

# Peter R. Merkx

Department of Mathematics  
University of California, Davis  
Office: MSB 1105  
One Shields Ave  
Davis, CA 95616

+1-530-752-0827  
email: [prmerkx@math.ucdavis.edu](mailto:prmerkx@math.ucdavis.edu)  
url: <https://peterrmerkx.com>

## PROFESSIONAL EXPERIENCE

- July 2019-Present: Lecturer, Department of Mathematics, University of California, Davis
- 2018-2019: Visiting Assistant Professor of Mathematics, Department of Mathematics and Computer Science, Wesleyan University
- 2017-2018: Continued research at the University of California, Santa Barbara
- 2011-2017: Instructor / Teaching Assistant, Department of Mathematics, University of California, Santa Barbara
- 2007-2009: Instructor / Graduate Teaching Associate, Department of Mathematics, University of Oregon

## EDUCATION

- Ph.D. in Mathematics, University of California Santa Barbara, 2017
- M.S. in Mathematics, University of Oregon, 2008
- B.S. in Mathematics, Duke University, 2006

## RESEARCH INTERESTS

- Algebraic Geometry, Mathematical Physics, F-Theory, Calabi-Yau Manifolds, Low-dimensional Topology

## PUBLICATIONS

- *Pairing 6D SCFTs*, (2019).  
arXiv:1903.00079 [hep-th]. <https://arxiv.org/abs/1903.00079>
- *Classifying global symmetries of 6D SCFTs*, J. High Energy Phys. 03 (2018) 163.  
arXiv:1711.05155 [hep-th]. <https://arxiv.org/abs/1711.05155>  
Published version: <https://peterrmerkx.com/ClassifyingGS.pdf>
- *Global symmetries of six dimensional superconformal field theories*, University of California, Santa Barbara Doctoral Thesis, 2017.  
[https://peterrmerkx.com/Thesis\\_Abridged\\_Version\\_Nov\\_2017.pdf](https://peterrmerkx.com/Thesis_Abridged_Version_Nov_2017.pdf)
- (with M. Bertolini and D. R. Morrison) *On the global symmetries of 6D superconformal field theories*, J. High Energy Phys. 07 (2016) 005.  
arXiv:1510.08056 [hep-th]. <https://arxiv.org/abs/1510.08056>

## TALKS

- *Some exceptional graphs and their symmetries*; Wesleyan Mathclub, Department of Mathematics and Computer Science, Wesleyan University; May 9, 2019
- *Global symmetries of superconformal quantum field theories*; Mathematics Colloquium, Department of Mathematics and Computer Science, Wesleyan University; December 6, 2018
- *Algebraic geometry and the string landscape*; For Duke Kunshan University Natural Science Division (at Duke University); May 24, 2018.

## HONORS

- Summa cum laude, Duke University
- Phi Beta Kappa, Duke University
- Valedictorian, Desert Academy High School

## TEACHING

- Calculus I, Part II (Spring '19; 2 Sections) Wesleyan University
- Discrete Mathematics (Spring '19) Wesleyan University
- Calculus I, Part I (Fall '18), Wesleyan University
- Multivariable Calculus (Fall '18), Wesleyan University
- Calculus with Applications I (Spring '15), University of California, Santa Barbara
- Teaching Assistant Discussion Section Leader at UCSB ('11-'17): Linear Algebra (9 sections), Calculus I (7 sections), Calculus I & II for STEM (8 sections), Differential Equations (26 sections), Partial Differential Equations (13 sections)
- University Mathematics II (Summer '07), University of Oregon
- College Algebra (Fall '06, '07, Winter '07, Spring '08), University of Oregon

## RESEARCH ADVISEES

- Summer 2019 (co-supervising with Karen Collins). Morgan Long, Wesleyan Undergraduate Summer Research. Working on graph theory and mathematical physics.

## CONFERENCES ATTENDED

- F-Theory Workshop, 2019, Florida State University
- ICERM Real Algebraic Geometry and Optimization 2018, Brown University
- Strings 2016, (YSMC) Tsinghua University
- F-Theory at 20 (2016), Burke Institute, Caltech
- 21st Southern California Geometric Analysis Seminar 2014 at UCI
- 20th Southern California Geometric Analysis Seminar 2013 at UCSD

## MISCELLANEOUS

- Reviewer for zbMATH (January 2018-present)
- Programming: Mathematica, Java, C/C++, Matlab, GAP, and others

## PERSONAL

- Citizenship: U.S.A.