

Pankaj Kumar Chaturvedi

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INFORMATION

Mailing Address

Lab No. E205, 2nd Floor,
Chemical Science Building,
Indian Institute of Science,
Bangalore: 560012, KA, India

Personal Information

Father: Mr. Santosh Kumar Chaturvedi
Date of Birth: January 28, 1997
Gender: Male
Marital Status: Unmarried

EDUCATION

Indian Institute of Science, Bangalore, India **2019-present**

Doctor of Philosophy (Ph.D.) in Organic Chemistry

Topic: *Supramolecular Chemistry using metal-organic hybrid systems.*

Supervisor: Prof. Uday Maitra

Banaras Hindu University, Varanasi, India **2017-2019**

Master of Science (M.Sc.) in Organic Chemistry

CGPA/Percentage: 8.79/10

Project: *Multicomponent Synthesis of Sulfonamide-Thiazolidinone Hybrids.*

Supervisor: Prof. Krishna Nand Singh

Hindu College, University of Delhi, New Delhi, India **2014-2017**

Bachelor of Science (B.Sc.) in Chemistry

CGPA/Percentage: 86.3%

ACADEMIC ACHIEVEMENTS

- Qualified National-level **GATE** CY-2019, CY-2020 & CY-2021 with the All-India Rank of **81, 93 & 176**, respectively.
- Qualified National-level **JRF (NET)-CSIR** Dec-2017 with the All-India Rank of **52**.
- Qualified National-level **JAM** (CY-2017) with an All-India Rank of 293.
- **INSPIRE** Scholarship Holder (UG & PG).

BROAD AREA OF RESEARCH

We explore new chemistry and supramolecular chemistry using bile acids and their salts. We also have a program on the design of functional soft materials such as composite organic-inorganic hybrid materials. Currently, we are working on the luminescent metallocholate hydrogels and energy transfer in these systems to develop a ‘*pro-sensitizer*’ based sensing of small molecules/ions (F^-) and enzymes (AChE, neuraminidase, α -galactosidase, α -glucosidase).

RESEARCH EXPERIENCE

- Organic reaction setups on small and large scales and purification by crystallization and column chromatography.
- Detailed analysis of products (structure and properties) by NMR, HRMS, and FT-IR.
- Maintained laboratory and equipment, troubleshooting issues when necessary to ensure a safe and productive lab. Also, maintained the lab inventory and lab supplies.
- Scientific reports writing detailing processes, products, tests, and facilities.

SKILLS AND INSTRUMENTS USED

- UV-Vis Spectrophotometer and HPLC (Shimadzu)
- Varian Cary Eclipse Spectrofluorometer and Varioskan® Flash & Tecan plate reader
- **Frequently Used Software:** Origin, ChemDraw, MestReNova, Microsoft Office *etc.*

PUBLICATIONS

- 1) A sensitive paper-based sensor for fluoride detection in water using Tb^{3+} photoluminescence (DOI: 10.1039/d4sd00078a).
- 2) A supramolecular gel-based protocol for detecting α -glycosidases and screening potential drug inhibitors (*Manuscript under preparation*).
- 3) Catalytic Promiscuity: A Novel Sugar Hydrolase Activity of Alkaline Phosphatase from a Bovine Source (*Manuscript under preparation*).
- 4) A neuraminidase sensing probe using Eu^{3+} photoluminescence for *Influenza* detection and screening of antiviral drugs (*Manuscript under preparation*).

CONFERENCE ATTENDED

- 1) Online RSC-IISER Desktop Seminar with CrystEngComm on 23/09/2021.
- 2) Online ACS Seminars on “*Advances in Polymer Nanocomposites*” 18-19/10/2021.
- 3) Online International Seminar on “*Advance Research in Molecular & Material Science*” on March 01-02, 2022.
- 4) “*29th CRSI National Symposium in Chemistry & CRSI-ACS Symposium Series in Chemistry*” on July 7-9, 2022, at IISER Mohali, India.
- 5) “*ChemSci 2023: Leaders in the Field Symposium*” on January 23-25, 2023, at JNCASR Bangalore, India.
- 6) “*PMRF Annual Symposium 2023*” on February 17-18, 2023, at IIT Madras.
- 7) “**Macrocyclic and Supramolecular Chemistry (MASC) 2023 international conference**” on December 17-18, 2023, in Birmingham, UK.