



Dr. Om Prakash Keshri

Assistant Professor

Department of Mathematics

School of Engineering

Dayananda Sagar University, Bengaluru, Karnataka,

India

Official Email: opk-maths@dsu.edu.in

1. ABOUT

Dr. Om Prakash Keshri is an Assistant Professor in the Department of Mathematics at Dayananda Sagar University since December 2023. He has developed his academic career in mathematics with a strong focus on applied and computational aspects of fluid mechanics and thermal sciences. His research expertise includes **hydrodynamic instability, heat and mass transport, nonlinear analysis and the application of artificial intelligence and machine learning techniques to hydrodynamic instability and transport phenomena**. He has contributed research articles published in internationally recognized journals indexed in **SCI/SCIE and Scopus**, including studies on rotational-speed modulation, temperature-dependent viscosity, G-jitter mass transport, internal heat sources, magneto-solutal convection, double-diffusive convection, Couple stress fluid and nonlinear heat and mass transport. His research contributes to the mathematical understanding of complex transport and instability phenomena. Alongside research, he has contributed broadly to teaching mathematics, supporting undergraduate and postgraduate students in mathematical analysis, applied mathematics, and related areas.

2. RESEARCH INTERESTS

- Magnetohydrodynamics
- Heat and Mass Transport
- Hydrodynamic Instability
- Nonlinear Dynamics
- Mathematical Biology
- AI and ML techniques in Fluid Dynamics

3. ACADEMIC QUALIFICATIONS

- Ph.D. in Applied Mathematics — Central University of Rajasthan, Ajmer, 2020.
- M. Phill. In Applied Mathematics — Indian School of Mines, Dhanbad, 2014.
- M.Sc. in Mathematics & Computing — Indian School of Mines, Dhanbad, 2012.
- B.Sc. in Mathematics (Hons.) — PKRMC, Dhanbad (VBU, Hazaribagh), 2010.

4. PROFESSIONAL EXPERIENCE

- Assistant Professor — ADBU, Assam (July 2023—Nov 2023)
- UGC Guest Faculty — MZU, Mizoram (Sept 2021—June 2023)
- Assistant Professor — JVWU, Rajasthan (Sept 2019—Sept 2020).

5. RESEARCH HIGHLIGHTS

- Publications: 06 peer-reviewed journal publications.
- Reviewer/Editorial Activities: 04

6. SELECTED PUBLICATIONS

1. **Keshri, O. P.**, Kumar, A., Jakhar, A and Prajapati, P. K., “Nonlinear dynamics of finite-amplitude instability in thermosolutal magneto-convection under dual modulation,” Chinese Journal of Physics, 103(C), pp.1397-1407, 2026.
<https://doi.org/10.1016/j.cjph.2026.07.011>
2. Gupta, V. K., **Keshri, O. P.**, Kumar, A., “Effect of rotational speed modulation on weakly nonlinear magneto convective heat transfer with temperature-dependent viscosity,” Chinese Journal of Physics, 72, pp.487-498, 2021.
<https://doi.org/10.1016/j.cjph.2021.02.001>
3. Kumar, A., **Keshri, O. P.**, Gupta, V. K., “G-jitter effect on mass transport in electrically conducting Newtonian fluid,” Chinese Journal of Physics, 71, pp. 224-234, 2021. <https://doi.org/10.1016/j.cjph.2020.09.001>
4. **Keshri, O. P.**, Kumar, A., Gupta, V. K., “Effect of internal heat source on magneto-stationary convection of couple stress fluid under magnetic field modulation,” Chinese Journal of Physics, 57, pp. 105-115, 2019.
<https://doi.org/10.1016/j.cjph.2018.12.006>
5. **Keshri, O. P.**, Gupta, V. K., Kumar, A., “Study of Weakly nonlinear Mass transport in Newtonian Fluid with Applied Magnetic Field under Concentration/Gravity modulation,” Nonlinear Engineering, 8 (1), pp. 513-522, 2019.
<https://doi.org/10.1515/nleng-2018-0058>
6. **Keshri, O. P.**, Kumar, A., Gupta, V. K., “Mageno-solutal convection in Newtonian fluid layer with solutal modulated boundaries,” International Journal of Non-Linear Mechanics, 107, pp. 86-93, 2018.
<https://doi.org/10.1016/j.ijnonlinmec.2018.09.006>

7. ACADEMIC PROFILES

- Google Scholar: <https://scholar.google.com/citations?user=kC59xaUAAAJ&hl=en>
- ORCID: <https://orcid.org/0000-0002-7820-0681>
- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57204004351>
- ResearchGate: <https://researchgate.net/profile/Om-Keshri-2>
- Web of Science: <https://www.webofscience.com/wos/author/rid/AAU-7737-2021>
- Personal/Professional Website: <https://sites.google.com/view/dropkeshri>

8. CONTACT

Department of Mathematics
School of Engineering
Dayananda Sagar University
Bengaluru, Karnataka, India – 562112
Official Email: opk-maths@dsu.edu.in