Sameer Iyer

Contact

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Appointments

UC Davis, Department of Mathematics — July 2021 -
Associate Professor (July 2025 - current)
Assistant Professor (July 2021-July 2025)

Princeton University, Department of Mathematics — September 2018 - June 2021
NSF Postdoctoral Fellow

Short Term Appointments

Stanford University, Department of Mathematics — April 2023-June 2023
Visiting Assistant Professor

Brown University, Division of Applied Mathematics — June 1 - June 30, 2018
Postdoctoral Research Associate

Education

Brown University, Ph.D. in Applied Mathematics (Ph.D. Advisor: Yan Guo) — 2013 - 2018
Brown University, Sc.M in Applied Mathematics, — 2018
Brown University, Sc.B in Applied Mathematics, *magna cum laude* — 2012

Awards & Honors

2025 PMJ Excellent Paper Award — 2025
UC Davis Hellman Fellowship — 2023-2024
Outstanding Dissertation Award in the Physical Sciences (Joukowsky Family Foundation),
Dunmi-Ji Award in Applied Mathematics for graduating Ph.D.'s.

Funding & Grants

NSF CAREER Grant (DMS 2442781) — 2025-2030
NSF Standard Grant (DMS 2306528) — 2023-2026
NSF Mathematical Sciences Postdoctoral Research Fellowship (DMS 1802940) — 2018 - 2021

Research Interests

Partial Differential Equations, Fluid Mechanics

Five Selected Publications

1. S. Iyer, N. Masmoudi
   Reversal in the Stationary Prandtl Equations
   Publ. Math. IHÉS, accepted (2026).
2. S. Iyer, N. Masmoudi
   Global Inviscid Limit of 2D, Stationary Navier–Stokes and Stability of Prandtl Expansions
   Forum Math. Pi **14** (2026), e13, 1–68.
3. Y. Guo, S. Iyer
   Validity of Steady Prandtl Layer Expansions
   Comm. Pure Appl. Math. **76** (2023), no. 11, 3150–3232.
4. S. Iyer
   Stability of the Favorable Falkner–Skan Profiles for the Stationary Prandtl Equations
   Adv. Math. **487** (2026), Paper No. 110749, 59 pp.
5. S. Iyer, V. Vicol
   Real Analytic Local Well-Posedness for the Triple Deck
   Comm. Pure Appl. Math. **74** (2021), no. 8, 1641–1684.

Other Closely Related Works

1. S. Iyer
   Recent progress in stationary boundary layers
   EMS Surv. Math. Sci. (2026).
2. S. He, S. Iyer, W. Zhao
   Nonlinear Inviscid Damping of Couette Flow with Vorticity Perturbations Supported up to the Boundary
   Preprint (2026), arXiv:2610.29975.
3. J. Bedrossian, S. He, S. Iyer, L. Li, F. Wang
   Stability threshold of close-to-Couette shear flows with no-slip boundary conditions in 2D
   Math. Ann. **396** (2026), Article 58.
4. J. Bedrossian, S. He, S. Iyer, F. Wang
   Uniform Inviscid Damping and Inviscid Limit of the 2D Navier–Stokes equation with Navier Boundary Conditions
   Preprint (2024), arXiv:2405.19249.
5. T. Buckmaster, S. Iyer
   Formation of Unstable Shocks for 2D Isentropic Compressible Euler
   Comm. Math. Phys. **389** (2022), no. 1, 197–271.

Minicourses & Extended Lecture Series

Summer School: (In)-Stability Phenomena in Fluid Mechanics, 5 Lecture Minicourse: "Recent Progress in Stationary Boundary Layers" CY Advanced Studies, Cergy, Paris, France	May 2024
Winter School: Boundary and Singularity in Fluid Mechanics 4 Lecture Minicourse: "Hydrodynamic Stability and Boundary Layers" Simons Center for Geometry and Physics, Stony Brook, NY	January 2025
3 Lecture Minicourse: "Overview of Boundary Layer Theory" Duke University, Durham, NC	April 2025

Selected Invited Talks

Advances in Mathematical Fluid Dynamics, BICMR, Beijing, China	Aug. 2026
Stanford University, Analysis Seminar	Mar. 2026
University of California, Berkeley, Analysis and PDE Seminar	Jan. 2025
Singularities in Fluids and General Relativity, IMS, Singapore	Dec. 2024
14th AIMS Conference, Thematic Speaker, Abu Dhabi, UAE	Dec. 2024

Organization

Winter School: Boundary and Singularity in Fluid Mechanics Simons Center for Geometry and Physics, Stony Brook, NY	January 2025
SIAM Northern and Central California Section Conference University of California-Davis, Davis, CA	October 2026

Editorial

Associate Editor, *Communications on Pure and Applied Analysis*, Co-Editor, Special Volume of *Quarterly of Applied Mathematics* in honor of Yan Guo	2024–present in preparation

Mentoring

Graduate thesis advisor: N. Wiesner	2025–present,
Graduate thesis advisor: K. Lim	2026–present,
Undergraduate thesis mentor: Lucas Lam	2025–2026.