

Krutika Tawri

CONTACT INFORMATION University of California Berkeley
Department of Mathematics ktawri@berkeley.edu
931 Evans Hall https://math.berkeley.edu/~ktawri/
Berkeley CA

EDUCATION **Indiana University, Bloomington**

Ph.D., Mathematics, June 2022

- Advisor: Roger Temam

Birla Institute of Technology and Science, Pilani, India.

Bachelors (honors) in Mathematics, May 2015

APPOINTMENTS **University of California Berkeley**

Charles B. Morrey Visiting Assistant Professor, July 2022 - present

PUBLICATIONS

- [1] M. Hamouda, D. Han, C. Jung, K. Tawri, R. Temam, *Boundary layers for the subcritical modes of the 3D primitive equations in a cube*, J. Differential Equations **267**(1) (2019), 61-96.
- [2] P. Nguyen, K. Tawri, R. Temam, *Nonlinear stochastic parabolic partial differential equations with a monotone operator of the Ladyzenskaya-Smagorinsky type, driven by a Lévy noise*, J. Functional Analysis **281**(8) (2021).
- [3] K. Tawri, R. Temam, *Hilbertian approximation of monotone operators*, Pure and Applied Functional Analysis **7**(1) (2022), 357-387.
- [4] W. Kim, K. Tawri, R. Temam, *Local well-posedness of a three-dimensional phase-field model for thrombus and blood flow*, Rev. Real Acad. Cienc. Exactas Fis. Nat. Ser. A-Mat. **116** (4) (2022).
- [5] K. Tawri, *On upper-semicontinuity of the Allen-Cahn twisted eigenvalues*, Asymptotic Analysis. **130** (3-4) (2022), 323-334.
- [6] W-T. L. Fan, A. Pakzad, K. Tawri, R. Temam, *Shear driven turbulence with Lévy noise at the boundary in three dimensions*, Probability, Uncertainty and Quantitative Risk, special edition, **8** (1) (2023), 75-94.
- [7] K. Tawri, S. Čanić, *Existence of martingale solutions to a nonlinearly coupled stochastic fluid-structure interaction problem*, submitted.

[8] K. Tawri, *A 2D stochastic nonlinearly coupled fluid-structure interaction problem in compliant arteries with unrestricted structural displacement*, submitted.

[9] K. Tawri, *A stochastic fluid-structure interaction problem with Navier slip boundary condition*, submitted.

VISITING
EXPERIENCE

2015-2016 Institute for Scientific Computing and Applied Mathematics.
Host: Roger Temam, Department of Mathematics.
2015 National University of Singapore, Singapore.
Host: Xingwang Xu, Department of Mathematics.

CONFERENCE
TALKS

July 2024 2nd joint AMS-Umi Meeting, Special Session: "Dynamics of compressible Euler equations and complex flows", Palermo Italy.
May 2024 AMS Western Sectional Meeting Special session: "Mathematical Fluid Dynamics", San Francisco State University, San Francisco.
Dec 2023 Hot Topics: Recent Progress in Deterministic and Stochastic Fluid-Structure Interaction, SLMath, Berkeley.
Aug 2023 The 10th ICIAM, minisymposium on Theory, numerics and data driven methods for fluids, Tokyo, Japan.
June 2023 The 13th AIMS Conference Series on Dynamical Systems and Differential Equations, Special session: "Phase field models and real world applications", University of North Carolina.
May 2023 AMS Spring Western Sectional Meeting Special Session: "Nonlinear PDEs in Fluid Dynamics I", California State University.
April 2023 AMS Spring Eastern Virtual Sectional Meeting Special Session: "Recent Advances in Infinite-Dimensional Stochastic Analysis, II".
Oct 2022 The 7th Annual Meeting of SIAM Central States Section, Oklahoma State University.
Feb 2022 The Shanks Workshop on Mathematical Aspects of Fluid Dynamics Conference, Contributed talk, Vanderbilt University.
Nov 2019 AMS Sectional Meeting Special Session "Fluid Dynamics: From Theory to Numerics", UC Riverside.

SEMINAR TALKS

	Sept	2023	Harmonic Analysis and Differential Equations Seminar, UC Berkeley.
	Nov	2022	MUSA, Math Monday lecture series, UC Berkeley.
	Sept	2022	Applied Math Seminar, UC Berkeley-Lawrence Berkeley National Lab.
	April	2022	Modeling, Analysis and Simulation in Applied PDEs Seminar, UC Berkeley.
	Mar	2022	CNA PDE seminar at Carnegie Mellon University.
	Jan	2022	Applied Analysis group seminar at Max Planck Institute, Leipzig (virtual).
	Dec	2021	PDE seminar at Indiana University.
ORGANIZATION	Fall	2023	UC Berkeley-Lawrence Berkeley National Lab Applied math seminar (co-organizer).
	Fall	2023	Applied and numerical PDE student seminar, UC Berkeley (co-organizer).
	June	2023	Special session at the 13th AIMS Conference Series on Dynamical Systems and Differential Equations, University of North Carolina (co-organizer).
	Spring	2020	PDE graduate student seminar, IU (co-organizer).
SUMMER SCHOOLS	Sept	2020	Summer School on Mathematical Hydrodynamics, The Field's Institute for research in mathematical sciences. (<i>Online</i>)
	July	2020	MSRI Summer school: Introduction to water waves, University of California Berkeley. (<i>Online</i>)
	May	2019	NSF/CBMS Conference: The Cahn-Hilliard Equation: Recent Advances and Applications, Tennessee.
	Summer	2014	REU with Professor Anilesh Mohari at the Institute of Mathematical Sciences, Chennai, India.
AWARDS AND GRANTS	2023		SIAM travel grant for the 10th ICIAM conference (declined).
	2022		IUB- Bhatnagar Award for Outstanding Thesis in Applied Mathematics.
	2021-22		IUB- College of Arts and Science Dissertation Fellowship.
	2021		IUB- Muriel Adams Stahl Award for research and summer support.
	2020		IUB- Hazel King Thompson Fellowship for dissertation research.
	2020		IUB- Glenn Schober Memorial Travel Fellowship.
	2019		IUB- Provost's Travel Award for Women in Science.
	2019		AMS's Graduate Student Travel Grant.
	2017-20		Summer support under the NSF grant DMS-1510249.
	2017		IUB- College of Arts and Sciences Fellowship.

SERVICE AND OUTREACH	2023	Speaker at the 8th grade Math Club at the Girls' Middle School, Palo Alto, CA.
	2023	Speaker at the Basic Sciences' 'Light the way' event 'Mathematics that Matter' at UC Berkeley.
	2022	Member of the math GenEd Instruction committee workshop, IUB.
	2018	Speaker at the Advance College Project (ACP) Professional Development Seminar, IUB.

TEACHING
EXPERIENCE

Graduate teaching at Indiana University

Spring	2022	M642- A graduate topics course on numerical methods and control theory problems in stochastic PDE, IUB.
Spring	2021	A643- A graduate topics course on PDEs driven by a Levy noise, IUB.

At UC Berkeley

Spring	2024	M104- Introduction to Real Analysis (2 sections)
Fall	2023	M185- Introduction to Complex Analysis
Spring	2023	M104- Introduction to Real Analysis (2 sections)
Fall	2022	M185- Introduction to Complex Analysis

At Indiana University

Fall	2020	D117- Introduction to Finite Mathematics -II (<i>Online</i>).
Spring	2020	D117- Introduction to Finite Mathematics -II.
Fall	2019	M118- Finite Mathematics.
Spring	2019	D116- Introduction to Finite Mathematics I.
Fall	2018	M027- Pre-Calculus with Trigonometry.
Spring	2018	D117- Introduction to Finite Mathematics -II.
Fall	2017	M018- Basic Algebra for Finite Mathematics.
Fall	2016	M025- Pre-Calculus.

TECHNICAL
EXPERIENCE

Spring	2021	Participant of the Internship Network in the Mathematical Sciences (INMAS) data science bootcamp.
--------	------	---

RELEVANT
SKILLS

Python, C.