

Brief Biodata of Prof. Pathik Kumbhakar



Professor (HAG)

Dept. of Physics, National Institute of Technology Durgapur, India

- Ph.D. in The University of Burdwan, Burdwan, India (2003)
- Carried out Post-Doctoral research in Laser Technology, at Tokyo University, Tokyo, Japan during 2002-2004 with the full financial support of Govt. of Japan.
- Joined REC Durgapur as Lecture in the Department of Physics in 1999 &
- Currently working as Professor (HAG) at NIT Durgapur since 2019
- Served as Dean (Academic Research), NIT Durgapur (2021-2024).

Research Areas:

- Nanophotonics,
- Nonlinear Optics: Developments of 0D-2D nanostructured materials for optical limiters, multiphoton imaging and NLO switching
- Random Lasing: Development of Tunable Random Lasers and Applications.
- Random Laser based Speckle Free Imaging and Demonstration of Replica Symmetry Breaking (RSB)
- Triboelectric Nanogenerator (TENG): Application of 2D materials for development of self-charging power cell by using TENG
- 2D TMDC Materials based Hydrogen Energy Generation
- Photocatalysis

Achievements:

- Published as author/co-author 180 research papers in internationally reputed Journals/Technical Proceedings (as per Scopus with Author ID: 670142440) including some in high impact journals (with IF>15!)
- Written Three Books
- Presented invited talks (more than 50 nos.) at different National/ International Seminar/Conferences.
- Successfully supervised 15 Ph.D. students and currently supervising two more Ph.D. students
- Completed three projects funded by DST, CSIR, MHRD, and two (CSIR, DST (WB)) on-going projects.
- Developed materials for fingerprint detection (<https://www.nature.com/articles/nindia.2019.3>).
- Reviewers of Several Reputed International journals of **Nature, AIP, OPTICA, Elsevier, Springer, Wiley** etc.
- **Citations:** 4659, h-index 39 & i10-index 112 as per google scholar as on 25.11.2024
- **Patent: One Indian Patent No. 548548 Granted in 2024.**

Awards:

- **Fellow, RSC (England)**
- **Fellow, West Bengal Academy of Science and Technology (WAST)**
- **Received IAPT DSM Award**
- **Senior Member (OPTICA, USA)**
- **Featured in the *Stanford list of world's top 2% scientists* (single year category in 2021,2022 and 2024)**

Collaboration: Collaboration with Several Institutions in India and abroad.

Current Goals:

- Aims to understand the fundamental behaviour of NLO materials,
- Synthesis of 0D-2D Nanostructured materials for Energy Harvesting and
- Random Lasing & Applications.