

Faculty Profile



Name: Dr. GAUTAM KUMAR

Designation: Assistant Professor

Teaching Areas: Differential Equations, Calculus, Linear Algebra, Real Analysis

Research Interests: Convection in Porous Media, Hydrodynamics Stability, Carbon Sequestration, Geophysical Fluid Dynamics, Electro hydrodynamics

Education/Experience:

- **Postdoctoral Fellow**, The Hong Kong University of Science and Technology, Hong Kong, March 2021 – September 2022.
- **Postdoctoral Fellow**, Indian Institute of Technology, Gandhinagar, December 2020 – February 2021.
- **Postdoctoral Fellow**, Indian Institute of Technology, Hyderabad, May 2020 – November 2020.
- **Ph.D.**, Indian Institute of Technology, Hyderabad, 2020.
- **M.Sc.**, Indian Institute of Technology, Bombay, 2015.
- **B.Sc.(H)**, Ramjas College, University of Delhi, 2013.

Research / Selected Publications:

1. **Gautam Kumar**, PAL Narayana, AA Hill, 2019, *Thermo-convective carbon sequestration in horizontal porous layers*, IMA Journal of Applied Mathematics, **84**, 650-668.
2. **Gautam Kumar**, PAL Narayana, 2019, *On the stability of carbon sequestration in an anisotropic horizontal porous layer with a first-order chemical reaction*, Proceedings of the Royal Society A, **475**, 20180365.
3. **Gautam Kumar**, PAL Narayana, Kirti Chandra Sahu, 2020, *Linear and nonlinear thermosolutal instabilities in an inclined porous layer*, Proceedings of the Royal Society A, **476**, 20190705.
4. **Gautam Kumar**, PAL Narayana, Kirti Chandra Sahu, 2020, *Linear instability driven by an electric field in two-layer channel flow of Newtonian and Herschel-Bulkley fluids*, Journal of Non-Newtonian Fluid Mechanics, **285**, 104400.