Vaibhava Srivastava

Curriculum Vitae

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Research Interest

Applied Mathematics & Mathematical Biology

Education

Spring '21-25 [anticipated]	**Doctor of Philosophy, PhD (Applied Mathematics)**, *Iowa State University, USA*
2018-2020	**Master of Science (Mathematics)**, *Indian Institute of Technology Gandhinagar, India*
2014-2017	**Bachelor of Sciences (Honors) in Mathematics**, *University of Delhi, Acharya Narendra Dev College, India*
2014	**Senior Secondary School Examination**, *Kendriya Vidyalaya(KV) Dilkusha Cantt, Lucknow, India*
2012	**Secondary School Examination**, *Kendriya Vidyalaya(KV) JLA Cantt, Bareilly, India*

Current Employment/Positions

Spring '21-	**Graduate Teaching Assistant**, *Department of Mathematics, Iowa State University*
2022-2023	**Current Vice-President** of the SIAM Student Chapter at Iowa State University.
2021-2022	**Treasurer** of the SIAM Student Chapter at Iowa State University.

Awards

2023	Summer 2023 **Robert J. Lambert fellow**.
2022	Selected and funded to participate in **Summer Program in Partial Differential Equations** 2022, University of Texas at Austin, USA.

Publications

Accepted/Submitted

2023	**Srivastava, V., Takyi, E. M., & Parshad, R. D.**, *The effect of "fear" on two species competition. Mathematical Biosciences and Engineering, 2023, 20(5): 8814-8855.*
2023	**Chen, S., Chen, F., Srivastava, V., & Parshad, R. D.**, *(2023). Dynamical Analysis of a Lotka-Volterra Competition Model with both Allee and Fear Effect. arXiv preprint arXiv:2303.04919.*
2022	**Srivastava, V., Takyi, E. M., & Parshad, R. D.**, *(2022). The effect of "fear" on two species competition. ArXiv preprint https://arxiv.org/abs/2210.10280.*
2021	**Srivastava, V., & Cheviakov, A.**, *(2021). Brownian dynamics simulations for the narrow escape problem in the unit sphere. Physical Review E, 104(6), 064113. doi: https://doi.org/10.1103/PhysRevE.104.064113.*
2021	**Srivastava, V., & Cheviakov, A.**, *Narrow Escape Brownian Dynamics Modeling in the Three-Dimensional Unit Sphere. arXiv preprint https://arxiv.org/abs/2107.01233v2.*

In-prepration

2023	**Banerjee, A., Srivastava, V., & Parshad, R. D.**, The effect of "very fast" strategies on two species competition.

Thesis

2018-2020	**Master's Dissertation.**, *The Qualitative Study of the Eigenvalue and Eigenfunctions of the Strong Localized Perturbed Eigenvalue Problem (A dissertation submitted in partial fulfillment of the requirements for the degree of Master of Science in Mathematics)*

Talks and Presentations

April 2023	Speaker in SIAM Student Chapter Seminar, Iowa State University.
March 2023	Speaker in Mathematical Biology seminar at the Department of Mathematics, Iowa State University, USA.
Oct 2022	Student session speaker in 2022 Iowa PDE Conference, The University of Iowa, Iowa City, IA, USA.
April 2022	Speaker in SIAM Student Chapter Seminar, Iowa State University.
Jul 2019	Secured **second position** in poster presentation on Brownian Dynamics Modelling for the Narrow Escape Problem at SURI-2019 held at USask, Saskatchewan, Canada.
π Day 2019	Presented poster on The topological properties of Stereographic Projection and its applications in the real world at IIT, Gandhinagar, India.
Oct 2018	Presentation on Folktale and its historical significance in the Awadh region at IIT-GN.

Workshops and Conferences

April 2023	7th KUMUNU-ISU Conference in PDE, Dynamical Systems and Applications (Attendees).
Nov 2022	Topics in Multiple Time Scale Dynamics, Banff International Research Station, Virtual (Attendees).
Aug 2022	Summer Program in Partial Differential Equations 2022, University of Texas at Austin, USA. (Attendees)
July 2022	The International Congress of Mathematicians 2022, Virtual. (Attendees)
June 2022	Nonlocal School on Fractional Equations NSFE 2022, Iowa State University, USA. (Attendees)

Teaching Experience

Recitation Instructor and Conducted Weekly Office Hour Sessions
- **Math 145** Applied Trigonometry (In-person) (Fall '22)
- **Math 143** :Preparation for Calculus (In-person) (Fall '22)
- **Math 165** Calculus I (In-person) (Spring '22)
- **Math 150** Discrete Math for Business and Social Sciences (In-person) (Fall '21)
- **Math 165** Calculus I (Online) (Spring '21)

Grader
- **Math 520** Methods of Applied Mathematics II (In-person) (Spring '23)
- **Math 150** Discrete Math for Business and Social Sciences (Summer '21)

Under-Graduate Teaching Experience
- Member of Problem Solving Group at IIT, Gandhinagar, India.
- Advanced Mathematics Tutor at Chegg (2018-2020)

Research Experience

2019-20	**Master's Dissertation**, The Qualitative Study of the Eigenvalue and Eigenfunctions of the Strong Localized Perturbed Eigenvalue Problem.
Summer 2019	**SURI-2019**, Summer Undergraduate Research Initiative, 2019 at University of Saskatchewan, Canada
Summer 2018	**SPIM 2018**, Summer Program in Mathematics (SPIM) in Mathematics 2018 at (HRI), Allahabad
Summer 2017	**MTTS 2017**, *Mathematics Training and Talent Search Programme*
June 2016	**IAS-SRFP**, *Indian Academy of Sciences Summer Research Fellowship Program*
2015-2016	**ANDC- 304**, *Delhi University Innovation Project ANDC- 304*
July 2016	**FACETS 2016**, *Attended the 2016 edition of the IMSc outreach program for advanced undergraduate*

Computer Skills

Software	**Numerical and Scientific Computing Libraries :** MATLAB, Mathematica, NumPy.
	Other Mathematical Softwares : SQL, Tora, Spyder(IDE).
Languages	LaTeX, Python, C++.
OS	Working with Linux for the last 4 years, Distributions: Ubuntu, Peppermint, Fedora, openSUSE.
	Worked with Windows for the 4 years, Distributions: Windows 7,8,10.
Familiar OS	Mac OS,Windows: XP, Vista,.

Organizational Skills

Summer '22-	Current vice-president of the SIAM Student Chapter at Iowa State University.
2021-22	Treasurer of the SIAM Student Chapter at Iowa State University.
2019	Organizer of Mathegon : Mathematical fest of Indian Institute of Technology Gandhinagar.
2014-2017	Organizer of MATRIX : Mathematical fest of Acharya Narendra Dev College University Of Delhi.

Community Service

2009-2014	The Bharat Scouts and Guides
	○ Rajyapuraskar Awardee
	○ Worked for the welfare of the rural areas of India.
	○ Active volunteer for various literary programs conducted for the rural areas.

Languages

Hindi: Native	English: Fluent	Sanskrit: Basic