

JEFF A. VIACLOVSKY

Contact Information:

Department of Mathematics
University of California
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Research Differential Geometry and Geometric Analysis.

Education **Princeton University**, Princeton, New Jersey.
Ph.D. Mathematics, June, 1999 (Advisor: Phillip A. Griffiths).
M.A. Mathematics, June, 1996.
The University of Texas, Austin, Texas.
B.A. Mathematics, June, 1994.
B.S. Physics, June, 1994.

Employment Professor of Mathematics, University of California, Irvine, 2017–present.
Professor of Mathematics, University of Wisconsin, Madison, 2009–2017.
Associate Professor of Mathematics, University of Wisconsin, Madison, 2006–2009.
Associate Professor of Mathematics, Massachusetts Institute of Technology, 2006–2007.
Assistant Professor of Mathematics, Massachusetts Institute of Technology, 2002–2006.
C.L.E. Moore Instructor of Mathematics, Massachusetts Institute of Technology, 1999–2002.
R.H. Bing Instructor of Mathematics, The University of Texas at Austin, 1999–2000.

Visiting Positions Visiting Professor, Tokyo Institute of Technology, Fall 2023.
Visiting Professor, Tokyo Institute of Technology, Summer 2018.
Simons Research Professor, MSRI, Spring 2016.
Visiting Professor, Osaka University, Japan, Spring 2013.
Visiting Professor, Rice University, Winter 2013.
CNRS Senior Professor, Institut Henri Poincaré, Paris, France, Fall 2012.
Visiting Member, IAS Princeton, October 2008 and March 2009.
Visiting Member, MSRI, January 2007.
Visiting Assistant Professor, Princeton University, November 2004.
Visiting Member, MSRI, January 2001.

Fellowships and Honors **National Science Foundation Research Grant DMS-2404195 (2024–2027).**
International Congress of Chinese Mathematicians Best Paper Award (2023) for *Nilpotent structures and collapsing Ricci-flat metrics on the K3 surface.*
Simons Fellow in Mathematics (2023–2024).
National Science Foundation Research Grant DMS-2105478 (2021–2025).
Fellow of the American Mathematical Society, Class of 2021.
National Science Foundation Research Grant DMS-1811096 (2018–2021).

Van Vleck Professorship Research Award (2015–2017).

National Science Foundation Research Grant DMS-1405725 (2014–2017).

Simons Fellow in Mathematics (2012–2013).

National Science Foundation Research Grant DMS-1105187 (2011–2014).

National Science Foundation Research Grant DMS-0804042 (2008–2011).

National Science Foundation Research Grant DMS-0503506 (2005–2008).

Alfred P. Sloan Research Fellowship (2004–2006).

National Science Foundation Research Grant DMS-0202477 (2002–2005).

National Science Foundation Postdoctoral Research Fellowship (1999–2002).

Alfred P. Sloan Doctoral Dissertation Fellowship (1998–99).

National Science Foundation Graduate Fellowship (1995–98).

Dean's Honored Graduate, Department of Mathematics, University of Texas (1994).

Department of Mathematics Outstanding Graduating Senior, University of Texas (1994).

Publications

49. *Some remarks on fibrations in complex geometry* (with N. Honda), arXiv:2504.14420, 19 pages, preprint.
48. *Fibrations on the 6-sphere and Clemens threefolds* (with N. Honda), arXiv:2403.05035, 25 pages, preprint.
47. *Asymptotically Calabi metrics and weak Fano manifolds* (with H.-J. Hein, S. Sun, and R. Zhang), *Geometry & Topology* **29** (2025), no. 5, 2547–2569.
46. *Torelli-type theorems for gravitational instantons with quadratic volume growth* (with G. Chen and R. Zhang), *Duke Mathematical Journal* **173** (2024), no. 2, 227–275.
45. *Gravitational instantons with quadratic volume growth* (with G. Chen), *Journal of the London Mathematical Society* **109** (2024), no. 4, 1–34.
44. *Hodge theory on ALG^* manifolds* (with G. Chen and R. Zhang), *Journal für die Reine und Angewandte Mathematik* **799** (2023), 189–227.
43. *Conformally prescribed scalar curvature on orbifolds* (with T. Ju), *Communications in Mathematical Physics* **398** (2023), no. 2, 877–923.
42. *Nilpotent structures and collapsing Ricci-flat metrics on the $K3$ surface* (with H.-J. Hein, S. Sun, and R. Zhang), *Journal of the American Mathematical Society* **35** (2021), no. 1, 123–209.
41. *Collapsing Ricci-flat metrics on elliptic $K3$ surfaces* (with G. Chen and R. Zhang), *Communications in Analysis and Geometry* **28** (2020), no. 8, 2019–2133.
40. *Existence and compactness theory for ALE scalar-flat Kähler surfaces* (with J. Han), *Forum of Math. Sigma* **8** (2020), e1, 67 pages.
39. *Local moduli of scalar-flat Kähler ALE surfaces* (with J. Han), *Geometric Analysis: In Honor of Gang Tian's 60th Birthday*, *Progress in Mathematics* **333** (2020), 113–135.
38. *The Calabi metric and desingularization of Einstein orbifolds* (with P. Morteza), *Journal of the European Mathematical Society* **22** (2020), 1201–1245.
37. *Deformation theory of scalar-flat Kähler ALE surfaces* (with J. Han), *American Journal of Mathematics* **141** (2019), no. 6, 1547–1589.

36. *A smörgåsbord of scalar-flat Kähler ALE surfaces* (with M. Lock), Journal für die Reine und Angewandte Mathematik **746** (2019), 171–208.
35. *Quotient singularities, eta invariants, and self-dual metrics* (with M. Lock), Geometry & Topology **20** (2016), no. 3, 1773–1806.
34. *Critical metrics for Riemannian curvature functionals*, Geometric analysis, 195–274, IAS/Park City Mathematics Series, 22, American Mathematical Society, Providence, RI, 2016.
33. *Critical metrics on connected sums of Einstein four-manifolds* (with M. Gursky), Advances in Mathematics **292** (2016), 210–315.
32. *The mass of the product of spheres*, Communications in Mathematical Physics **335** (2015), no. 1, 17–41.
31. *Anti-self-dual orbifolds with cyclic quotient singularities* (with M. Lock), Journal of the European Mathematical Society **17** (2015), no. 11, 2805–2841.
30. *Rigidity and stability of Einstein metrics for quadratic curvature functionals* (with M. Gursky), Journal für die reine und angewandte Mathematik **700** (2015), 37–91.
29. *Asymptotics of the self-dual deformation complex* (with A. Ache), Journal of Geometric Analysis **25** (2015), no. 2, 951–1000.
28. *An index theorem for anti-self-dual orbifold-cone metrics* (with M. Lock), Advances in Mathematics **248** (2013), 698–716.
27. *Toric LeBrun metrics and Joyce metrics* (with N. Honda), Geometry & Topology **17** (2013), no. 5, 2923–2934.
26. *Einstein metrics and Yamabe invariants of weighted projective spaces*, Tohoku Mathematical Journal **65** (2013), no. 2, 297–311.
25. *Conformal symmetries of self-dual hyperbolic monopole metrics* (with N. Honda), Osaka Journal of Mathematics **50** (2013), 197–249.
24. *An index theorem on anti-self-dual orbifolds*, International Mathematical Research Notices **rns160** (2012), 1–20.
23. *Obstruction-flat asymptotically locally Euclidean metrics* (with A. Ache), Geometric and Functional Analysis, **22-4** (2012), 832–877.
22. *Twistor geometry and warped product orthogonal complex structures* (with L. Borisov and S. Salamon), Duke Mathematical Journal **156** (2011), no. 1, 125–166.
21. *Monopole metrics and the orbifold Yamabe problem*, Annales de L’Institut Fourier **60** (2010), no. 7, 2503–2543.
20. *Threefolds of order one in the six-quadric* (with L. Borisov), Proceedings of the Steklov Institute of Mathematics **264** (2009), no. 1, 18–29.
19. *Orthogonal complex structures on domains in \mathbb{R}^4* (with S. Salamon), Mathematische Annalen **343** (2008), no. 4, 853–899.
18. *Prescribing symmetric functions of the eigenvalues of the Ricci tensor* (with M. Gursky), Annals of Mathematics **166** (2007), no. 2, 475–531.
17. *Conformal geometry and fully nonlinear equations*, Inspired by S. S. Chern, 435–460, Nankai Tracts in Mathematics, 11, World Scientific Publishing, 2006.
16. *Convexity and singularities of curvature equations in conformal geometry* (with M. Gursky), International Mathematics Research Notices, 2006, Article ID 96890, 43 pages.
15. *Bach-flat asymptotically locally Euclidean metrics* (with G. Tian), Inventiones Mathematicae **160** (2005), no. 2, 357–415.
14. *Moduli spaces of critical Riemannian metrics in dimension four* (with G. Tian), Advances in Mathematics **196** (2005), no. 2, 346–372.
13. *Volume growth, curvature decay, and critical metrics* (with G. Tian), Commentarii Mathematici Helvetici **83** (2004), Issue 4, 889–911.
12. *Volume comparison and the σ_k -Yamabe problem* (with M. Gursky), Advances in Mathematics **187** (2004), no. 2, 447–487.
11. *A variational characterization for $\sigma_{n/2}$* (with S. Brendle), Calculus of Variations and Partial Differential Equations **20** (2004), no. 4, 399–402.

10. *A fully nonlinear equation on four-manifolds with positive scalar curvature* (with M. Gursky), *Journal of Differential Geometry* **63** (2003), no. 1, 131–154.
9. *Fully nonlinear equations on Riemannian manifolds with negative curvature* (with M. Gursky), *Indiana University Mathematics Journal* **52** (2003), 399–420.
8. *Some properties of the Schouten tensor and applications to conformal geometry* (with P. Guan and G. Wang), *Transactions of the American Mathematical Society* **355** (2003), 925–933.
7. *Estimates and existence results for some fully nonlinear elliptic equations on Riemannian manifolds*, *Communications in Analysis and Geometry* **10** (2002), no. 4, 815–846.
6. *On the regularity of solutions to Monge-Ampère equations on Hessian manifolds* (with L. Caffarelli), *Communications in Partial Differential Equations* **26** (2001), no. 11-12, 2339–2351.
5. *A new variational characterization of three-dimensional space forms* (with M. Gursky), *Inventiones Mathematicae* **145** (2001), no. 2, 251–278.
4. *Regularity of weak solutions to critical exponent variational equations* (with K. Uhlenbeck), *Mathematical Research Letters* **7** (2000), no. 5-6, 651–656.
3. *Some fully nonlinear equations in conformal geometry*, *Differential equations and mathematical physics* (Birmingham, AL), 425–433, American Mathematical Society, Providence, RI, 2000.
2. *Conformally invariant Monge-Ampère equations: global solutions*, *Transactions of the American Mathematical Society* **352** (2000), no. 9, 4371–4379.
1. *Conformal geometry, contact geometry, and the calculus of variations*, *Duke Mathematical Journal* **101** (2000), no. 2, 283–316.

Organization & Service

Associate Editor for *Kodai Mathematical Journal*, 2016–present.

Associate Editor for *International Mathematics Research Notices/Papers*, 2007–present.

AMS Graduate Studies in Mathematics Editorial Committee, 2016–2024.

AMS-Simons Travel Grants Committee, 2018–2021.

The 30th Southern California Geometric Analysis Seminar, University of California, Irvine, February 8–9, 2025, co-organizer. PI for NSF Conference Grant DMS-2430426.

The 28th Southern California Geometric Analysis Seminar, University of California, Irvine, March 4–5, 2023, co-organizer. PI for NSF Conference Grant DMS-2236605.

The 27th Southern California Geometric Analysis Seminar, University of California, Irvine, February 8–9, 2020, co-organizer.

The 26th Southern California Geometric Analysis Seminar, University of California, San Diego, January 26–27, 2019, co-organizer.

Trends in Modern Geometry Conference, Tsinghua University, June 24–28, 2019, co-organizer.

Trends in Modern Geometry Conference, University of Tokyo, July 10–13, 2017, co-organizer.

Trends in Modern Geometry Conference, University of Tokyo, July 21–24, 2016, co-organizer.

Semester on Differential Geometry, MSRI, Spring 2016, lead organizer.

Trends in Modern Geometry Conference and the 10th Pacific Rim Complex Geometry Conference, University of Tokyo and Nasu, Japan, July 27–31, 2015, co-organizer.

Trends in Modern Geometry Conference, University of Tokyo, July 7–11, 2014, co-organizer.

BIRS Scientific Advisory Board, 2013–2015.

Trimester in Conformal and Kähler Geometry, Institut Henri Poincaré, Paris, Fall 2012, co-organizer.

PRIMA Conference on Geometric Analysis, UBC Vancouver, July 10–20, 2010, co-organizer. PI for NSF Conference Grant DMS-1016317.

Workshop on Geometric Flows and Related Topics, Princeton University, April 20–21, 2007, co-organizer.

Invitations

Geometric Analysis Seminar, University of Tokyo, July 10, 2025.

JHU-UMD Complex Geometry Seminar, Johns Hopkins University, March 25, 2025.

Differential Geometry Seminar, UC Irvine, May 21, 2024.

Differential Geometry Seminar, Princeton University, March 6, 2024.

Geometry Topology Dynamical Systems Seminar, University of Texas, Dallas, TX, January 31, 2024.

Departmental Colloquium, Tokyo Institute of Technology, Tokyo, Japan, December 13, 2023.

Simons Math Summer Workshop, Simons Center for Geometry and Physics, Stony Brook, NY, August 7–11, 2023.

Workshop on Einstein Spaces and Special Geometry, Institut Mittag-Leffler, Stockholm, Sweden, July 10–14, 2023.

Departmental Colloquium, University of California, San Diego, CA, October 13, 2022.

Workshop on Geometry and Physics of ALX Metrics in Gauge Theory, American Institute of Mathematics, July 25, 2022 (online).

Geometry Seminar, Tokyo Institute of Technology, Tokyo, Japan, July 4, 2022.

Geometry and Topology Seminar, Chuo University, Tokyo, Japan, July 1, 2022.

Conference on Special Riemannian Metrics and Curvature Functionals, Centro De Giorgi, Pisa, Italy, June 7, 2022 (online).

Conference on Special Metrics in Complex Geometry, University of Texas, Dallas, May 19, 2022.

Geometry Seminar, University of Florence, Italy, May 12, 2022 (online).

Differential Geometry Seminar, University of California, Berkeley, March 28, 2022.

Geometric Analysis Seminar, Yale University, March 4, 2022 (online).

Oberseminar Differential Geometry, University of Muenster, October 18, 2021 (online).

Department Colloquium, Rutgers-Newark, April 14, 2021 (online).

Differential Geometry Seminar, UC Irvine, April 6, 2021 (online).

Geometry/Topology Seminar, Stony Brook University, October 20, 2020 (online).

The Eighth Pacific Rim Conference in Mathematics, Differential Geometry Session, August 5, 2020 (online).

Differential Geometry & Geometric Analysis Seminar, Princeton University, February 12, 2020.

Workshop on Special Holonomy, Simons Center, Stony Brook, September 8–11, 2019.

IMS Pacific Rim Complex-Symplectic Geometry Conference, ShanghaiTech University, July 28 to August 3, 2019.

Departmental Colloquium, Beijing University, June 21, 2019.

Special Session on Analysis of Nonlinear Geometric Equations, AMS Spring Central and Western Joint Sectional Meeting, University of Hawaii, Honolulu, March 24, 2019.

Special Session on Differential Geometry, AMS Spring Central and Western Joint Sectional Meeting, University of Hawaii, Honolulu, March 24, 2019.

Baltimore-Washington Metro Area Differential Geometry Seminar, Johns Hopkins University, October 27, 2018.

Geometric Analysis Seminar, Princeton University, October 25, 2018.

Differential Geometry Seminar, University of California, Irvine, October 2, 2018.

Differential Geometry Seminar, University of California, Berkeley, September 24, 2018.

Workshop on Special Holonomy, Simons Center, Stony Brook, September 9–12, 2018.

Departmental Colloquium, Tokyo Institute of Technology, Japan, June 27, 2018.

Lectures on Kähler Manifolds, Ricci curvature, and Hyperkähler Metrics (10 hours), Tokyo Institute of Technology, Japan, June 25–29, 2018.

Differential Geometry Seminar, University of California, Santa Barbara, May 18, 2018.

Structure of Collapsed Special Holonomy Spaces, Duke University, April 9–13, 2018.

Groupe de travail Opérateur de Dirac, Université Paris-Sud, Orsay, France, March 28, 2018.

Analysis and Geometry Seminar, Institut de Mathématiques de Jussieu, Paris, France, March 27, 2018.

Differential Geometry Seminar, University of California, Riverside, February 23, 2018.

60th Birthday Conference for Gang Tian, University of Sydney, January 29 – February 2, 2018.

Geometric Analysis Conference, Rutgers University, November 14–17, 2017.

AMS Fall Western Sectional Meeting, Special Session on Geometric Partial Differential Equations, UC Riverside, November 4, 2017.

Workshop on Special Holonomy, Simons Center, Stony Brook, September 10–13, 2017.

CRG Conference on Geometric Analysis, UBC Vancouver, July 24–28, 2017.

Trends in Modern Geometry Conference, University of Tokyo, July 10–13, 2017.

School on Flows and Limits in Kähler Geometry, Nantes, France, April 18–22, 2017.

Departmental Colloquium, University of California, Irvine, March 6, 2017.

Winter Geometry Conference, Florida International University, January 4–7, 2017.

Trends in Modern Geometry Conference, University of Tokyo, July 21, 2016.

Conference on Differential Geometry in Honor of Claude LeBrun, Centre de Recherches Mathématiques, Université de Montréal, July 9, 2016.

Geometric Analysis, Metric Geometry, and Topology Conference, Institut Fourier, Grenoble, June 30, 2016.

Geometry Seminar, Stanford University, May 18, 2016.

Differential Geometry Seminar, University of California, Irvine, May 10, 2016.

Departmental Colloquium, University of California, Santa Cruz, May 3, 2016.

50-minute Invited Address, AMS Central Section Meeting, April 16–17, 2016.

Riemannian Convergence Theory Conference, Simons Center for Geometry and Physics, November 9–13, 2015.

Geometry Seminar, University of Texas at Austin, October 15, 2015.

Trends in Modern Geometry 2015 & 10th Pacific Rim Complex Geometry Conference, University of Tokyo and Nasu, Japan, July 27–31, 2015.

Workshop on Ricci Curvature, Northwestern University, May 28–31, 2015.

Recent Advances in Kähler Geometry, Vanderbilt University, May 18–22, 2015.

Differential Geometry & Geometric Analysis Seminar, Princeton University, May 1, 2015.

Princeton-Tokyo workshop on Geometric Analysis, Tokyo, Japan, March 16–19, 2015.

HAYAMA Symposium on Complex Analysis in Several Variables XVII, Hayama, Japan, July 19, 2014.

Geometrie, Mathematisches Forschungsinstitut Oberwolfach, July 15, 2014.

Fields Geometric Analysis Colloquium, Fields Institute, Toronto, April 4, 2014.

Geometry/Topology Seminar, Duke University, March 4, 2014.

Differential Geometry Seminar, University of California, Irvine, February 4, 2014.

Differential Geometry/PDE Seminar, University of Washington, December 6, 2013.

Geometry/Topology Seminar, Stony Brook University, November 12, 2013.

Differential Geometry and Geometric Analysis Seminar, Princeton University, October 4, 2013.

IAS/Park City Math Institute Graduate Lectures Series, July 16–19, 2013.

Differentialgeometrie im Großen, Mathematisches Forschungsinstitut Oberwolfach, July 3, 2013.

Workshop on Extremal Kähler Metrics, Centre de Recherches Mathématiques, Université de Montréal, May 30, 2013.

Bay Area Differential Geometry Seminar, Stanford University, May 18, 2013.

Geometry Seminar, Osaka University, Japan, April 15, 2013.

Geometry Colloquium, University of Tokyo, Japan, April 11, 2013.

Plenary Speaker in Geometry Section of Japan Mathematical Annual Meeting, Kyoto University, Japan, March 22, 2013.

Workshop on Geometry and Geometric Analysis, Tohoku University, Sendai, Japan, March 13, 2013.

Geometry Seminar, University of Texas at Austin, February 21, 2013.

Geometry-Analysis Seminar, Rice University, February 13, 2013.

Séminaire d'Analyse et Géométrie, Institut de Mathématiques de Jussieu, Paris, France, November 20, 2012.

The 7th Pacific Rim Complex Geometry Conference, Kyoto University, Japan, August 6, 2012.

Special Session on Kähler Geometry, AMS Western Section Meeting, University of Hawaii, Honolulu, March 3, 2012.

Bay Area Differential Geometry Seminar, Stanford University, February 5, 2012.

The 7th Geometry Conference for the Friendship of Japan and China, Tokyo, Japan, January 9-15, 2012.

Southeastern Geometry Seminar XIX, University of Alabama at Birmingham, December 12, 2011.

Differential Geometry Seminar, Tokyo Institute of Technology, Japan, October 26 and 28, 2011.

Differentialgeometrie im Großen, Mathematisches Forschungsinstitut Oberwolfach, July 4, 2011.

Geometry Seminar, University of Québec at Montréal, May 13, 2011.

Special Session on Geometric Partial Differential Equations, AMS Western Section Meeting, University of Nevada, Las Vegas, April 30, 2011.

Geometry Seminar, Stanford University, March 16, 2011.

Differential Geometry Seminar, University of California Berkeley, March 14, 2011.

Bloomington Geometry Workshop, Indiana University, Bloomington, March 12, 2011.

Southern California Geometric Analysis Seminar, University of California San Diego, February 26, 2011.

Differential Geometry and Geometric Analysis Seminar, Princeton University, November 19, 2010.

Kähler and Differential Geometry Conference, Vanderbilt University, September 25-26, 2010.

Conference on Scalar Curvature, Geometry, and Topology, WWU Münster, Germany, August 30-September 3, 2010.

PRIMA Conference on Geometric Analysis, UBC Vancouver, July 28, 2010.

Geometry Seminar, Osaka University, Japan, May 31, 2010.

Department Colloquium, Department of Mathematics, Tohoku University, Japan, May 20, 2010.

Geometry Seminar, University of Texas at Austin, April 6, 2010.

Geometry Seminar, Stanford University, March 31, 2010.

Minicourse on the geometry of anti-self-dual metrics, IMPA, January 4-14, 2010.

Differentialgeometrie im Großen, Mathematisches Forschungsinstitut Oberwolfach, July 26-August 1, 2009.

Lectures on recent advances on ϵ -regularity and volume growth, Geometry of Einstein Metrics, Nantes, June 24-27, 2009.

Workshop on Kähler and Sasakian Geometry in memory of Krzysztof Galicki, Rome, June 16-19, 2009.

Lectures on the geometry of anti-self-dual metrics, Trimester on Geometric Flows and Geometric Operators, Centro De Giorgi, Pisa, June 8-12, 2009.

International Conference on Spectral Theory and Geometry, in honor of P. Bérard and S. Gallot, Institut Fourier, Grenoble, June 1-5, 2009.

Differential Geometry Seminar, Osaka University, May 18, 2009.

Workshop on Geometric Partial Differential Equations, IAS Princeton, February 23-27, 2009.

Geometric Partial Differential Equations Seminar, IAS Princeton, November 4, 2008.

Algebraic and Differential Geometry, A Conference in Celebration of the 70th Birthday of Phillip Griffiths, IAS Princeton, October 16-17, 2008.

Lectures on the geometry of four-manifolds, School and Conference on Differential Geometry, ICTP Trieste, June 9-20, 2008.

23rd Annual Geometry Festival, Duke University, April 25-27, 2008.

Program on Extremal Kähler Metrics and Kähler-Ricci Flow, Centro De Giorgi, Pisa, March 12-26, 2008.

Fall Midwest PDE Seminar, Northwestern University, November 11-12, 2007.

Pacific Rim Geometry Conference, Kobe, Japan, August 8-12, 2007.

Workshop on Nonlinear Differential Equations and Applications, Beijing Univeristy, China, June 25-29, 2007.

Geometry Seminar, Massachusetts Institute of Technology, May 16, 2007.

Topology/Geometry Seminar, University of Wisconsin, Madison, May 4, 2007.

MSRI Seminar, Program on Geometric Evolution Equations, January 9, 2007.

Plenary Lecture, Southeast Geometry Seminar, Emory Univeristy, December 13, 2006.

Workshop on Nonlinear Evolution Problems, Centro Di Ricerca Matematica Ennio De Giorgi, Pisa, Italy, September 20, 2006.

Geometry Seminar, Nara Women's University, Nara, Japan, July 14, 2006.

Departmental Colloquium, Tokyo University of Science, Tokyo, Japan, July 12, 2006.

Geometry Seminar, Tokyo Institute of Technology, Tokyo, Japan, July 7, 2006.

Gauge Theory and Topology Seminar, Harvard University, March 3, 2006.

Departmental Colloquium, Duke University, January 23, 2006.

Departmental Colloquium, Northwestern University, January 16, 2006.

Geometric Analysis Seminar, University of California San Diego, January 10, 2006.

Departmental Colloquium, University of California Irvine, January 6, 2006.

Seminar in PDE and Geometry, University of Minnesota, December 14, 2005.

Departmental Colloquium, University of Minnesota, December 13, 2005.

Departmental Colloquium, Cornell University, December 1, 2005.

Geometry/Topology Seminar, Duke University, November 22, 2005.

Departmental Colloquium, Rice University, November 16, 2005.

Departmental Colloquium, University of Wisconsin, Madison, November 11, 2005.

Geometry Seminar, University of Wisconsin, Madison, November 10, 2005.

GADGET Geometry Seminar, University of Texas Austin, November 8, 2005.

Analysis Seminar, University of Texas Austin, November 7, 2005.

MSRI Workshop, Recent Results in Nonlinear Elliptic Equations and their Interactions with Geometry, October 31, 2005.

2005 International Workshop on Fully Nonlinear PDE and Applications, 5 lectures, Zhejiang University, Hangzhou, China, May 30 - June 9, 2005.

Differential Geometry Seminar, University of California San Diego, April 12, 2005.

Analysis Seminar, University of Texas Austin, March 25, 2005.

Departmental Colloquium, Rice University, March 24, 2005.

Geometry/Topology Seminar, Duke University, March 8, 2005.

Differential Geometry in Tokyo 2004, Tokyo Institute of Technology, December 16, 2004.

Departmental Colloquium, Cornell University, November 18, 2004.

Analysis Seminar, University of Pennsylvania, November 16, 2004.

Joint Columbia/NYU/Princeton Geometry Seminar, Courant Institute, November 12, 2004.

Departmental Colloquium, University of Southern California, November 3, 2004.

Program on Differential Geometry and Topology, Centro Di Ricerca Matematica Ennio De Giorgi, Pisa, Italy, October 11 and 13, 2004.
 Conference on Geometric and Nonlinear Analysis, University of Notre Dame, September 17, 2004.
 Japan Symposium on Geometry, Tokyo Metropolitan University, Tokyo, Japan, August 9, 2004.
 Departmental Colloquium, Tokyo University of Science, Tokyo, Japan, July 26, 2004.
 Geometry Seminar, Tokyo Institute of Technology, Tokyo, Japan, July 23, 2004.
 Symposium on elliptic equations in geometry, Beijing University, Beijing, China, July 2, 2004.
 Summer Graduate school seminar, Jiaotong University, Xi'an, China, June 22, 2004.
 Undergraduate lecture, Xi'an Institute of Science and Technology, China, June 21, 2004.
 Undergraduate lecture, Xi'an University of Engineering, Science, and Technology, China, June 21, 2004.
 Workshop on Geometric Analysis, USTC, Hefei, China, June 18, 2004.
 Geometric Analysis Seminar, Princeton University, April 30, 2004.
 Gauge Theory and Topology Seminar, Harvard University, April 23, 2004.
 Departmental Colloquium, University of Wisconsin, Madison, April 9, 2004.
 Geometry Seminar, University of Texas, Austin, March 25, 2004.
 Geometry Seminar, Columbia University, March 11, 2004.
 Geometry/Analysis Seminar, Stanford University, January 21, 2004.
 Differential Geometry Program Seminar, MSRI, January 15, 2004.
 Workshop in Geometric Analysis, MSRI, December 2, 2003.
 Geometric Analysis Seminar, University of Tennessee, Knoxville, November 14, 2003.
 Undergraduate Math Club lecture, MIT, September 23, 2003.
 BIRS Workshop, Monge-Ampère Type Equations and Applications, Banff, August 4, 2003.
 BIRS Workshop, Perspectives in Differential Geometry, Banff, July 10, 2003.
 CMBS Regional Conference on Fully Nonlinear Equations, Notre Dame, June 26, 2003.
 AMS Eastern Meeting, Special Session on Nonlinear Partial Differential Equations in Differential Geometry, Courant Institute, April 12, 2003.
 XVIIIth Annual Geometry Festival, Duke University, March 15, 2003.
 Departmental Colloquium, McMaster University, March 7, 2003.
 Geometry Seminar, Northeastern University, November 23, 2002.
 AMS Eastern Meeting, Special Session on Developments in Differential Geometry, Boston, MA, October 5, 2002.
 Geometry Seminar, Academia Sinica, Beijing, July 9, 2002.
 Lectures on conformal geometry, Peking University, Beijing, July 3-10, 2002.
 Geometry Seminar, McMaster University, April 15, 2002.
 Departmental Colloquium, University of Massachusetts, Amherst, April 11, 2002.
 Nonlinear Analysis Seminar, Rutgers University, March 27, 2002.
 Analysis Seminar, University of Texas, Austin, November 29, 2001.
 Departmental Colloquium, Rice University, October 25, 2001.
 Oberseminar Geometry, Mathematisches Institut der Universität München, July 24, 2001.
 AMS-SMF Joint Mathematical International Meeting, Session on PDE and Geometry, Lyon, France, July 17, 2001.
 Workshop on Geometric Analysis, Forschungsinstitut für Mathematik, ETH, Zurich, July 3, 2001.
 26th Spring Lecture Series, Solutions of Partial Differential Equations in Periodic Media, University of Arkansas, April 26, 2001.
 Analysis Seminar, Johns Hopkins University, March 26, 2001.

Geometry and Analysis Seminar, Columbia University, March 1, 2001.
 Spectral Geometry Program Seminar, MSRI, January 24, 2001.
 10th Midwest Geometry Conference, University of Iowa, November 17, 2000.
 Differential Geometry Seminar, Massachusetts Institute of Technology, October 2, 2000.
 Geometry Seminar, Princeton University, March 10, 2000.
 Nonlinear Analysis Seminar, Rutgers University, March 8, 2000.
 AMS National Meeting, Special Session on Geometric Analysis, Washington, D.C., January 20, 2000.
 Differential Geometry/PDE Seminar, University of Washington, November 17, 1999.
 Analysis Seminar, University of Texas at Austin, September 8, 1999.
 The 1999 UAB-GIT International Conference on Differential Equations and Mathematical Physics, Birmingham, March 20, 1999.
 Geometry Seminar, Princeton University, February 19, 1999.
 Nonlinear Analysis Seminar, Rutgers University, February 9, 1999.
 Differential Geometry Seminar, University of Illinois, Urbana-Champaign, November 10, 1998.
 Nonlinear Analysis Seminar, University of Illinois, Urbana-Champaign, November 10, 1998.
 Differential Geometry Seminar, Duke University, October 6, 1998.
 Global Analysis Seminar, University of Texas at Austin, September 10, 1998.
 Director's Seminar, Institute for Advanced Study, March 12, 1998.

Recent Courses

Spring 2025: 245C, Complex Variables and Geometry (graduate).
 Winter 2025: 245B, Complex Variables and Geometry (graduate).
 Fall 2024: 245A, Complex Variables and Geometry (graduate).
 Spring 2023: 222C, Complex Variables and Geometry (graduate).
 Winter 2023: 222B, Complex Variables and Geometry (graduate).
 Fall 2022: 140A, Elementary Analysis.
 Spring 2022: 218C, Introduction to Manifolds and Geometry (graduate).
 Winter 2022: 218B, Introduction to Manifolds and Geometry (graduate).
 Fall 2021: 118, Theory of Ordinary Differential Equations.
 Spring 2021: 222C, Complex Variables and Geometry (graduate).
 Winter 2021: 250B, Algebraic Topology (graduate).
 Fall 2020: 250A, Algebraic Topology (graduate).
 Fall 2020: 118, Theory of Ordinary Differential Equations.
 Spring 2020: 218C, Introduction to Manifolds and Geometry (graduate).
 Winter 2020: 245B, Topics in Differential Geometry (graduate).
 Fall 2019: 140B, Elementary Analysis.
 Spring 2019: 140A, Elementary Analysis.
 Winter 2019: 240B, Differential Geometry (graduate).
 Fall 2018: 240A, Differential Geometry (graduate).
 Winter 2018: 222B, Complex Variables and Geometry (graduate).
 Fall 2017: 118, Theory of Ordinary Differential Equations.
 Fall 2017: 222A, Complex Variables and Geometry (graduate).

Graduate Students

Xiaokang Wang, Irvine, current student.
 Tao Ju, Irvine, Ph.D. 2021.
 Jiyuan Han, Wisconsin, Ph.D. 2018.
 Peyman Morteza, Wisconsin, Ph.D. 2018.
 Michael Lock, Wisconsin, Ph.D. 2013.
 Antonio Ache, Wisconsin, Ph.D. 2012.