

Curriculum Vitae

KAUSHAL KUMAR, PhD

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PROFESSIONAL EXPERIENCE

- **Assistant Professor**, Department of Applied Physics, Indian Institute of Technology (Indian School of Mines), Dhanbad, India since **August, 2011**.
- **Post doctoral fellow**, Italian Institute of Technology, Italy; August 2010 - July 2011
- **Post doctoral fellow**, Allahabad University, Allahabad, India; July 2009 - July 2010
- **Senior Research Fellow**, CSIR, BHU, Varanasi, India; March 2008 - April 2009

EDUCATIONAL QUALIFICATIONS

- PhD in Physics- 2008
Banaras Hindu University, Varanasi, Uttar Pradesh, India
Title: *Laser Spectroscopy of Rare Earth Ions doped Phosphors and Glasses*
Guide: Prof. S. B. Rai
- Master in Science -M. Sc. in Physics; *Ist Division* 2000
Lucknow University, Lucknow, Uttar Pradesh, India
- Bachelor of Science -B. Sc. in Physics, Maths, Chemistry, *IInd Division* 1997
Lucknow University, Lucknow, Uttar Pradesh, India
- Intermediate, U P board, Allahabad, *Ist Division* 1994
- Highschool, U P board, Allahabad, *Ist Division* 1992

RESEARCH INTEREST

- **Rare-earth ions doped inorganic glasses:** Preparation and optical characterizations of doped glasses using various techniques such as Absorption spectroscopy, Fluorescence Spectroscopy (with lasers), Time domain Spectroscopy, Thermal Lensing Spectroscopy, Photo-acoustic Spectroscopy etc. Main concern is on to observe upconversion emission in low phonon host glasses on near infrared (NIR) wavelength pumping.
- **Nano-phosphor materials:** Development of nano-phosphor powder through various chemical synthesis routes for applications in WLEDs, upconversion based fingerprint detection and bio-sensing, optical temperature sensors.

- **Liquid Pulsed Laser Ablation (LPLA) for preparation of Nano-particles:** Preparation of nano-particles of metals, oxide compounds using this technique for optical activities.
- **Laser Induced Breakdown Spectroscopy (LIBS):** Elemental detection of synthesized materials for purity checking.
- **Bio-imaging using upconversion:** studies on imaging of live cell through upconversion particles; toxicity studies.

AWARDS & RECONGNITION

- DR. D. S. Kothari postdoctoral fellowship 2009
- NET UGC-CSIR 2004
- GATE 2004 & 2005

WORKED IN SCIENTIFIC PROJECTS (AS PI OR CO-PI)/GRANTED PROJECTS

Project Title	Sponsor Agency	Role	Value (Rs.)	Start date	Status
Studies on rare earth ions doped upconversion nano-phosphors as optical sensors	DST-New Delhi (FAST TRACK)	PI	23.28 Lakh	01.11.2013	Completed
Development of rare-earths doped upconversion phosphor particles for finger print detection and sensors	CSIR, New Delhi	PI	12.25 Lakh	04.10.2013	Completed
Studies on light induced heating in upconversion nanoparticles and their optimization for the use as photo-acoustic contrast agent	DST-SERB New Delhi	PI	34.10 Lakh	10 th July 2018	On-going

Departmental level DST-FIST project (Department Programme)	DST, New Delhi	Co-coordinator	201 Lakh	2013	On-going
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SYMPOSIUM/CONFERENCES ORGANIZED

- **Organizing secretary** of National conference on ‘Advances in Lasers & Spectroscopy (ALS-2012)’, 1-3 Nov. 2012.
- **Co-convenor** of Research Scholars Meet (RSM) – 2014, 28th Feb. 2014.
- **Co-convenor** of ‘National conference on Liquid Crystals (NCLS-2016)’, 07-09 Dec. 2016.

- **Co-coordinator** of short term course on 'Advanced Materials Characterization Techniques' under the aegis of Faculty Development Centre (FDC), during March 19-24, 2018.

INVITED TALKS/LECTURES/ORAL PRESENTATIONS

- Attended various international and national conferences/workshop etc. and presented research work.

ADMINISTRATIVE AND OTHER ACTIVITIES

- Warden of Jasper Hostel since June 2018
- Department faculty coordinator CONSETTO (technical fest) during year 2016 and 2017
- Nominated member of BOCS (board of course structure) of BIT, Sindri for 2018
- Attended PG viva-voce examination of Hazaribag University in year 2016, 2017
- PG-Laboratory in-charge in Department

MEMBER OF SOCIETIES

- Life member of Laser and Spectroscopy Society of India.
- Member of Indian Laser Association (ILA), Indore.
- Founder member of Indian Society of Nano medicine, New Delhi

Ph. D. GUIDED/GUIDING

- Guided: **04 (Four)**
 1. **Dr. Manoj Mahata**, currently post-doctoral fellow at Korea
 2. **Dr. S. P. Tiwari**, currently post-doctoral fellow at University of Free State, South Africa
 3. **Dr. Abhishek Kumar**, currently post-doctoral fellow at University of Porto, Portugal
 4. **Dr. Shriya Sinha**, Ad-hoc teacher at Mahila Degree College, Dhanbad
- Ph. D. Guiding: **05** (Five, including one part time)
- PG students project guided : **10** (Ten)

PUBLICATIONS

Publications in International Journals: > 75
 Citations (as per google scholar): >1710
 H index: 24

