

# Panagiotis Dimakis

## Curriculum Vitae

Department of Mathematics  
University of Maryland, College Park  
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## Academic Appointments

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2024–present      **Brin Postdoctoral Fellow**, University of Maryland, College Park.  
Mentor: Richard Wentworth.  
2023–2024      **CRM–ISM Postdoctoral Fellow**, Université du Québec à Montréal.

## Education

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2018–2023      **Ph.D. in Mathematics**, Stanford University.  
Advisor: Rafe Mazzeo.  
Dissertation: *A study on the Extended Bogomolny equations*.  
2014–2018      **B.Sc. in Mathematics**, Massachusetts Institute of Technology.

## Research Interests

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Geometric analysis; gauge theory and Higgs bundles; moduli spaces and quiver varieties; spectral theory and hyperbolic lattice counting.

## Honors and Fellowships

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2023–2024      CRM–ISM Postdoctoral Fellowship.  
Fall 2022      Salgo–Noren Program Associate, Simons Laufer Mathematical Sciences Institute (SLMath), Berkeley.  
Program: *Analytic and Geometric Aspects of Gauge Theory*.  
2018–2023      Stanford Graduate Fellowship.  
2018      Phi Beta Kappa.

## Teaching

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### University of Maryland, College Park

Spring 2027      MATH 401: Applications of Linear Algebra (*scheduled*).  
Fall 2026      MATH 241: Calculus III (*in progress*).  
Fall 2025      MATH 410: Advanced Calculus I.  
MATH 136: Calculus for Life Sciences.  
Spring 2025      MATH 141H: Calculus II (Honors).  
Fall 2024      MATH 401: Applications of Linear Algebra.

## Publications and Preprints

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- [1] P. Dimakis and R. A. Wentworth. *Discreteness of real  $SL_n$ -opers*. 2026. [arXiv:2610.07453](#).
- [2] P. Dimakis. *Off-diagonal bounds for spectral projector kernels*. 2026. [arXiv:2609.33957](#).
- [3] D. Chatzakos and P. Dimakis. *Square root cancellation in the hyperbolic lattice counting problem over cocompact groups*. 2026. [arXiv:2609.33829](#).
- [4] S. Chatzimarkou and P. Dimakis. *The conformal limit for Nakajima quiver varieties*. 2026. [arXiv:2604.17006](#).
- [5] P. Dimakis, D. Dinh, and S. Xu. *Lagrangian correspondences for moduli spaces of Higgs bundles and holomorphic connections*. 2026. [arXiv:2604.14127](#).
- [6] P. Dimakis and F. Rochon. *Asymptotic geometry at infinity of quiver varieties*. 2024. Accepted for publication in *Courant Journal of Pure and Applied Mathematics*. [arXiv:2410.15424](#).
- [7] P. Dimakis and S. Schulz. *On a conjecture of Simpson*. 2024. [arXiv:2410.12945](#).
- [8] P. Dimakis. *The moduli space of solutions to the Extended Bogomolny equations on  $\Sigma \times \mathbb{R}_+$* . 2024. [arXiv:2401.10999](#).
- [9] P. Dimakis. *The extended Bogomolny equations on  $\mathbb{R}^2 \times \mathbb{R}^+$  I: Nilpotent Higgs field*. 2022. [arXiv:2209.11101](#).
- [10] P. Dimakis. *Model knot solutions for the twisted Bogomolny equations*. 2022. Accepted for publication in *Illinois Journal of Mathematics*. [arXiv:2204.06617](#).
- [11] P. Dimakis and R. Melrose. *Equivariant K-theory and Resolution II: Non-Abelian actions*. 2021. [arXiv:2101.00069](#).
- [12] P. Albin, P. Dimakis, R. Melrose, and D. Vogan. *Compactification of semi-simple Lie groups*. 2019. [arXiv:1910.02811](#).
- [13] P. Albin, P. Dimakis, and R. Melrose. *Compactification of  $SL(2)$* . 2018. [arXiv:1812.03883](#).
- [14] P. Dimakis and R. Melrose. *Equivariant K-theory and Resolution I: Abelian Actions*. In *Geometric Analysis: In Honor of Gang Tian's 60th Birthday*, Progress in Mathematics **333**, Birkhäuser, 2020, pp. 71–92. doi:10.1007/978-3-030-34953-0\_5. [arXiv:1807.08299](#).
- [15] P. Dimakis and G. Yue. *Combinatorial wall-crossing and the Mullineux involution*. *Journal of Algebraic Combinatorics* **50** (2019), 49–72. doi:10.1007/s10801-018-0839-x. [arXiv:1711.05006](#).

## Professional Service

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Co-organizer, Geometry–Topology Seminar, University of Maryland, College Park (current).

## Languages

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Greek (native); English (fluent); French (basic).

## Selected Research Talks

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- July 3, 2026 *The conformal limit for Nakajima quiver varieties*  
Third Congress of Greek Mathematicians, Geometry and Topology Session, Athens, Greece.
- Mar. 19, 2026 *A conformal limit construction for Nakajima quiver varieties*  
Math–Physics Joint Seminar, University of Pennsylvania.
- Nov. 7, 2025 *Geometry at infinity of quiver varieties*  
Topology, Algebraic Geometry, and Dynamics Seminar, George Mason University.
- Oct. 22, 2025 *Asymptotic geometry at infinity of quiver varieties*  
Modern Musings on Monopoles, Simons Center for Geometry and Physics, Stony Brook University.
- July 2, 2025 *Local degeneration of the moduli space of complex flat connections*  
Higgs Bundles and Harmonic Maps, University of Kiel.
- Apr. 29, 2025 *On a conjecture of Simpson*  
Math–Physics Joint Seminar, University of Pennsylvania.
- Nov. 29, 2024 *On a conjecture of Simpson*  
CIRGET Seminar, Université du Québec à Montréal.
- May 13–17, 2024 *Asymptotic geometry of Nakajima quiver varieties*  
Analysis of Geometric Singularities, Centre de recherches mathématiques, Montréal.
- Apr. 16, 2024 *On a conjecture of Simpson*  
Advances in Higgs Bundles, Brin Mathematics Research Center, University of Maryland.
- Apr. 5, 2024 *The moduli space of solutions to the extended Bogomolny equations on  $\Sigma \times \mathbb{R}_+$*   
Geometry–Topology Seminar, University of California, Riverside.
- Jan. 25, 2024 *The moduli space of solutions to the dimensionally reduced Kapustin–Witten equations on  $\Sigma \times \mathbb{R}_+$*   
Geometry & Topology Seminar, University of Waterloo.
- Apr. 10, 2023 *BAA branes on the Hitchin moduli space from solutions to the extended Bogomolny equations*  
Joint Geometry–Topology and Informal Geometric Analysis Seminar, University of Maryland.
- Mar. 17, 2023 *BAA branes on the Hitchin moduli space from solutions to the extended Bogomolny equations*  
CIRGET Seminar, Université du Québec à Montréal.
- Sept. 27, 2022 Simons Laufer Mathematical Sciences Institute (SLMath), Berkeley.