

# Mohammad Ghomi

Curriculum Vita

Apr 5, 2026

School of Mathematics  
Georgia Institute of Technology  
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404-894-6579

## Education

Johns Hopkins University, B.A. Mathematics, 1992  
Johns Hopkins University, Ph.D. Mathematics (Advisor: Joel Spruck), 1998

## Professional Experience

*Visiting Assistant Professor*, University of California at Santa Cruz, 1998–2000  
*Assistant Professor*, University of South Carolina, 2000–2003  
*Visiting Associate Professor*, Pennsylvania State University, 2003–2005  
*Associate Professor*, Georgia Institute of Technology, 2003–2009  
*Professor*, Georgia Institute of Technology, 2009–2015  
*Professor and Director of Graduate Studies*, Georgia Institute of Technology, 2015–2019  
*Professor*, Georgia Institute of Technology, 2019–Present

## Research Interests

Geometry and topology of Riemannian submanifolds, including curves and surfaces in Euclidean space and convexity problems

## Awards and Grants

*J.J. Sylvester Prize in Mathematics*, Johns Hopkins University, 1992  
*NSF Research Grant, PI* (DMS-0204190, \$97,000), 2002–2005  
*NSF CAREER Award, PI* (DMS-0332333, \$400,000), 2003–2009  
*NSF Research Grant, PI* (DMS-0806305, \$114,105), 2008–2012  
*NSF Research Grant, PI* (DMS-1308777, \$176,000), 2013–2017  
*NSF Research Grant, PI* (DMS-1711400, \$245,427), 2017–2021  
*Simons Fellowship* (\$132,000), 2020  
*NSF Research Grant, PI* (DMS-2202337, \$315,000), 2022–2026

## Papers<sup>1</sup>

- (1) Strictly convex submanifolds and hypersurfaces of positive curvature, *J. Differential Geom.*, **57** (2001) 239–271.
- (2) Gauss map, topology, and convexity of hypersurfaces with nonvanishing curvature, *Topology*, **41** (2002) 107–117.
- (3) Shadows and convexity of surfaces, *Ann. of Math.*, **155** (2002) 281–293.
- (4) The problem of optimal smoothing for convex functions, *Proc. Amer. Math. Soc.*, **130** (2002) 2255–2259.
- (5) Solution to the shadow problem in 3-space, in *Minimal Surfaces, Geometric Analysis and Symplectic Geometry*, *Adv. Stud. Pure Math.*, **34** (2002) 129–142.
- (6) Skew loops and quadric surfaces (with B. Solomon), *Comment. Math. Helv.*, **77** (2002) 767–782.

<sup>1</sup>Preprints of all papers are available at [www.math.gatech.edu/~ghomi/Papers](http://www.math.gatech.edu/~ghomi/Papers)

- (7) Circles minimize most knot energies (with A. Abrams, J. Cantarella, J. Fu and R. Howard), *Topology*, **42** (2003) 381–394.
- (8) The convex hull property and topology of hypersurfaces with nonnegative curvature (with S. Alexander), *Adv. Math.*, **180** (2003), 324–354.
- (9) A smooth convex loop with vanishing projections, *Topology*, **43** (2004), 245.
- (10) Optimal smoothing for convex polytopes, *Bull. London. Math. Soc.*, **36** (2004), 483–492.
- (11) Shortest periodic billiard trajectories in convex bodies, *Geom. Funct. Anal.*, **14** (2004), 295–302.
- (12) The convex hull property of noncompact surfaces (with S. Alexander), *Amer. J. Math.*, **126** (2004), 891–897.
- (13) Nonexistence of skew loops on ellipsoids, *Proc. Amer. Math. Soc.*, **133** (2005), 3687–3690.
- (14) Tangent bundle embeddings of manifolds in Euclidean space, *Comment. Math. Helv.*, **1** (2006), 259–270.
- (15) Total positive curvature of hypersurfaces with convex boundary, (with J. Choe and M. Ritore), *J. Differential Geom.*, **72** (2006), 129–147.
- (16)  $h$ -Principles for hypersurfaces with prescribed principal curvatures and directions (with M. Kossowski), *Tran. Amer. Math. Soc.*, **358** (2006), 4379–4393.
- (17) Relative isoperimetric inequality outside convex domains in  $R^n$ , (with J. Choe and M. Ritore), *Calc. Var. Partial Differential Equations*, **29** (2007), 421–429.
- (18)  $h$ -principles for curves and knots of constant curvature, *Geom. Dedicata*, **127** (2007), 19–35.
- (19) Topology of surfaces with connected shades, *Asian J. Math.* **11** (2007), 621–634.
- (20) Totally skew embeddings of manifolds (with S. Tabachnikov), *Math. Z.*, **258** (2008), 499–512.
- (21) Topology of negatively curved real affine algebraic surfaces (with C. Connell), *J. Reine Angew. Math.*, **624** (2008), 1–26.
- (22) Topology of Riemannian submanifolds with prescribed boundary (with S. Alexander, and J. Wong), *Duke Math. J.*, **152** (2010), 533–565.
- (23) Relative isometric embeddings of Riemannian manifolds (with R. Greene), *Tran. Amer. Math. Soc.*, **363** (2011), 63–73.
- (24) A Riemannian four vertex theorem for surfaces with boundary, *Proc. Amer. Math. Soc.*, **139** (2011), 293–303.
- (25) Directed immersions of closed manifolds, *Geom. Topol.*, **15** (2011) 699–705.
- (26) Normal curvatures of asymptotically constant graphs and Carathéodory’s conjecture (with R. Howard), *Proc. Amer. Math. Soc.*, **140** (2012), 4323–4335.
- (27) Deformations of unbounded convex bodies and hypersurfaces, *Amer. J. Math.*, **134** (2012), 1585–1611.
- (28) Vertices of closed curves in Riemannian surfaces, *Comment. Math. Helv.*, **88** (2013), 427–448.
- (29) Tangent lines, inflections, and vertices of closed curves, *Duke Math. J.*, **162** (2013), 2691–2730.
- (30) Tangent cones and regularity of real hypersurfaces (with R. Howard), *J. Reine Angew. Math.*, **697** (2014), 221–247.
- (31) Affine unfoldings of convex polyhedra, *Geom. Topol.*, **18** (2014), 3055–3090.
- (32) Total diameter and area of closed submanifolds (with R. Howard), *Math. Ann.*, **363** (2015), 985–999.
- (33) Boundary torsion and convex caps of locally convex surfaces, *J. Differential Geom.*, **105** (2017), 427–486.
- (34) Dürer’s unfolding problem for convex polyhedra, *Notices of AMS*, **65** (2018), 25–27.
- (35) The length, width, and inradius of space curves, *Geom. Dedicata*, **196** (2018), 123–143.
- (36) Torsion of locally convex curves, *Proc. Amer. Math. Soc.*, **147** (2019), 1699–1707.

- (37) Nonnegatively curved surfaces with free boundary on the sphere (with C. Xiong), *Calc. Var. Partial Differential Equations*, **58** (2019), Art. 94, 20 pp.
- (38) Rigidity of nonnegatively curved surfaces relative to a curve (with J. Spruck), *Int. Math. Res. Not. IMRN*, **17** (2020), 5387–5400.
- (39) Pseudo-edge unfoldings of convex polyhedra (with N. Barvinok), *Discrete Comput. Geom*, **64** (2020), 671–689.
- (40) Centers of disks in Riemannian manifolds (with I. Belegradek), *Pacific J. Math*, **304** (2020), 401–418.
- (41) Shortest closed curve to inspect a sphere (with J. Wenk), *J. Reine Angew. Math*, **738** (2021), 57–84.
- (42) Total curvature and the isoperimetric inequality in Cartan-Hadamard manifolds (with J. Spruck), *J. Geom. Anal.*, **32** (2022), Paper No. 50., 54 pp.
- (43) Total mean curvatures of Riemannian hypersurfaces (with J. Spruck), *Adv. Nonlinear Stud.*, 23 (2023) pp. 20220029.
- (44) Rigidity of nonpositively curved manifolds with convex boundary (with J. Spruck), *Proc. Amer. Math. Soc.*, **151** (2023), 4935–4940.
- (45) Minkowski inequality in Cartan-Hadamard manifolds (with J. Spruck), *Int. Math. Res. Not. IMRN*, **20** (2023), 17892–17910.
- (46) Comparison formulas for total mean curvatures of Riemannian hypersurfaces, *Adv. Nonlinear Stud.*, **24** (2024), 97–102.
- (47) Shortest closed curve to contain a sphere in its convex hull (with J. Wenk), *Bull. London Math. Soc.*, **56** (2024), 2472–2482.
- (48) Point selections from Jordan domains in Riemannian surfaces (with I. Belegradek), *Tran. Amer. Math. Soc.*, **378** (2025), 1681–1696.
- (49) Topology of closed asymptotic curves on negatively curved surfaces (with M. Raffaelli), *J. Geom. Anal.*, **35** (2025), Paper No. 381, 12 pp.
- (50) Convexity and rigidity of hypersurfaces in Cartan-Hadamard manifolds, *Asian J. Math.*, **29** (2025), 761–772.
- (51) A local isoperimetric inequality for balls with nonpositive curvature, *Int. Math. Res. Not. IMRN*, **6** (2026) rnag043 (with J. Stavroulakis).
- (52)  $h$ -Principles for curves and knots with constant torsion (with M. Raffaelli), *Comment. Math. Helv.*, to appear.
- (53) Continuity of total curvatures of Riemannian hypersurfaces, *Proc. Amer. Math. Soc.*, to appear.
- (54) Deformations of curves with constant curvature (with M. Raffaelli), *submitted*.
- (55)  $h$ -Principles for curves and knots with prescribed curvature (with M. Raffaelli), *submitted*.
- (56) Total curvature of convex hypersurfaces in Cartan-Hadamard manifolds (with J. Stavroulakis), *submitted*.
- (57) Open problems in geometry of curves and surfaces, *in progress*.

## Research Collaborators

- (1) Aaron Abrams (Emory University)
- (2) Stephanie Alexander (University of Illinois at Urbana-Champaign)
- (3) Nicholas Barvinok (University of Michigan)
- (4) Igor Belegradek (Georgia Tech)
- (5) Jason Cantarella (University of Georgia)
- (6) Jaigyoung Choe (Seoul National University, Korea)
- (7) Chris Connell (Indiana University)
- (8) Joseph Fu (University of Georgia)

- (9) Robert Greene (UCLA)
- (10) Ralph Howard (University of South Carolina)
- (11) Marek Kossowski (University of South Carolina)
- (12) Matteo Raffaelli (Technical University Vienna)
- (13) Manuel Ritore (University of Granada, Spain)
- (14) Bruce Solomon (Indiana University)
- (15) Joel Spruck (Johns Hopkins University)
- (16) John Stavroulakis (Georgia Tech)
- (17) Serge Tabachnikov (Pennsylvania State University)
- (18) James Wenk (Georgia Tech)
- (19) Jeremy Wong (University of Toronto)
- (20) Changwei Xiong (Australian National University)

## Talks

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|--|-----------|
| (1) <i>Global Analysis Seminar</i> , Johns Hopkins U.,                           | Sep. 1997 |
| (2) <i>Colloquium</i> , U. of South Carolina,                                    | Jan. 1998 |
| (3) <i>G.A.N.G. Seminar</i> , U. Mass. at Amherst,                               | Feb. 1998 |
| (4) <i>Differential Geometry Seminar</i> , Harvard University,                   | Feb. 1998 |
| (5) <i>Geometry Seminar</i> , M.S.R.I.,  | Sep. 1998 |
| (6) <i>Colloquium</i> , U.C. Santa Cruz,   | Jan. 1999 |
| (7) <i>Differential Geometry Seminar</i> , U. of Illinois at Urbana,             | Mar. 1999 |
| (8) <i>J.A.M.I. Conference on Minimal Surfaces</i> , Johns Hopkins U.,           | Mar. 1999 |
| (9) <i>Geometry and Topology Seminar</i> , U. of Pennsylvania,                   | Mar. 1999 |
| (10) <i>Geometric Analysis Seminar</i> , Stanford University,                    | Apr. 1999 |
| (11) <i>Geometry Seminar</i> , U.C. Berkeley,                                    | Feb. 2000 |
| (12) <i>Geometry Seminar</i> , Indiana University,                               | Apr. 2000 |
| (13) <i>Geometry Seminar</i> , University of Georgia,                            | Oct. 2000 |
| (14) <i>Session on Curves &amp; Surfaces</i> , A.M.S. Southeastern, Columbia, SC | Mar. 2001 |
| (15) <i>C.M.I. Conf. on Minimal Surfaces</i> , M.S.R.I.,                         | Jul. 2001 |
| (16) <i>Colloquium</i> , Georgia Tech,   | Aug. 2001 |
| (17) <i>Colloquium</i> , College of Charleston,                                  | Nov. 2001 |
| (18) <i>Session on Applied Math.</i> , A.M.S. Southeastern, Atlanta,             | Mar. 2002 |
| (19) <i>Colloquium</i> , College of Charleston,                                  | Apr. 2002 |
| (20) <i>Comp. Vision Seminar</i> , ECE Dept. N.C. State University, ,            | May. 2002 |
| (21) <i>Conference on Convexity</i> , P.I.M.S. at U. British Columbia,           | Jul. 2002 |
| (22) <i>Session on Convex Geometry</i> , A.M.S. Eastern, Boston,                 | Oct. 2002 |
| (23) <i>Session on Optimal Geometry</i> , A.M.S. Central, Wisconsin,             | Oct. 2002 |
| (24) <i>Analysis Seminar</i> , Johns Hopkins U.,                                 | Nov. 2002 |
| (25) <i>Analysis Seminar</i> , U. of Pennsylvania,                               | Nov. 2002 |
| (26) <i>Colloquium</i> , Georgia Tech,   | Jan. 2003 |
| (27) <i>Colloquium</i> , Indiana University,                                     | Feb. 2003 |
| (28) <i>Analysis/PDE Seminar</i> , MIT,  | Mar. 2003 |
| (29) <i>Southeast Geometry Conference</i> , College of Charleston,               | Mar. 2003 |
| (30) <i>Session on Differential Geometry</i> , AMS Central, Bloomington,         | Apr. 2003 |
| (31) <i>Colloquium</i> , University of Toledo,                                   | Apr. 2003 |
| (32) <i>Southeast Geometry Seminar III</i> , U. of Alabama, Birmingham,          | May 2003  |
| (33) <i>Georgia Topology Conference</i> , U. of Georgia,                         | Jun. 2003 |
| (34) <i>Conf. on Monge-Ampere Equations</i> , Banff Research Center,             | Aug. 2003 |

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|---|------------|
| (35) <i>Dynamical Systems and Geometry Seminar</i> , Penn State,                    | Sep. 2003  |
| (36) <i>MASS Colloquium</i> , Penn State,   | Oct. 2003  |
| (37) <i>Geometry and Topology Seminar</i> , Georgia Tech,                           | Nov. 2003  |
| (38) <i>Topology Seminar</i> , Penn State,  | Nov. 2003  |
| (39) <i>Conference in honor of E. Feldman</i> , CUNY,                               | Feb. 2004  |
| (40) <i>Geometry-Topology Seminar</i> , University of Pennsylvania,                 | Mar. 2004  |
| (41) <i>The XIII School of Diff. Geometry, Plenary Talk</i> , U. of São Paulo,      | Jul. 2004  |
| (42) <i>Geometry Seminar</i> , IMPA, Rio de Janeiro,                                | Jun. 2004  |
| (43) <i>MASSfest Conf. for REU students</i> , Penn State,                           | Aug. 2004  |
| (44) <i>Geometry Seminar</i> , Penn State,  | Sep. 2004  |
| (45) <i>Geometry Seminar</i> , Georgia Tech,  | Dec. 2004  |
| (46) <i>Geometry and Analysis Seminar</i> , Columbia University,                    | Mar. 2005  |
| (47) <i>Colloquium</i> , University of Alabama at Birmingham,                       | Oct. 2005  |
| (48) <i>Topology and Geometry Seminar</i> , University of Georgia,                  | Nov. 2005  |
| (49) <i>Session on Convex Geometry</i> , AMS National, San Antonio,                 | Jan. 2006  |
| (50) <i>Bloomington Geometry Workshop</i> , Indiana University,                     | Apr. 2006  |
| (51) <i>Session on Discrete and Convex Geom.</i> , Canadian Math. Soc., Calgary,    | Jun. 2006  |
| (52) <i>Geometry Seminar</i> , University of Georgia,                               | Sep. 2006  |
| (53) <i>Differential Geometry/Analysis Seminar</i> , Emory University,              | Oct. 2006  |
| (54) <i>Conf. on Geometric Analysis and Elliptic PDE's</i> , Johns Hopkins U.,      | Oct. 2006  |
| (55) <i>Conference on Geometric Analysis</i> , KIAS, Seoul,                         | Sept. 2007 |
| (56) <i>Geometry Seminar</i> , Duke University,                                     | Oct. 2007  |
| (57) <i>Felix Klein Seminar</i> , University of Notre Dame,                         | Feb. 2008  |
| (58) <i>Geometry Seminar</i> , University of Georgia,                               | Mar. 2008  |
| (59) <i>Southeast Geometry Conference</i> , University of South Carolina,           | Mar. 2008  |
| (60) <i>Geometry Seminar</i> , George Washington University,                        | Mar. 2008  |
| (61) <i>Analysis Seminar</i> , Johns Hopkins University,                            | May 2008   |
| (62) <i>Geometry-Topology Seminar</i> , University of Pennsylvania,                 | May 2008   |
| (63) <i>XV Brazilian School of Differential Geometry</i> , Fortaleza, Plenary Talk, | July 2008  |
| (64) <i>MASS Colloquium</i> , Penn State U.,  | Sep. 2008  |
| (65) <i>Session on Convex Geometry</i> , AMS Western, Vancouver,                    | Oct. 2008  |
| (66) <i>Colloquium</i> , Georgia Tech,  | Oct. 2008  |
| (67) <i>Conference in honor of Herman Gluck</i> , Rutgers U., Newark,               | Nov. 2008  |
| (68) <i>Colloquium and Fejes Toth Lecture</i> University of Calgary,                | Mar. 2009  |
| (69) <i>Discrete Geometry Seminar</i> University of Calgary,                        | Mar. 2009  |
| (70) <i>Session on Differential Geometry</i> , AMS Central, Urbana,                 | Mar. 2009  |
| (71) <i>Colloquium</i> , College of Charleston,                                     | Apr 2009   |
| (72) <i>Differential Geometry Seminar</i> , Indiana University,                     | Apr 2009   |
| (73) <i>Differential Geometry Seminar</i> , University of Minnesota,                | May 2009   |
| (74) <i>International Symposium on Differential Geometry</i> , Rio de Janeiro,      | Aug. 2009  |
| (75) <i>Differential Geometry/Analysis Seminar</i> , Emory University,              | Feb. 2010  |
| (76) <i>Conference on Volume Inequalities</i> , Banff,                              | Mar. 2010  |
| (77) <i>Conference on Surface Theory</i> , Buzios, Brazil,                          | Apr. 2010  |
| (78) <i>Southeast Geometry Conference</i> , Charleston,                             | Apr. 2010  |
| (79) <i>Queen Dido Conference on Isoperimetry</i> , Carthage, Tunisia               | May. 2010  |
| (80) <i>Colloquium</i> , University of Tennessee, Knoxville,                        | Oct. 2010  |
| (81) <i>Geometry Seminar</i> , Stanford University,                                 | Oct. 2010  |
| (82) <i>Bay Area Differential Geometry Seminar</i> , MSRI,                          | Oct. 2010  |

(83) <i>Differential Geometry/Analysis Seminar</i> , Emory University,	Oct. 2010
(84) <i>Southeast Geometry Conference</i> , Columbia,	May 2011
(85) <i>Colloquium</i> , University of Alabama, Birmingham,	Oct. 2011
(86) <i>Pacific Rim Geometry Conference</i> , Osaka, Japan,	Dec. 2011
(87) <i>KIAS Winter School</i> , Seoul, Korea,	Feb. 2012
(88) <i>Southeast Geometry Conference</i> , Charleston,	Mar. 2012
(89) <i>Geometric Analysis Seminar</i> , University of Wisconsin, Madison,	Mar. 2013
(90) <i>Conference on Encounters in Geometry</i> , Cabio Frio, Brazil	Jun. 2013
(91) <i>Conference on Metric Geometry</i> , Banff Research Station,	Aug. 2013
(92) <i>Geometry Seminar</i> , University of Toronto,	Nov. 2013
(93) <i>Colloquium</i> , University of Toronto,	Nov. 2013
(94) <i>Smoky Cascade Geometry Conference</i> , University of Tennessee,	Mar. 2014
(95) <i>Differential Geometry Seminar</i> , Ohio State University,	Apr. 2014
(96) <i>Geometry Seminar</i> , University of Georgia,	Dec. 2014
(97) <i>College of Sciences EXPLORE Open House</i> , Georgia Tech,	Feb. 2015
(98) <i>College of Sciences EXPLORE Open House</i> , Georgia Tech,	Apr. 2016
(99) <i>Colloquium</i> , Penn State U.,	Sep. 2016
(100) <i>MASS Colloquium</i> , Penn State U.,	Sep. 2016
(101) <i>Conference on Geometric Inequalities</i> , Busan, South Korea,	Nov. 2016
(102) <i>AMS Sectional</i> , Charleston,	Mar. 2017
(103) <i>Colloquium</i> , Lehigh University,	Feb. 2018
(104) <i>MAA State Dinner of SC</i> , Keynote speaker, Columbia, SC,	Nov. 2018
(105) <i>Analysis Seminar</i> , Johns Hopkins U.,	Sep. 2019
(106) <i>Analysis Seminar</i> , Emory U.,	Sep. 2019
(107) <i>Research Horizons Seminar</i> , Georgia Tech,	Oct. 2019
(108) <i>Colloquium</i> , Georgia Tech,	Oct. 2019
(109) <i>Geometry and Topology Seminar</i> , U. Pennsylvania,	Oct. 2019
(110) <i>Student Colloquium</i> , Penn State U.,	Nov. 2019
(111) <i>Colloquium</i> , Penn State U.,	Nov. 2019
(112) <i>Colloquium</i> , Stanford U.,	Jan. 2020
(113) <i>Geometric Analysis Seminar</i> , U. Chicago,	Jan. 2020
(114) <i>Geometry Seminar</i> , Carnegie Mellon U.,	Feb. 2020
(115) <i>Colloquium</i> , Carnegie Mellon U.,	Feb. 2020
(116) <i>Joint Analysis Seminar</i> , UCLA/Caltech,	Apr. 2020
(117) <i>Differential Geometry Seminar</i> , TU Vienna,	Oct. 2020
(118) <i>Differential Geometry Seminar</i> , Max Plank Institute,	Nov. 2020
(119) <i>Geometry and Topology Seminar</i> , U. Luxembourg,	Dec. 2020
(120) <i>Differential Geometry Seminar</i> , Rice University,	Jan. 2021
(121) <i>Frontiers in Mathematical Science</i> , IPM, Iran,	Apr. 2021
(122) <i>Calculus of Variations and PDE Conference</i> , ETH, Zurich,	Jun. 2021
(123) <i>Pangolin Seminar</i> , Online,	Oct. 2021
(124) <i>Geometry Seminar</i> , UGA,	Apr. 2022
(125) <i>Workshop in Convexity and Probability</i> , Georgia Tech,	May 2022
(126) <i>Riemannian Geom. Conference</i> , Florence,	Jun. 2022
(127) <i>Harmonic Analysis and Convexity</i> , ICERM, Brown U.,	Sep. 2022
(128) <i>Geometry and Topology Seminar</i> , Indian Institute of Science, Bangalore,	Oct. 2022
(129) <i>Xavier Colloquium (Inaugural speaker)</i> , TCU, Fort-Woth, TX	Apr. 2023
(130) <i>Texas Geometry and Topology Conference</i> , TCU, Fort-Woth, TX	Apr. 2023

(131) <i>Geometry beyond Riemann, Summer School</i> , ESI, Vienna,	Sep. 2023
(132) <i>Geometria Aljama</i> , Williams Papermaking Museum, Atlanta,	Nov. 2023
(133) <i>Geometry and Topology Seminar</i> , NC State U, Raleigh,	Nov. 2024
(134) <i>Differential Geometry Conference</i> , L'Aquila, Italy,	July 2025
(135) <i>Seminar on Geometry and Topology</i> , IPM, Iran,	Sep. 2025
(136) <i>Geometric Analysis Seminar</i> , UT Knoxville,	Sep. 2025
(137) <i>Colloquium</i> , U Auburn,	Mar. 2026

### Undergraduate Research Supervised (REU projects)

- James Krysiak and Zachary McCoy, Penn State, Summer, 2004
- Arthur J. Friend, Georgia Tech, Fall 2006
- Brian Nakamura and Bobby DeMarco, Georgia Tech, Summer 2006
- Andrew McCullough, Georgia Tech, Summer 2012
- Arun Jambulapati, Georgia Tech (from U. Tennessee), Summer 2013
- Alena Kim, Alabama School of Fine Arts, Birmingham, Alabama, Fall 2014
- Biao Ma, Georgia Tech (from Jilin U., China), Spring 2016
- Tianhao Jian, Georgia Tech (from Jilin U., China), Spring 2016
- Nicholas Barvinok, Georgia Tech (from U. Michigan), Summer 2017
- Zetian Yan, Georgia Tech (from Jilin U., China), Summer 2018
- Devon Ingram, Georgia Tech, Summer 2018
- Alex Avery, Georgia Tech, Summer 2018
- Joshua Tso, Brandeis, Summer 2019
- Serge Blinov, Georgia Tech, Fall 2022
- Derrick Chu, Phillips Exeter Academy, Summer 2024
- Chanyeong Seo, Georgia Tech, Fall 2025

### Graduate Student Supervision

- Yulia Tyurina, Penn State, PhD 2005 (supervised jointly with Serge Tabachnikov)
- James Wenk, Georgia Tech, PhD 2022 (won the best thesis award in the School of Math)
- Nicholas Barvinok, Georgia Tech, PhD 2023
- John Stavroulakis, Georgia Tech, PhD expected 2029
- Yujung Seo, Georgia Tech, PhD expected 2029
- James Krysiak, Donald Sampson, Meredith Casey, Becca Winarski, Andrew McCullough, Hyun Ki Min (Reading courses at Georgia Tech)

### Postdoc Supervision

- Gordanna Stojanovic, Georgia Tech, 2007–2009
- Matteo Raffaelli, Georgia Tech, 2024–2027

### Classes Taught

(1) 110.302, <i>Differential Equations</i> , Johns Hopkins University,	Summer 1994
(2) 110.201, <i>Linear Algebra</i> , Johns Hopkins University,	Summer 1996
(3) Math100, <i>Introduction to Mathematical Proof</i> , UC Santa Cruz,	Fall 1998
(4) Math11B, <i>Calculus with Applications</i> , UC Santa Cruz,	Fall 1998
(5) Math22, <i>Calculus of Several Variables</i> , UC Santa Cruz,	Spring 1999
(6) Math11B, <i>Calculus with Applications</i> , UC Santa Cruz,	Spring 1999
(7) Math23B, <i>Multivariable Calculus</i> , UC Santa Cruz,	Fall 1999
(8) Math121B, <i>Elem. Diff. Geometry &amp; Topology</i> , UC Santa Cruz,	Winter 2000
(9) Math19A, <i>Calculus for Science and Engineering</i> , UC Santa Cruz,	Winter 2000

(10) Math19B, <i>Calculus for Science and Engineering</i> , UC Santa Cruz,	Spring 2000
(11) Math141, <i>Calculus I</i> , U. South Carolina,	Fall 2000
(12) Math241, <i>Vector Calculus</i> , U. South Carolina,	Fall 2000
(13) Math544, <i>Linear Algebra</i> , U. South Carolina,	Spring 2001
(14) Math142, <i>Calculus II</i> , U. South Carolina,	Fall 2001
(15) Math550, <i>Vector Analysis</i> , U. South Carolina,	Fall 2001
(16) Math142, <i>Calculus II</i> , U. South Carolina,	Spring 2002
(17) Math550, <i>Vector Analysis</i> , U. South Carolina,	Spring 2002
(18) Math142, <i>Calculus II</i> , U. South Carolina,	Fall 2002
(19) Math734, <i>Differential Geometry</i> , U. South Carolina,	Fall 2002
(20) Math141, <i>Calculus I</i> , U. South Carolina,	Spring 2003
(21) Math598E, <i>Introduction to the h-Principle</i> , Penn State,	Fall 2003
(22) Math426, <i>Introduction to Modern Geometry</i> , Penn State,	Spring 2004
(23) Math497C, <i>Diff. Geometry of Curves &amp; Surfaces</i> , Penn State,	Fall 2004
(24) Math528, <i>Geometry and Topology II</i> , Penn State,	Spring 2005
(25) Math 6452, <i>Differential Topology</i> , Georgia Tech,	Fall 2005
(26) Math 2411, <i>Honors Calculus III</i> , Georgia Tech,	Spring 2006
(27) Math 6455, <i>Differential Geometry I</i> , Georgia Tech,	Fall 2006
(28) Math 6456, <i>Differential Geometry II</i> , Georgia Tech,	Spring 2007
(29) Math 4441, <i>Differential Geometry</i> , Georgia Tech,	Fall 2007
(30) Math 1502, <i>Calculus II</i> , Georgia Tech,	Spring 2008
(31) Math 2401, <i>Calculus III</i> , Georgia Tech,	Fall 2008
(32) Math 6457, <i>Geometry and Topology I</i> , Georgia Tech,	Fall 2009
(33) Math 6458, <i>Geometry and Topology II</i> , Georgia Tech,	Spring 2010
(34) Math 4432, <i>Intro. to Algebraic Topology</i> , Georgia Tech,	Spring 2010
(35) Math 6455, <i>Differential Geometry I</i> , Georgia Tech,	Fall 2010
(36) Math 6456, <i>Differential Geometry II</i> , Georgia Tech,	Spring 2011
(37) Math 4432, <i>Intro. to Algebraic Topology</i> , Georgia Tech,	Spring 2011
(38) Math 4441, <i>Differential Geometry</i> , Georgia Tech,	Fall 2011
(39) Math 2401, <i>Calculus III</i> , Georgia Tech,	Spring 2012
(40) Math 6455, <i>Differential Geometry II</i> , Georgia Tech,	Spring 2012
(41) Math 1522, <i>Intro. to Linear Algebra</i> , Georgia Tech,	Summer 2012
(42) Math 6457, <i>Geometry and Topology I</i> , Georgia Tech,	Fall 2012
(43) Math 6458, <i>Geometry and Topology II</i> , Georgia Tech,	Spring 2013
(44) Math 6455, <i>Differential Geometry I</i> , Georgia Tech,	Spring 2013
(45) Math 4305, <i>Topics in Linear Algebra</i> , Georgia Tech,	Summer 2013
(46) Math 4431, <i>Intro. to Topology</i> , Georgia Tech,	Fall 2013
(47) Math 4320, <i>Complex Analysis</i> , Georgia Tech,	Spring 2014
(48) Math 2411, <i>Honors Calculus III</i> , Georgia Tech,	Spring 2014
(49) Math 4318, <i>Analysis II</i> , Georgia Tech,	Spring 2015
(50) Math 6452, <i>Differential Topology</i> , Georgia Tech,	Fall 2015
(51) Math 6455, <i>Differential Geometry</i> , Georgia Tech,	Spring 2016
(52) Math 6452, <i>Differential Topology</i> , Georgia Tech,	Fall 2016
(53) Math 4441, <i>Differential Geometry</i> , Georgia Tech,	Fall 2017
(54) Math 6455, <i>Differential Geometry</i> , Georgia Tech,	Spring 2018
(55) Math 4441, <i>Differential Geometry</i> , Georgia Tech,	Fall 2018
(56) Math 6455, <i>Differential Geometry</i> , Georgia Tech,	Spring 2019
(57) Math 8803, <i>Isometric Embeddings (Topics Class)</i> , Georgia Tech,	Fall 2019

(58) Math 6455, <i>Differential Geometry</i> , Georgia Tech,	Spring 2021
(59) Math 4441, <i>Differential Geometry</i> , Georgia Tech,	Fall 2021
(60) Math 4318, <i>Analysis II</i> , Georgia Tech,	Spring 2022
(61) Math 6455, <i>Differential Geometry</i> , Georgia Tech,	Spring 2022
(62) Math 6452, <i>Differential Topology</i> , Georgia Tech,	Fall 2022
(63) Math 2106, <i>Foundations of Mathematical Proof</i> , Georgia Tech,	Spring 2023
(64) Math 6455, <i>Differential Geometry</i> , Georgia Tech,	Spring 2023
(65) Math 6452, <i>Differential Topology</i> , Georgia Tech,	Fall 2023
(66) Math 2106, <i>Foundations of Mathematical Proof</i> , Georgia Tech,	Spring 2024
(67) Math 8803, <i>Geometric Inequalities (Topics class)</i> , Georgia Tech,	Fall 2024
(68) Math 6455, <i>Differential Geometry</i> , Georgia Tech,	Spring 2025
(69) Math 2106, <i>Foundations of Mathematical Proof</i> , Georgia Tech,	Spring 2025
(70) Math 4441, <i>Differential Geometry</i> , Georgia Tech,	Fall 2025

### Professional Service

- Co-organized a session (with Ralph Howard) on *Geometry of curves and surfaces* at the AMS southeastern section meeting, Mar. 2001.
- Co-organized a session (with Igor Belegradek) on *Riemannian Geometry* at the AMS national meeting, Jan. 2005.
- Co-organized the “Queen Dido Conference on Isoperimetric Problems”, Carthage, Tunisia, May 2010.
- Co-organizer of the *Southeast Geometry Seminar*, 2005–2017 (a semiannual series of conferences which rotated between Georgia Tech, Emory, and U. Alabama at Birmingham; see [www.math.uab.edu/sgs](http://www.math.uab.edu/sgs) ).
- Reviewed papers for *Ann. Math.*, *Inventiones*, *J. Differential Geom.*, *Topology*, *Amer. J. Math.*, *Crelle J.*, *J. Knot Theory Ramifications*, *Indiana Univ. Math. J.*, *Pacific J. Math.*, *J. Comput. Appl. Math.*, *P. Roy. Soc. Edinb. A*, *Math. Zeitschrift*, *Algebr. Geom. Topol.*, *Amer. Math. Monthly*, *J. Geom. Anal.*, *Geom. Dedicata*, *Bull. London Math. Soc.*, *Discrete Comput. Geom.*, *Arch. Math.*, *Tran. Amer. Math. Soc.*, *Nagoya Math. J.*, *Illinois J. Math.*, *Differential Geom. Appl.*, and *Mathematical Reviews*.
- Reviewed proposals for NSF and Simons Foundation.