



Vijay Kumar Sukariya

Assistant Professor

Department of Mathematics

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1. ABOUT / PROFESSIONAL PROFILE

Vijay Kumar Sukariya is currently working as an Assistant Professor of Mathematics at Dayananda Sagar University, Bengaluru. He holds a Ph.D. in Fluid Dynamics and has research expertise in magnetohydrodynamics, non-Newtonian fluid flow, biofluid dynamics, blood flow modeling, and physics-informed neural networks. His research focuses on analytical, numerical, and machine-learning-based approaches to complex fluid-flow problems. He has published 15 research articles in international journals and has contributed to various studies in applied mathematics and fluid dynamics. His teaching interests include linear algebra, differential equations, numerical methods, MATLAB, LaTeX, and research methodology. He is actively engaged in interdisciplinary research involving mathematical modeling, computational techniques, and emerging machine-learning methods.

2. RESEARCH INTERESTS

- Magnetohydrodynamics (MHD)
- Computational Fluid Dynamics
- Bio-Fluid Dynamics
- Boundary Layer Theory
- Physics-Informed Neural Networks
- Data-Driven Machine Learning

3. ACADEMIC QUALIFICATIONS

- Ph.D. in Magnetohydrodynamics (Fluid Dynamics) — Central University of Rajasthan, Ajmer, 2026
- M.Sc. — IIT Bombay, 2022
- B.Sc. — University of Rajasthan, Jaipur, 2020

5. RESEARCH HIGHLIGHTS

- Publications: 15 research papers in SCI/SCIE-indexed Q1 and Q2 journals
- Academic/Conference Roles: Volunteered at an academic workshop
- Reviewer/Editorial Activities: Reviewer for international journals; reviewed around 15 manuscripts.

6. SELECTED PUBLICATIONS

1. Sukariya, V. K., Kumar, A., Prajapat, M., & Shukla, A. (2026). Hall current-driven bioconvective flow over a rotating Riga disk with microbial oxygen consumption and machine-learning-based sensitivity analysis. *International Communications in Heat and Mass Transfer*, 176, 111298. <https://doi.org/10.1016/j.icheatmasstransfer.2026.111298>

2. Sukariya, V.K., Kumar, A.; Modeling Hall current-induced electrified flow in rotating cylinders via physics-informed neural networks with sensitivity analysis. *Physics of Fluids* 1 January 2026; 38 (1): 013622. <https://doi.org/10.1063/5.0312724>
3. Sukariya, V.K., Shukla, A., Kumar, A.; Synergistic thermal and magnetic influences on non-Newtonian hybrid Casson nanoblood flow in arterioles. *Appl. Phys. Lett.* 30 June 2025; 126 (26): 263702. <https://doi.org/10.1063/5.0274485>
4. Sukariya, V.K., Shukla, A., Kumar, A.; Deep learning-driven physics-informed neural networks for rotating fluid flow over a vertical cylinder with hall currents and thermal effects, *Phys. Fluids* 37 (6) (2025)
5. Jakhar, A., Shukla, A., Sukariya, V.K., Kumar, A., Weakly linear/nonlinear analysis of bio-convection dynamics influenced under time-varying concentration modulated gradient, *Chinese Journal of Physics* (2025), doi: <https://doi.org/10.1016/j.cjph.2025.04.031>.

Visit the full list of publications: <https://www.researchgate.net/profile/Vijay-Sukariya>

7. ACADEMIC PROFILES

- Google Scholar: <https://scholar.google.com/citations?user=Jd1tulsAAAAJ&hl=en>
- ORCID: <https://orcid.org/0009-0008-4417-4594>
- ResearchGate: <https://www.researchgate.net/profile/Vijay-Sukariya>

8. CONTACT

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