CURRICULUM VITAE

Lee Kennard
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ACADEMIC POSITIONS:

Associate Professor, Department of Mathematics, Syracuse University, 2022 – present.

Assistant Professor, Department of Mathematics, Syracuse University, 2018 – 2022.

Assistant Professor, Department of Mathematics, University of Oklahoma, 2015 – 2018.

RTG Visiting Assistant Professor, Department of Mathematics, University of California, Santa Barbara, 2012 – 2015.

VISITS:

Research Member, Program on New Frontiers in Curvature, SLMath, Fall 2024.

Visitor, WWU Münster, June – July 2022.

Postdoc, Program on Differential Geometry, MSRI, Spring 2016.

Visiting student, IMPA, Fall 2011 – Spring 2012.

EDUCATION:

Ph.D., Mathematics, University of Pennsylvania, 2012.

B.A., Mathematics, Kenyon College, 2007.

EXTERNAL AWARDS:

P.I., Simons Foundation Travel Support for Mathematicians, $42,000, 2023 – 2028.

P.I., NSF Research Grant DMS-2005280, $181,397, 2020 – 2023.

P.I., NSF Research Grant DMS-1708493/1904354, $130,792, 2017 – 2020.

P.I., NSF Conference Grant DMS-1855960, $30,000, 2019.

P.I., NSF Research Grant DMS-1404670/1622541, $81,264, 2014 – 2017.

Co-P.I., NSF Conference Grant DMS-1720590, $36,200, 2017 (P.I. Christine Escher).

SELECTED INTERNAL FELLOWSHIPS AND AWARDS:

Junior Faculty Fellowship, University of Oklahoma Research Council, 2017.

Carlitz-Zippin Thesis Prize, Penn Department of Mathematics, 2012.

Dissertation Completion Fellowship, Penn School of Arts and Sciences (SAS), 2011-2012.

Dean's Award for Distinguished Teaching by a Graduate Student, Penn SAS, 2011.

PUBLICATIONS:

16. L. Kennard, L. Mouillé. Positive intermediate Ricci curvature with maximal symmetry rank, ***J. Geom. Anal.***, 34(5): Paper No. 129, 24 pp., 2024.

15. L. Kennard, Y. Wu (B.S., Syracuse University, 2021). Halperin's conjecture in formal dimensions up to 20, ***Comm. Algebra***, 51(8): 3606-3622, 2023.

14. J. DeVito, L. Kennard. Cohomogeneity one manifolds with singly generated rational cohomology, ***Doc. Math.***, 25: 1835-1863, 2020.

13. M. Amann, L. Kennard. Positive curvature and symmetry in small dimensions, ***Commun. Contemp. Math.***, 22(6): 57 pp., 2020.

12. L. Kennard, W. Wylie, D. Yeroshkin. The weighted connection and sectional curvature for manifolds with density, ***J. Geom. Anal.***, 29(1): 957-1001, 2019.

11. L. Kennard, Z. Su. On dimensions supporting a rational projective plane, ***J. Topol. Anal.***, 11(3): 535-555, 2019.

10. L. Kennard. Fundamental groups of manifolds with positive sectional curvature and torus symmetry, ***J. Geom. Anal.***, 27: 2894-2925, 2017.

9. M. Amann, L. Kennard. On a generalized conjecture of Hopf with symmetry, ***Compos. Math.***, 153: 313-322, 2017.

8. L. Kennard, W. Wylie. Positive weighted sectional curvature, ***Indiana Univ. Math. J.***, 66(2): 419-462, 2017.

7. L. Kennard, J. Rainone (B.S., University of California, Santa Barbara, 2015). Characterizations of the round two-dimensional sphere in terms of closed geodesics, ***Involve***, 10(2):243-255, 2017.

6. M. Amann, L. Kennard. Positive curvature and rational ellipticity, ***Algebr. Geom. Topol.***, 15(4): 2269-2301, 2015.

5. L. Kennard. On the Hopf conjecture with symmetry, *Geometry of Manifolds with non-negative sectional curvature*, ***Lecture Notes in Math.*** 2110:111-116, 2014.

4. M. Amann, L. Kennard. Topological properties of positively curved manifolds with symmetry, ***Geom. Funct. Anal.***, 24(5): 1377-1405, 2014.

3. L. Kennard. Positively curved Riemannian manifolds with logarithmic symmetry rank bounds, ***Comm. Math. Helv.***, 89(4): 937-962, 2014.

2. L. Kennard. On the Hopf conjecture with symmetry, ***Geom. Topol.***, 17(1): 563-593, 2013.

1. J. Holdener, L. Kennard, M. Zaremsky. Generalized Thue-Morse sequences and the von Koch curve, ***Int. J. Pure Appl. Math.***, 47(3):397-403, 2008.

PREPRINTS:

3. L. Kennard, M. Wiemeler, B. Wilking. Positive curvature, torus symmetry, and matroids, *submitted*, https://arxiv.org/abs/2212.08152.

2. L. Kennard, E. Khalili Samani, C. Searle. Positive curvature and discrete abelian symmetry, *submitted*, https://arxiv.org/abs/2110.13345.

1. L. Kennard, M. Wiemeler, B. Wilking. Splitting of torus representations and applications in the Grove symmetry program, *submitted*, https://arxiv.org/abs/2106.14723.

INVITED CONFERENCE / SEMINAR TALKS

Seminar: Virtual Seminar on Geometry with Symmetries (virtual), 12-6-2023.

Seminar: Geometry Seminar, Michigan State University, 11-9-2023.

Conference (20 minutes): 37th Summer Conference on Topology and its Applications, Youngstown State University, 7-21-2023.

Seminar: Geometry Seminar, University of Rochester, 11-4-2022.

Seminar: Oberseminar Differentialgeometrie, WWU Münster, 7-4-2022.

Conference: Groups in Galway meets The Irish Geometry Conference, NUI Galway (virtual due to COVID-19), May 18, 2022.

Conference (20 minutes): JMM Special Session, Seattle, WA, 1-8-2022 (postponed to 4-9-2022 and made virtual due to the COVID-19 pandemic).

Seminar: Differential Geometry and Dynamical Systems Seminar, Centro de Investigación en Matemáticas (CIMAT), (virtual), 11-22-2021 (postponed).

Seminar: Geometric Analysis Seminar, University of Notre Dame, 11-11-2021.

Seminar: Geometry-Topology Seminar, University of Pennsylvania, 9-30-2021.

Seminar: Irish Geometry Seminar, NUI Galway (virtual), 9-21-2021.

Conference: Workshop on Curvature and Global Shape, WWU Münster, Germany, 8-4-2021.

Conference (30 min.): Mathematical Congress of the Americas Special Session "Group actions in differential geometry", Buenos Aires, Argentina (virtual), 7-23-2021.

Seminar: Topology-Geometry Zoom Seminar, University of Oregon (virtual), 4-21-2021.

Conference (20 min.): AMS Sectional Meeting Special Session "Recent Developments in Differential Geometry", Brown University (virtual), 3-21-2021.

Seminar: Virtual Seminar on Geometry with Symmetries (virtual), 5-6-2020.

Seminar: Dartmouth Mathematics Colloquium (virtual), Dartmouth College, 4-30-2020.

Conference (contributed talk, 20 min.): Union College Mathematics Conference, 9-14-2019.

Seminar: Capital Normal University, Beijing, China, 5-30-2019.

Conference: Curvature and topology of spaces, BICMR, Beijing, China, 5-25-2019.

Seminar: Algebra/Topology Seminar, University at Albany, SUNY, 5-2-2019.

Seminar: Geometry/Topology Seminar, Rutgers University, 4-30-2019.

Seminar: Felix Klein Seminar, University of Notre Dame, 4-11-2019.

Seminar: Topology-Geometry Seminar, Indiana University, 4-9-2019.

Conference (contributed talk): Australian-German workshop on differential geometry in the large, MATRIX, Creswick, Australia, 2-15-2019.

Conference: Geometrie Workshop, MFO, Oberwolfach, Germany, June 2018.

Conference (20 min.): JMM Special Session, San Diego, CA, 1-13-2018.

Conference (20 min.): AMS Sectional, University of California, Riverside, 11-5-2017.

Seminar: Frank Stones Memorial Colloquium, Texas Christian University, 10-20-2017.

Seminar: Geometry & Topology Seminar, University of Toronto, 10/2017.

Conference: Workshop on Curvature and Global Shape, WWU Münster, Germany, 7/2017.

Conference: Lie Group Actions in Riemannian Geometry, Dartmouth College, 6/2017.

Seminar: Geometric Analysis Seminar, University of Notre Dame, 2/2017.

Seminar: Topology-Geometry Seminar, Indiana University, 2/2017.

Seminar: Postdoc Seminar, MSRI, 2/2016.

Conference: Workshop on Curvature and Global Shape, WWU Münster, Germany, 7/2015.

Seminar: Geometry and Topology Seminar, KIT, Karlsruhe, Germany, 7/2015.

Conference: Smoky Great Plains Geometry Conference, Wichita State University, 3/2015.

Seminar: Differential Geometry Seminar, Rutgers University, 12/2014.

Seminar: Differential Geometry/Topology Seminar, Ohio State University, 11/2014.

Seminar: Lecture Series in the Mathematical Sciences and the Differential Geometry Seminar, Wichita State University, 10/2014.

Conference: Cascade Topology Seminar, Oregon State University, 4/2014.

Seminar: Differential Geometry Seminar, University of California, Irvine, 1/2014.

Conference (20 min.): AMS Sectional Meeting, University of California, Riverside, 11/2013.

Seminar: Felix Klein Seminar, University of Notre Dame, 10/2013.

Seminar: Geometry Seminar, Indiana University, 10/2013.

Seminar: Geometry and Topology Seminar, KIT, Karlsruhe, Germany 7/2013.

Seminar: Topology Seminar, University of Fribourg, Switzerland, 7/2013.

Conference (20 minutes): AMS Sectional meeting, University of Arizona, 10/2012.

Seminar: Karcher Colloquium, University of Oklahoma, 9/2012.

Seminar: Geometry and Topology Seminar, University of Oklahoma, 9/2012.

Seminar: Differential Geometry Seminar, University of California, Santa Barbara, 6/2012.

Conference: Mini-Workshop on Manifolds with Lower Curvature Bounds, MFO, Oberwolfach, Germany, 1/2012.

Conference: Workshop on Curvature and Global Shape, WWU Münster, Germany, 7/2011.

Conference: Mini-encuentro de geometría diferencial, CIMAT, Guanajuato, Mexico, 12/2010.

POSTDOCTORAL ADVISING:

Lawrence Mouillé, NSF Postoctoral Fellowship, Syracuse University, 2022 – 2024.

GRADUATE ADVISING:

Elana Israel, Ph.D. candidate, Syracuse University.

Marie Kramer, Ph.D. candidate, Syracuse University.

Chelsea Sato, Ph.D. candidate, Syracuse University.

Elahe Khalili Samani, Ph.D., Syracuse University, 2021.

UNDERGRADUATE ADVISING:

Yantao Wu, B.S., Syracuse University, 2021.

- Advised undergraduate resource project funded by Syracuse University's SOURCE.
- Student was awarded the SU Scholar award.
- Ph.D. student in Mathematics at Johns Hopkins University.

Adam Rose, B.S., University of California, Santa Barbara, 2015.
- Advised senior thesis, which earned distinction in the major.
- Contributed conference talk: Pacific Coast Undergraduate Math Conference, 2015.
- Ph.D. student in Applied Mathematics at the University of California, Davis.

Yevgeniya Tarasova, B.S., University of California, Santa Barbara, 2015.
- Advised RTG summer research project and senior thesis, which earned distinction in the major.
- Contributed conference talk: MAA SoCal-Nevada Section, Fall Meeting, 2014.
- Ph.D. in Mathematics completed at Purdue University in 2022.

Jordan Rainone, B.S., University of California, Santa Barbara, 2014.
- Advised College of Creative Studies summer research project and senior thesis.
- Ph.D. in Mathematics completed at Stony Brook in 2022.

Eric Ling, B.S. and M.S., University of California, Santa Barbara, 2015.
- Co-advised with Xianzhe Dai an RTG summer research project.
- Ph.D. in Mathematics completed at University of Miami in 2019.

COURSES TAUGHT:

Syracuse University

MAT 296: Calculus II (in-person in Fa 2018, online in Fa 2020), MAT 397: Calculus III (Sp 2019), MAT 545: Introduction to Combinatorics (Fa 2023), MAT 551: Fundamental Concepts of Geometry (Sp 2020, Sp 2022, Sp 2023, Sp 2024), MAT 661: Introduction to Topology (Fa 2019, Fa 2021), MAT 761: Introduction to Algebraic Topology (Sp 2023), MAT 762: Algebraic Topology (Sp 2024), MAT 860: Topics in Topology: Lie groups, Lie algebras, and representations (Sp 2021)

University of Oklahoma

Math 2433: Calculus and Analytic Geometry III, Math 2924: Differential and Integral Calculus II, Math 3113: Introduction to Ordinary Differential Equations, Math 3333: Introduction to Linear Algebra, Math 5863: Topology II, Math 6833: Topics in Topology, I (co-taught with Max Forester and Jing Tao)

University of California, Santa Barbara

Math 5A: Differential Equations and Linear Algebra 2, Math 8: Transition to Higher Mathematics, Math 113: Non-Euclidean Geometry, Math 147A/147B: Elementary Differential Geometry I and II, Math 260P: Bundles, curvature, and anomalies (with David Morrison), Math 260P: Fundamental groups and curvature bounds (with Guofang Wei), Math 260P: Group actions in Riemannian geometry (with Xianzhe Dai)

University of Pennsylvania

Math 170: Ideas in Mathematics (Instructor of Record twice), Math 114: Calculus II (TA), Math 260: Honors Calculus II (TA), Math 509: Advanced Analysis II (TA), Math 608: Graduate Analysis (Grader)

SERVICE TO THE DEPARTMENT:

Member: Executive Committee, SU Department of Mathematics, Fall 2023 – Spring 2025.

Member: Search Committee, Applied Mathematics, Fall 2023.

Member: Undergraduate Committee, SU Department of Mathematics, 2019 – 2022.

Member: Graduate Recruiting Committee, SU Department of Mathematics, 2018 – 2020.

Organizer: Riemannian Geometry Seminar, MSRI, Spring 2016.

Organizer: Differential Geometry Seminar, UCSB, Fall 2014 and Spring 2015.

Master Teaching Assistant: TA Training Program, University of Pennsylvania, 2009 – 2011.

SERVICE TO THE UNIVERSITY:

Member: SU Senate, Budget & Fiscal Affairs Committee, Fall 2023 – Spring 2025.

Reviewer, Syracuse Office of Undergraduate Research and Creative Engagement (SOURCE), 2020 – present.

Reviewer, Future Professoriate Program, Women in Science and Engineering (WiSE), 2021 – present.

SERVICE TO THE PROFESSION:

Co-organizer: MSRI (SLMath) Special Session on Summer Research in Mathematics (SRiM): Differential and Metric Geometry, JMM, Boston, January 2023.

PI on NSF Conference Grant: Australian-German Workshop on Differential Geometry in the Large, University of Melbourne, Creswick, Australia, February 2019.

Co-organizer and Co-PI on NSF Conference Grant: Representations of Riemannian Geometry Conference, Saint Joseph's University, Philadelphia, PA, August 2017.

Member: Student Competition Committee, MAA Oklahoma/Arkansas Section Meeting, University of Oklahoma, Norman, OK April 2017.

Reviewed/refereed papers for *Mathematical Reviews* and over 16 mathematics journals.

Presentations and panels aimed at graduate students

- Graduate student seminars at UCSB (April 2013 and 2014) and the University of Oklahoma (November 2016 and 2017).
- Hypatian Seminar, UCSB (April 2013, February 2014, December 2014).

SERVICE TO THE COMMUNITY:

Treasurer, Parent Teacher Organization, Edward Smith PreK–8 School, SCSD, 2021 – 2023.

Public lectures:

- Science Cafe, Norman, OK, February 2018.
- Public Lecture, Lie Group Actions in Riemannian Geometry Conference, Dartmouth College, June 2017.
- Pi Mu Epsilon Induction Ceremony, Kenyon College, April 2016.

Event organizer: University of Oklahoma Math Day, 2016 and 2017.

- Annual event, attracting over 300 high school students each year.
- Chaired committee to advertise, plan, and run the event.