

## Eric Chen

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CONTACT INFORMATION	Department of Mathematics University of California, Berkeley 970 Evans Hall #3840 Berkeley, CA 94720-3840 USA	<code>ecc@math.berkeley.edu</code>
WEBPAGE	<code>www.math.berkeley.edu/~ecc</code>	
RESEARCH INTERESTS	Differential geometry, geometric analysis, partial differential equations: geometric flows, conformal geometry	
APPOINTMENTS	<b>University of California, Berkeley</b> NSF Postdoctoral Fellow, 2021–present Postdoctoral mentor: Richard Bamler  <b>University of California, Santa Barbara</b> Ky Fan Visiting Assistant Professor, 2019–2021 Postdoctoral mentor: Rugang Ye	
EDUCATION	<b>Princeton University</b> Ph.D. in Mathematics, June 2019 Thesis: Some regularity properties for two equations arising from flows Thesis advisor: Sun-Yung Alice Chang  <b>Princeton University</b> A.B. with Highest Honors in Mathematics, June 2014	
PAPERS	Degree theory for 4-dimensional asymptotically conical gradient expanding solitons, with R. Bamler. Submitted. (preprint at arXiv:2305.03154)  <i>The Neumann problem on the Clifford torus in <math>S^3</math></i> , with J. S. Case, Y. Wang, P. Yang, and P.-L. Yung. <b>Advanced Nonlinear Studies</b> , Volume 23, Number 1 (2023). (preprint at arXiv:2304.02823)  <i>The Yamabe flow on asymptotically Euclidean manifolds with nonpositive Yamabe constant</i> , with G. Carron and Y. Wang. <b>Journal of Functional Analysis</b> , Volume 284, Issue 6 (2023). (preprint at arXiv 2207.07003)  Ricci flow and Gromov almost flat manifolds, with G. Wei and R. Ye. Submitted. (preprint at arXiv:2203.05107)  <i>Some aspects of Ricci flow on the 4-sphere</i> , with S.-Y. A. Chang. <b>New Zealand Journal of Mathematics</b> , Vaughan Jones Memorial Special Issue, Volume 52 (2021), 381–402. (preprint at arXiv 2109.08208)  <i>Small curvature concentration and Ricci flow smoothing</i> , with P.-Y. Chan and M.-C. Lee. <b>Journal of Functional Analysis</b> , Volume 282, Issue 10 (2022). (preprint at arXiv 2102.12840)	

*The Yamabe flow on asymptotically flat manifolds*, with Y. Wang. **Journal für die reine und angewandte Mathematik (Crelle's journal)**, Volume 2023, Number 803 (2023), 61–101. (preprint at arXiv 2102.07717)

*Ricci flow and a sphere theorem for  $L^{n/2}$ -pinched Yamabe metrics*, with G. Wei and R. Ye. **Advances in Mathematics**, Volume 393 (2021).

*Convergence of the Ricci flow on asymptotically flat manifolds with integral curvature pinching*. **Annali della Scuola Normale Superiore di Pisa, Classe di Scienze**, Volume 23, Issue 1 (2022), 15–48. (preprint at arXiv 1907.13189)

*Partial regularity for the steady hyperdissipative fractional Navier–Stokes equations*. **Communications in Mathematical Physics**, Volume 381 (2021), 1–31. (preprint at arXiv 1803.08096)

*Tripod configurations of curves*, with N. Lourie. **Journal of Geometry and Physics**, Volume 89 (2015), 1–16. (preprint at arXiv 1408.4545)

*The splitting subspace conjecture*, with D. Tseng. **Finite Fields and their Applications**, Volume 23 (2013), 15–28. (preprint at arXiv 1208.0851)

TALKS

- 2023 October      Princeton University  
Differential Geometry & Geometric Analysis Seminar
- 2023 October      University of Chicago  
Geometric Analysis Seminar
- 2023 July          Oberwolfach Workshop 2327  
Differentialgeometrie im Grossen
- 2023 May          Oberwolfach Workshop 2321  
Hypoelliptic Operators in Geometry
- 2023 April        Banff International Research Station Workshop  
A unified view of Quasi-Einstein Manifolds (23w5072)
- 2023 April        UC Berkeley  
Differential Geometry Seminar
- 2023 March        Warwick Mathematics Institute Workshop  
Ricci flow and related topics
- 2023 March        Stanford University  
Geometry Seminar
- 2023 March        UC Santa Cruz  
Geometry & Analysis Seminar
- 2022 November    Stanford University  
Geometry Seminar
- 2022 November    The Chinese University of Hong Kong (online)  
Seminar in Geometric Analysis
- 2022 October      Beijing International Center for Mathematical Research (online)  
Geometric Analysis Seminar
- 2022 October      Korea Institute for Advanced Study (online)  
Geometry Seminar
- 2022 July          Simons Center for Geometry and Physics Workshop  
Forty Years of Ricci Flow: The Geometric-Flow Revolution in  
Global Differential Geometry
- 2022 May          UT Dallas

2022 April Geometry, Topology, Dynamical Systems Seminar  
 UC Davis  
 Geometry/Topology Seminar

2021 November Geometric and Functional Inequalities and Applications Seminar  
 (online)  
<https://geometricinequalities.com/>

2021 September UC Berkeley  
 Differential Geometry Seminar

2021 July Shanghai Jiao Tong University (online)  
 International Conference on Geometric Analysis and Partial Differential Equations

2021 May IAS(Hangzhou) Workshop 21w5064 (online)  
 Geometric PDE and applications to problems in conformal and CR geometry

2021 April Princeton University (online)  
 Differential Geometry and Geometric Analysis Seminar

2021 April University of Massachusetts–Amherst (online)  
 Geometry and Geometric Analysis Seminar

2021 March UC Santa Barbara (online)  
 Differential Geometry Seminar

2020 December UC San Diego (online)  
 Seminar on Cheeger–Colding theory, Ricci flow, Einstein metrics, and Related Topics

2020 May UC Santa Barbara (online)  
 Differential Geometry Seminar

2020 March Rice University  
 Geometry-Analysis Seminar

2020 February UT Dallas  
 Geometry, Topology, Dynamical Systems Seminar

2020 January UC Santa Cruz  
 Geometry and Analysis Seminar

2020 January Taipei-Hsinchu Conference On Geometric Invariance And PDE

2019 December CMS Winter Meeting, Toronto  
 Special Session on Geometric Analysis and Mathematical Relativity

2019 November Stony Brook University  
 Geometry/Topology Seminar

2019 November AMS Fall Western Sectional Meeting, UC Riverside  
 Special Session on Topics in Global Geometric Analysis

2019 October UC Santa Barbara  
 Differential Geometry Seminar

2019 May Princeton University  
 Differential Geometry Learning Seminar

2019 April Johns Hopkins University  
 Analysis and Partial Differential Equations Seminar

2018 May Princeton University  
 Differential Geometry Learning Seminar

2016 November Princeton University  
 Graduate Student Seminar

2015 October      Princeton University  
Differential Geometry Learning Seminar

HONORS AND  
AWARDS

2021      NSF Postdoctoral Fellowship  
2020      AMS–Simons Travel Grant  
2016      NSF Graduate Research Fellowship  
2014      Peter A. Greenberg Prize  
Princeton University Mathematics Department  
2014      Sigma Xi Book Award for Outstanding Research  
Princeton University Mathematics Department  
2013      Barry M. Goldwater Scholarship

ACTIVITIES

Organizer of the UC Berkeley Differential Geometry Seminar, Fall 2022, 2023  
Co-organizer of the UC Santa Barbara Differential Geometry Seminar, 2019–2021  
Co-organizer of the Princeton University Geometry Learning Seminar, 2017–2018  
Reviewer for *Anal. PDE*, *Calc. Var. Partial Differential Equations*, *J. Funct. Anal.*,  
*Nonlinear Anal.*, *Rev. Mat. Iberoam*, *Trans. Amer. Math. Soc.*

TEACHING

Fall 2023	Differential Geometry (Reading course)	UC Berkeley
Fall 2023	Real Analysis	UC Berkeley
Spring 2023	Complex Analysis	UC Berkeley
Fall 2022	Real Analysis	UC Berkeley
Spring 2021	Real Analysis	UC Santa Barbara
Spring 2021	Multivariable Calculus	UC Santa Barbara
Winter 2021	Real Analysis	UC Santa Barbara
Fall 2020	Linear Algebra	UC Santa Barbara
Fall 2020	Multivariable Calculus	UC Santa Barbara
Spring 2020	Real Analysis	UC Santa Barbara
Spring 2020	Linear Algebra	UC Santa Barbara
Fall 2019	Linear Algebra	UC Santa Barbara
Fall 2019	Multivariable Calculus	UC Santa Barbara
Fall 2017	Calculus II	Princeton University

MENTORING

Co-advisor (with Sun-Yung Alice Chang) of undergraduate senior thesis at Princeton University of Daniel Granberg, *Diffusion Generators and Associated Inequalities for Powers of the Laplacian Operator*, 2019  
Co-advisor (with Subhayan Roy Moulik) of undergraduate Sydney Koutrouba at UC Berkeley on an ongoing project on Riemannian quantum circuit optimization