

# Peter Ebenfelt

## Curriculum Vitae

### Education and Professional Preparation

- 1994–1996 **Postdoctoral Work**, *The University of California at San Diego (UCSD)*.  
**Mentors:**, M. S. Baouendi and L. P. Rothschild.
- 1990–1994 **Ph.D. in Mathematics**, *Royal Institute of Technology (RIT)*, Stockholm, Sweden.  
**Advisor:**, H. S. Shapiro.
- 1986–1990 **M.Sc. in Engineering Physics**, *RIT*.

### Appointments and Employment

- 2021–present **Distinguished Professor of Mathematics**, UCSD.
- 2017–present **Associate Dean, Division of Physical Sciences**, UNIVERSITY OF CALIFORNIA AT SAN DIEGO (UCSD).
- 2010–2016 **Chair, Department of Mathematics**, UCSD.
- 2002–Present **Professor of Mathematics**, UCSD.
- 2001–2003 **Professor of Mathematics**, ROYAL INSTITUTE OF TECHNOLOGY (RIT), Stockholm, Sweden.
- 2000–2002 **Associate Professor of Mathematics**, UCSD.
- 1996–2001 **Associate Professor of Mathematics**, RIT.
- 1994–1996 **Postdoctoral Fellow/Teaching Visitor**, UCSD.
- 1990–1994 **Graduate Student/Teaching Assistant**, RIT.

### Awards, Fellowships, Honors

- 2020 **Stefan Bergman Prize**, (*awarded by the American Mathematical Society*).
- 2018 **Fellow**, *American Mathematical Society*.
- 2018 **Founding Faculty**, *Halicioglu Data Science Institute, UCSD*.
- 2016 **Foreign Member**, *Royal Norwegian Society of Science and Letters*.
- 2004 **Invited 1-hour Address**, *AMS Southwestern Sectional Meeting, Albuquerque*.
- 2000–2005 **Royal Swedish Academy of Sciences Research Fellow**.
- 1997 **Docent (Habilitation)**, *RIT*.
- 1996 **Wallenberg Prize**, (*awarded by the Swedish Mathematical Society*).
- 1994 **Postdoctoral Fellowship**, *Swedish Natural Science Research Council (SNSRC)*.
- 1990 **President's Honors Award**, *RIT*.

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## Grant Support

- 2019–2022 NSF Research Grant DMS-1900955.
- 2016–2019 NSF Research Grant DMS-1600701.
- 2001–present Contiguous individual 3-year NSF Research Grants as sole PI.
- 2009–present co-PI on "Southern California Analysis and PDE" NSF Conference Grant.
- 1996–2002 Research supported by SNSRC.

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## Ph.D. Students

- Current **Soumya Ganguly**, UCSD.
- 2012 **Son Duong**, UCSD.
- 2011 **Andre Minor**, UCSD.
- 2011 **Ravi Shroff**, UCSD.
- 2009 **Jonathan Armel**, UCSD.
- 2008 **Robert Angle** (co-advisor: M. S. Baouendi), UCSD.
- 2007 **Jiri Lebl**, UCSD.
- 2005 **Robert Juhlin**, UCSD.
- 1999 **Lars Filipsson** (co-advisor: M. Passare), RIT.

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## Postdocs

- 2019–2022 **Hang Xu** (SEW Assistant Professor; co-advisor: Ming Xiao), UCSD.
- 2016–2019 **Sean Curry** (SEW Assistant Professor), UCSD.
- 2009–2012 **Yuan Zhang** (SEW Assistant Professor), UCSD.
- 2008–2009 **Atsushi Hayashimoto**, UCSD.
- 1999–2000 **Bernhard Lamel**, RIT.

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## Additional Mentoring

- 2004–2006 **Michael Viscardi**, UCSD.  
Mentor for Michael Viscardi, a high school student taking courses in mathematics through UCSD extension. Supervised the research project that won Viscardi the top \$100,000 prize in the 2005 Siemens-Westinghouse Science Competition, the Best In Category prize in mathematics at the 2006 Intel International Science and Engineering Fair, a \$50,000 fellowship from the Davidson Foundation as a Davidson Fellow Laurate in 2006, the Amer. Math. Soc. Menger Award 2006, and made him the ABC World News Tonight "Person of the week" in 2005. Michael graduated Summa Cum Laude from Harvard in 2010, being awarded both the David Mumford Prize and the Hoopes Prize.
- 2001–present Supervised numerous undergraduate research experiences at UCSD.

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## Recent Administrative Experience

- 2017–present **Associate Dean, Division of Physical Sciences (PhySci), UCSD.**  
The AD works with the Dean on strategic planning and providing leadership for the Division of Physical Sciences. Selected goals:
- Facilitating research and overall academic excellence in the Division. Maintaining and further enhancing the individual departments' academic reputations. Promoting a diverse workforce (faculty, researchers, and staff) and student body.
  - Enhancing industry opportunities and mentorship for PhySci students.
  - Facilitating research experiences and internships for PhySci students.
  - Enhancing PhySci alumni engagement.
- Selected activities and accomplishments:
- Co-Chair, PhySci Committee on Development and Initiatives. A major initiative that grew out of this committee was the start of a divisional Student Success Center.
  - Led PhySci Task Force in a Data Science Initiative. The result was a successful positioning of the Division in this campus-wide initiative and subsequent partnership with the emerging Halicioglu Data Science Institute (HDSI).
  - Worked with and supported the Mathematics Department in further expanding and developing their 3-year Stefan E. Warschavski (SEW) Assistant Professor (postdoctoral) program. The size of this program in 2021-2022 will be 20 postdocs, with the idea of expanding to 24 in 2022-2023.
  - Worked with and supported the Mathematics Department in a strategic growth and teaching effectivization effort designed to improve teaching quality and more effectively use its faculty in teaching. When implemented (beginning in Fall 2021) this plan will lead to a reduction in teaching load for mathematics faculty from four quarter courses per year to three.
- 2020–present **COVID-19 Continuity of Research Task Force, UCSD.**  
This campus-wide task force is charged with developing safety protocols and guidelines for continuing research activities on campus that ensures safety and complies with fluid local, state, and federal regulations.
- 2019–2020 **Senate-Administration Workgroup on Faculty Workload, UCSD.**  
This joint Academic Senate and Administration Workgroup is charged with documenting departmental workload and scholarly activity standards, and making subsequent recommendations.
- 2018–2019 **Steering Committee for the Data Science Program, UCSD.**  
This committee launched and oversaw UCSD's new undergraduate Data Science Program (major/minor) before and during its transfer into HDSI.

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2010–2016 **Chair, Department of Mathematics, UCSD.**

Longest serving Chair in Department history. Selected accomplishments:

- Hired 18 new faculty members, including 3 women, one URM, and one joint with CSE. Four faculty members were hired at the tenured level and one at the Above Scale level with an Endowed Chair.
- Led the Department in unprecedented and explosive growth in undergraduate majors, from roughly 500 in 2010 (which held more or less steady for 15 years) to over 1900 in 2016, making the Department's program one of the largest in the US.
- Significantly expanded the Department's 3-year Stefan E. Warschavski (SEW) Assistant Professor (postdoctoral) program in response to the previous bullet point. The previous program of 2 simultaneous SEWs had grown to 6 in 2016-17, with the idea of ramping up to 8-12 over the next 2 years. See above for more recent developments during my tenure as Associate Dean.
- Led, jointly with the CSE Chair, the development of a new undergraduate major/minor in Data Science, which started in AY 2016-2017. This is now one of the most popular majors on campus.
- Started new Ph.D. Statistics specialization in the Department.
- Started new Ph.D. program in Biostatistics, joint with the Biostatistics Division in SOM.
- Started the San Diego High school Transfer Credit Initiative (calculus for UCSD credit) outreach program for local high schools in partnership with UCSD Extension.
- Started the annual Endowed Murray and Adalyn Rosenblatt Lectures in Mathematics funded by a gift from an emeritus professor.
- Initiated a new Graduate Fellowship funded by an endowment from the Charles Lee Powell Foundation.

2011–2016 **Council of Chairs (CoC), UCSD.**

A non-senate organization of cross-campus Chairs (including SOM and SIO) that discusses and provides feedback on department/unit perspective of university affairs.

2012–2013 **CoC Task Force on Strategic Planning Initiative (SPI), UCSD.**

A task force formed by the CoC to provide feedback and input during the Chancellor's SPI.

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## Recent Professional Activities

### Professional Committees

2021 **Chair, CoProf Subcommittee on 2022 JMM Panel/Long term Impact of the Pandemic on the Profession**, American Mathematical Society.

A subcommittee with a two-pronged charge: 1) Determine a theme and membership for a CoProf panel at the 2022 JMM, and 2) investigate the long term impact of the pandemic on the student pipeline as well its impact on tenure track faculty with care taking responsibilities.

2021 **External Program Review Committee**, University of Arkansas, Fayetteville.

The committee is charged with conducting a review of the Mathematics Department's BA, BS, MS, Ph.D. programs.

2018–2021 **Committee on the Profession (CoProf)**, American Mathematical Society.

An AMS policy committee that is to take a long range view of and provide major direction for Society activities on issues of a broad professional nature, concerning the status of the profession and the situation of mathematics and mathematicians in the U.S. and abroad.

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- 2020 **Chair, CoProf Subcommittee on Mathematics Programs That Make a Difference**, American Mathematical Society.  
Select winners for the AMS Mathematics Programs That Make a Difference award. The award is for programs that aim to bring more persons from underrepresented backgrounds into some portion of the pipeline beginning at the undergraduate level and leading to advanced degrees in mathematics and professional success, or retain them once in the pipeline.
- 2020 **Chair, CoProf Subcommittee on Career Teaching Faculty**, American Mathematical Society.  
Review how AMS can better serve permanent teaching faculty at research institutions.
- 2020 **Site Visit Team, Climate Assessment for Women and URM (Pilot program)**, American Mathematical Society.  
Pilot program at AMS to conduct invited site visits to assess work climate for women and URMs at US institutions.
- 2019 **CoProf Subcommittee on Diversity**, American Mathematical Society.  
Developed proposal to form a new AMS policy committee aimed at promoting diversity, equity, and inclusion in mathematics.
- 2017–2020 **Stefan Bergman Prize Selection Committee (Chair 2019–2020)**, American Mathematical Society.  
An AMS committee that selects the winners of the Stefan Bergman Research Prize in Mathematics.
- 2016 **DMS Committee of Visitors (CoV)**, National Science Foundation.  
A committee invited by the NSF to evaluate, review, and report on the work of its Division of Mathematical Sciences (DMS) during 2013–2016.

#### Conferences Organized

- Spring 2019 Co-Organizer, *Special Session "Several Complex Variables"*, AMS sectional meeting, Honolulu, HI.
- Spring 2019 Co-Organizer, *"Southern California Analysis and PDE conference"*, UCSD.
- Summer 2017 Co-Organizer, *"Complex functions, operators, partial differential equations, and applications in mathematical physics"*, Mittag-Leffler Institute, Stockholm, Sweden.
- Spring 2017 Co-Organizer, *"Southern California Analysis and PDE conference"*, UCSD.
- Spring 2015 Co-Organizer, *"Southern California Analysis and PDE conference"*, UCSD.
- Spring 2011 Co-Organizer, *"Southern California Analysis and PDE conference"*, UCSD.
- Fall 2010 Co-Organizer, 5-day Workshop *"Emerging applications of Complexity in CR Geometry"*, American Institute for Mathematics, Palo Alto,
- Spring 2010 Co-Organizer, *"Southern California Analysis and PDE conference"*, UCSD.
- Summer 2008 Member of Scientific Committee, "Conference on Complex Analysis", Fribourg, Switzerland.
- Fall 2006 Co-Organizer, 5-day Workshop *"Complexity in CR geometry"*, American Institute for Mathematics, Palo Alto.

#### Editorships

- 2009–present Associate Editor, *Journal of Geometric Analysis*.

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- 2011-2012 Co-Editor, Special Volume in Honor of J. P. D'Angelo, *Illinois Journal of Mathematics*, Vol. 56, 2012.
- 2008-2009 Co-Editor, "Several Complex Variables and Connections with PDE Theory and Geometry, Fribourg, 2008", Trends in Mathematics, Birkhäuser/Springer, Basel, 2010.

#### Miscellaneous

- External Expert for a faculty appointments in Sweden, Austria.
- Member of numerous National Science Foundation (NSF) Review Panels.
- External reviewer for PhD theses in Austria, France.
- Reviewer of research proposals for the NSF and equivalent funding agencies in EU, Sweden, Austria, Czech, Israel, Slovenia, and Switzerland.
- Referee of numerous research papers for scientific journals, including the Annals of Mathematics, Acta Mathematica, Journal of the American Mathematical Society, Inventiones Mathematicae, etc.
- Referee of book projects for Monographs of the Amer. Math. Soc., Monographs of the London Math. Soc.

#### Recent Invited Conference Lectures

- Aug. 2020 Invited speaker at Special Session "Recent trends in geometric analysis" at Pacific Rim Conference in Mathematics, Virtual.
- Aug. 2020 Invited speaker at conference "Several Complex Variables and Related Areas", Virtual.
- May 2020 Invited speaker at "Virtual East-West Several Complex Variables Seminar", Virtual.
- Feb. 2020 Invited Analysis Seminar lecture at NTNU, Trondheim, Norway.
- Feb. 2020 Invited Department Colloquium Lecture, Rutgers University.
- Oct., 2019 Invited speaker at workshop "Progress in Several Complex Variables", KIAS, Seoul, South Korea.
- Aug., 2019 Invited speaker at workshop "Workshop on Geometric Methods in PDE and Several Complex Variables", Serra Negra, Brazil.
- June, 2019 Invited speaker at workshop "Complex Analysis and Geometry – XXIV", Levico Terme, Italy.
- Dec, 2018 Invited speaker at workshop "Analysis and CR Geometry", Erwin Schrödinger Institute, Vienna, Austria.
- Dec., 2018 Invited speaker at conference "Mapping Problems and Complex Manifolds in Projective Spaces", Oslo, Norway.
- Aug. 2018 Invited to workshop "Geometric Methods of Complex Analysis", Oberwolfach, Germany.
- July, 2018 Invited speaker at conference "The 26th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications", Fuzhou, China.
- June, 2018 Invited speaker at conference "CR Geometry and PDE-VIII", Levico Terme, Italy.

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- Mar. 2018 Invited speaker at conference on "Complex Geometry and Several Complex Variables", University of Notre Dame, IN.
- Jan. 2018 Invited speaker at AMS Special Session on "Function Spaces in one and Several Complex Variables" at Joint Mathematics Meeting, San Diego, CA.
- Oct. 2017 Invited speaker at "Workshop on  $\bar{\partial}$ ", Trondheim, Norway.
- Aug. 2017 Invited speaker at "Workshop on Geometric Methods in PDE and Several Complex Variables", Serra Negra, Brazil.
- June, 2017 Invited speaker at workshop "Dynamics and CR geometry", Nice, France.
- May, 2017 Invited speaker at conference "Complex Geometry and PDEs", Beirut, Lebanon.
- April, 2017 Invited speaker at Special Session on "Several Complex Variables and PDEs" at regional AMS Meeting, Pullman, WA.
- January, 2017 Invited speaker at conference "Analysis and Geometry in Several Complex Variables", Doha, Qatar.
- November, 2016 Invited to give "Innovation Lectures" (4 lectures), Masaryk University, Brno, Czech Republic.
- August, 2016 Invited speaker at conference "Complex Geometry and the Cauchy-Riemann Equation", Oslo, Norway.
- June, 2016 Invited speaker at conference "CR Geometry and PDE-VII", Levico Terme, Italy.
- June, 2016 Invited speaker at conference "Symposium on Complex Analysis and Geometry", Banach Center, Poland.
- May, 2016 Invited speaker at workshop "Complex Analysis and Complex Geometry", Banff International Research Station (BIRS), Canada.
- April, 2016 Invited speaker at Special Session on "CR Geometry and PDE in Complex Analysis" at regional AMS Meeting, Salt Lake City.
- Jan. 2016 Invited speaker at "TSIMF Symposium on Complex Analysis and Complex Dynamics", Sanya, China.
- Nov. 2015 Invited speaker at workshop "Several Complex Variables and CR Geometry", Vienna, Austria.
- Sep. 2015 Invited lecturer (6 lectures) at "School on Complex Analysis, Geometry, and Dynamics", Abdus Salam ICTP, Trieste, Italy.
- Aug. 2015 Invited speaker at "Workshop on Geometric Methods in PDE and Several Complex Variables", Serra Negra, Brazil.
- May 2015 Invited speaker at conference "Complex Geometry and Several Complex Variables", Shanghai, China.
- Mar. 2015 Invited speaker at conference "Complex Analysis and Geometry", Madison, Wisconsin.
- Mar. 2015 Invited speaker at AMS Session "Complex Analysis in Several Variables and Applications", East Lansing, Michigan.
- Jun. 2014 Invited speaker at conference "CR Geometry and PDE-VI", Levico Terme, Italy.
- Mar. 2014 Invited speaker (4 lectures) at GGTM-MIMS Conference in the Memory of Salah Baouendi, Tunis, Tunisia.

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- Jul. 2013 Invited speaker at The Abel Symposium 2013, Trondheim, Norway.
- Jun. 2013 Invited speaker at CSASC 2013 (Joint meeting of the Catalan, Slovenian, Austrian, Slovak, Czech Math Societies), Mini-symposium on Several Complex Variables, Koper, Slovenia.
- Jun. 2013 Invited speaker at "Facets of Geometry" in session "Geometry of Several Complex Variables", Stockholm, Sweden.
- May 2013 Invited speaker at workshop "Analytic Microlocal Analysis", Northwestern University.
- Jul. 2012 Invited speaker at "International Conference of Complex Analysis and PDE", Addis Ababa, Ethiopia.
- Jun. 2012 Invited speaker at conference "CR Geometry and PDE-V", Levico Terme, Italy.
- Feb. 2012 Invited speaker (3 lectures) at the 19th KSCV Workshop "CR geometry at KIAS", KIAS, Seoul, South Korea.
- Oct. 2011 Plenary speaker (3 lectures) at RTG Workshop & Lecture Series "Topics in Several Complex Variables and CR Geometry", University of Michigan.
- Aug. 2011 Invited speaker at "Workshop on Geometric Methods in PDE and Several Complex Variables", Serra Negra, Brazil.
- Nov. 2010 Invited speaker at "Texas Geometry and Topology Conference", Texas A&M.
- Jul. 2010 Invited speaker at "International Conference on Geometric and Complex Analysis", Nanjing, China.
- Jun. 2010 Invited speaker at conference "CR Geometry and PDE-IV", Levico Terme, Italy.
- May 2010 Invited speaker at conference "Geometric Analysis of Several Complex Variables and its Interactions", Marrakech, Morocco.
- Aug. 2009 Invited speaker at "Workshop on Geometric Methods in PDE and Several Complex Variables", Serra Negra, Brazil.
- Jul. 2009 Invited speaker at "International Conference on Several Complex Variables, Complex Geometry, and PDE", Wuhan, China.
- Mar. 2009 Plenary speaker at SEAM XXV (Southeastern Analysis Meeting), Tampa FL.
- Feb. 2009 Keynote speaker (3 lectures) at "Workshop on Complex Geometry", Adelaide, Australia.
- Jul. 2008 Invited speaker at conference "Conference on Complex Analysis", Fribourg, Switzerland.
- Jun. 2008 Invited speaker at conference "CR Geometry and PDE-III", Levico Terme, Italy.

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