Seminar: *The Frankel Conjecture*
- May 8, 2015   Stanford Math Kiddie Colloquium: *Exceptional Holonomy & the Octonions*
- Dec 5, 2014   Duke Student Geometry Seminar: *An Introduction to Yang-Mills Theory*
- Oct 17, 2014   Duke Student Geometry Seminar: *A Fairy Tale on Four-Manifolds*
- Mar 10, 2014   Stanford Student Symplectic Seminar: *Special Lagrangian Geometry*
- Jan 16, 2014   Stanford Élie Cartan Student Seminar: *Symmetric Spaces*
- Nov 12, 2012   Stanford Math Kiddie Colloquium, *The Müntz-Szász Theorem*
- Jun 12, 2012   Stuyvesant H.S. Intel Research class, *Concepts in Modern Mathematics*
- Sep 29, 2011   Brown Math Undergraduate Group, *An Axiomatic Integral: Daniell Integration*
- Jun 8, 2011   Stuyvesant H.S. Intel Research class, *Concepts in Modern Mathematics*
- Jul 1, 2010   Brown Math Undergraduate Group, *Fourier Analysis & Geometric Discrepancy*

Conferences Attended

- Sept 2017   Simons Collaboration on Special Holonomy: First Annual Meeting
- Aug 2017   Fields Institute Program on Geometric Analysis: Workshop on G_2-Manifolds
- June 2017   Simons Collaboration: Constructions of Compact Exceptional Holonomy Spaces
- Sept 2016   Simons Collaboration on Special Holonomy: Inaugural Conference
- July 2016   Differential Geometry in the Large (in honor of Wolfgang Meyer's 80th birthday)
- July 2015   Advances in Geometric Analysis (in honor of Rick Schoen's 65th birthday)
- July 2014 G_2 Days 2014
- Feb 2014   Bay Area Differential Geometry Seminar (BADGS)
- Oct 2013   Bay Area Differential Geometry Seminar (BADGS)
- May 2013   Bay Area Differential Geometry Seminar (BADGS)
- Mar 2011   2011 Brown SUMS conference
- Dec 2010   MIT-Brown Greater Boston Geometric Analysis Seminar

Service

- Jan 2017 - Jun 2017   Organized the TA Mentoring Program at Stanford
- Apr 2016 - Jun 2016   Course Assistant for Math 52 (Vector Calculus) at Stanford
- Apr 2015 - Jun 2015   Course Assistant for Math 177 (Geometric Methods in ODEs) at Stanford
- Sep 2014 - Dec 2014   Organizer for the Duke Student Geometry Seminar
- Jan 2014 - Mar 2014   Course Assistant for Math 19 (Calculus I) at Stanford
- Jan 2014 - Mar 2014   Organizer for the Stanford Élie Cartan Student Seminar
- Sep 2013 - Jun 2014   Organizer for the Stanford Faculty Area Research Seminar (FARS)

Summer Programs

- Jul 2014   LMS-CMI Research School "Invitation to Geometry & Topology via G_2"
- Jul 2011   Park City Math Institute (PCMI) Undergraduate Summer School
- Jun 2006 - Aug 2006   Hampshire College Summer Studies in Mathematics (HCSSiM)

References

- Robert Bryant, Duke University (bryant@math.duke.edu)
- Richard Schoen, UC Irvine (rschoen@math.uci.edu)
- Rafe Mazzeo, Stanford University (mazzeo@math.stanford.edu)