डॉ. प्रभात कुमार
सहायक प्राध्यापक (रसायन)
prabhat.chem@nitjsr.ac.in

Dr. Prabhat Kumar
Assistant Professor (Chemistry)
Ph: 8789577648, 9482933348

Orcid ID: https://orcid.org/0000-0001-7086-4558

Vidwan ID: https://vidwan.inflibnet.ac.in/profile/88733

URL: http://www.nitjsr.ac.in/academics/departments/profile.php?user_id=CH18

ACADEMIC/RESEARCH APPOINTMENTS

Assistant Professor, Department of Chemistry, **NIT Jamshedpur**, *June 14, 2018 –Till date.*

Assistant Professor, Department of Chemistry, **BIT Mesra**, **Ranchi**, *Jan 2018 – June 2018.*

Assistant Professor, Department of Chemistry, **NIT Jamshedpur**, *Aug 2016 –2017.*

Research Associate, **IISc Bangalore**, *Jan 2016– July 2016.*

RESEARCH INTERESTS

Organic Synthesis

Transition metal catalyzed coupling reactions

Quantum dots based solar cell

Chemistry and pharmacology of Āyurvedic Medicines

TEACHING EXPERIENCES

PG Teaching

- Advanced Organic Chemistry, BIT Mesra
- Chemistry of Natural Products, NIT Jamshedpur
- Organic Chemistry Laboratory Course, NIT Jamshedpur
- Electrochemistry, NIT Jamshedpur
- Thermodynamics and Electrochemistry, NIT Jamshedpur
- Design of Corrosion Protection, NIT Jamshedpur
- Photochemistry and Its Applications
- Teaching Assistant, Integrated-Ph.D. Lab, IISc Bangalore

UG Teaching

- Engineering Chemistry, Theory Course, NIT Jamshedpur

- Engineering Chemistry, Laboratory Course, NIT Jamshedpur
- Engineering Chemistry, Laboratory Course, BIT Mesra
- Inorganic Chemistry Laboratory Course, BIT Mesra
- Teaching Assistant, UG Lab Course, IISc Bangalore

MENTORING EXPERIENCES

	Title of the Dissertation	Field(s)	Year	Supervisor/ Co-Supervisor	Student Name
13.	The chemistry and medicinal properties of Nīma (Azadirachta Indica) – In light of Āyurveda	Organic Chemistry	2021	Supervisor	Ashish Kumar
12.	The noni fruit	Organic Chemistry	2021	Supervisor	Raffiuddin Hasan
11.	The chemistry and medicinal properties of Turmeric (Curcumin) – In light of Āyurveda	Organic Chemistry	2021	Supervisor	Ujjwal Kumar
10.	Electroplating and Composite Coating	Surface Science & Engg.	2020	Supervisor	Roshan Kumar
9.	N-Methyl iminodiacetic acid boronate derivatives in total syntheses: A literature review	Organic	2020	Supervisor	Sharad

8.	Slow-release strategy and iterative Suzuki coupling reaction of N-methyl iminodiacetic acid (MIDA) boronates: A literature review	Organic	2020	Supervisor	Deagi Murmu
7.	Synthesis and characterization of methyl iminodiacetic acid (MIDA) boronates: A literature review	Organic	2020	Supervisor	Ranjit Sha
6.	N-Methyl iminodiacetic acid (MIDA) boronates as spectator functional groups: A literature review	Organic	2020	Supervisor	Nikita S Nimgade
5.	Enamine catalysis: a tool for asymmetric synthesis	Organic	2019	Supervisor	Subham Pal
4.	Iminium catalysis and its historical development	Organic	2019	Supervisor	Samhita Sarkar
3.	SOMO catalysis	Organic	2019	Co-Supervisor	Manisha Kumari
2.	Cholesterol derived amphiphilic liquid crystals with succinic and phthalic linkers	Materials	2017	Supervisor	Puja Sindhu
1.	Effect of shape and flexibility of linkers on cholesterol derived amphiphilic liquid crystals	Materials	2017	Supervisor	Bhanu Taneja

RESEARCH PROJECTS HANDLED

Sl. No.	Title of the Project	Sponsoring Agency	Year of Completion	PI/ Co-PI	Total Amount (in Lakhs)	Status
1.	Band-Gap Engineering of Lead-Free Perovskite Quantum-Dots for Optoelectronic Application	NPIU-TEQIP-III	2020	Co-PI	11.45	Ongoing
2.	Band-Gap Engineering of Lanthanide Doped Perovskite Quantum-Dots for Opto-Electronic Application	TEQIP-III	2020	PI	3.0	Completed

ADMINISTRATIVE POSITION HELD

Associate Dean (Students' Welfare), NIT Jamshedpur; Oct. 01, 2018 to Sept. 30, 2020.

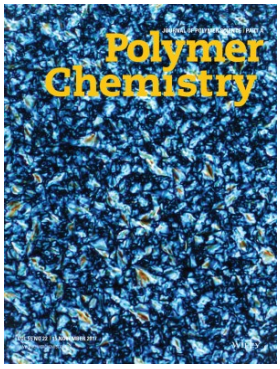
Member, Innovation and Incubation Centre

Member, Unnat Bharat Abhiyan

PUBLICATIONS

1. In–plane modulated smectic Ã *vs* smectic A lamellar structures in homologous pairs of dendritic liquid crystals. **Kumar**, **P**.; Rao, D. S. S.; Prasad, S. K.; Jayaraman, N. *Polymer*, **2016**, *86*, 98-104, **IF:** 3.74, **ISSN:** 0032-3861, **Accepted:** Jan 19, 2016, **Online:** Jan 21, 2016.

2. Dendritic iminodiacetic acids and their boronates in Suzuki-Miyaura cross-coupling reactions. Sharma, A.; **Kumar**, **P**.; Pal, R.; Jayaraman, N. *J. Organomet. Chem.* **2016**, *819*, 138-146, **IF:** 2.18, **ISSN:** 0022-328X, **Accepted:** June 24, 2016, **Online:** June 25, 2016.



3. Connector type-controlled mesophase structures in poly(propyl ether imine) dendritic liquid crystals of identical dendrimer generations. **Kumar**, **P**.; Rao, D. S. S.; Prasad, S. K.; Jayaraman, N. *J Polym. Sci. Part A: Polymer Chem.* **2017**, *55*, 3665-3678, IF: 2.95, ISSN:1099-0518, **Accepted:** June 21, 2017, **Online:** July 27, 2017, **Cover Page**.

4. Strain rate and temperature dependence of collapse pressure in Langmuir monolayer of cholesteryl dimers. Sarkar, A.; Suresh, K.A.; Kumar, P.; Jayaraman, N. *Thin Solid Films* 2021, 735, 138900, IF: 2.18, ISSN: 0044-6090, **Accepted:** August 17, 2021, **Online:** August 20, 2021.

FACULTY DEVELOPMENT PROGRAM

Teaching Learning Centre, IIT Madras, Jan 31-Feb 04, 2018

EDUCATION AND RESEARCH

Ph.D. Organic Chemistry
Aug 2009–Dec 2015
***GPA**: 6.3/8*

Department of Organic Chemistry
Indian Institute of Science (IISc) Bangalore
Thesis title: Synthesis and studies of dendritic poly(ether imine) boronates and cholesteryl-functionalized mesogens.

M.Sc. Organic Chemistry Aug 2007 – July 2009 **CGPA:** 7.39/10	Department of Chemistry Indian Institute of Technology (IIT) Delhi Dissertation Title: Bile Acid Based 1,3-Dipolar Cycloaddition Reaction Dissertation *Advisor*: Professor P. S. Pandey
B.Sc. Chemistry (Honors) Aug 2004 – July 2007 **Aggregate:** 77.9%	Institute of Science (then Faculty of Science) Banaras Hindu University (BHU), Varanasi with Physics and Mathematics as auxiliary subjects

FELLOWSHIP

- Senior Research Fellowship **(SRF)**, **IISc Bangalore**, India, *Aug 2014 – July 2015*.
- Senior Research Fellowship **(SRF)**, **CSIR** New Delhi, India, *Aug 2011 – July 2014*.
- Junior Research Fellowship **(JRF)**, **CSIR** New Delhi, India, *Aug 2009 – July 2011*.

ACADEMIC ACHIEVEMENTS

- **CSIR JRF-NET,** 3 times; June & Dec 2008 and June 2010.
- **GATE**, 2 times, Chemical Science

  Conducted by **IIT Roorkee**, 2009; **99.16** Percentile, AIR: 54.

  Conducted by **IISc Bangalore**, 2008; **91.67** Percentile, AIR: 525.
- **JAM-2007**, Chemistry, Conducted by IIT Guwahati (**IITG**), AIR: 120.
- **JAM-2006**, Chemistry, Conducted by IIT Delhi (**IITD**), AIR: 190.
- **UET-2004**, Mathematical Science, Conducted by **BHU** Varanasi, India.