

Pawan Kumar

MS-Ph.D. Research Scholar
Supervisor: Prof. Shaikh M. Mobin
Department of Chemistry
Indian Institute of Technology Indore, M.P. (India)
msphd1907131002@iiti.ac.in, pawan1.iiti@gmail.com
https://www.researchgate.net/profile/Pawan_Kumar271
Mobile No. 9411229171



EDUCATION

2019 – Present	MS-PhD research scholar (Chemistry) <i>Indian Institute of Technology Indore MP (India)</i> Research Area: Design and Synthesis of Metal Organic Frameworks and their applications in drug delivery, gene delivery, biosensing and CO ₂ capture/fixation (Supervisor: Prof. Shaikh M. Mobin)
2017 – 2019	Master of Science (Specialization in Inorganic Chemistry) <i>Indian Institute of Technology Indore MP (India)</i> Thesis Title: Design, synthesis of Metal-organic frameworks (MOFs) and their biomedical applications (Supervisor: Prof. Shaikh M. Mobin)
2012 – 2015	Bachelor of Science (Chemistry, Mathematics and Physics) <i>Janta College Bakewar, CSJM University, Kanpur</i>

RESEARCH EXPERIENCE

Aug, 2017 – Oct, 2017	Master Research Project – 1 (Physical Chemistry) <i>Indian Institute of Technology Indore MP (India)</i> Project Title: The study of Maxwell-Boltzmann distribution law for Argon gas at different temperatures using C language programming (Supervisor: Dr. Satya S. Bulusu)
Oct, 2017 – Jan, 2018	Master Research Project – 2 (Inorganic Chemistry) <i>Indian Institute of Technology Indore MP (India)</i> Project Title: Synthesis of Nickel and Cobalt N ² , N ⁶ -bis(2-hydroxyphenyl)-pyridine-2,6-dicarboxamide complexes and their

	crystal structures (<i>Supervisor: Prof. Shaikh M. Mobin</i>)
Jan, 2018 – Apr, 2018	Master Research Project – 3 (Organic Chemistry) Indian Institute of Technology Indore MP (India) Project Title: Tetraphenyl porphyrin: Synthesis and structure (<i>Supervisor: Prof. Rajneesh Mishra</i>)

ACHIEVEMENTS

1. Qualified *IIT - Joint Admission test for M.Sc. (JAM)* test for Master programme in IITs conducted by Indian Institute of Technology Delhi in 2017.
2. Qualified *Graduate Aptitude Test in Engineering (GATE)* is conducted by Department of Higher Education, Ministry of Human Resources and Development (MHRD), **Government of India** in 2019.
3. Secured first position in secondary school (10th).
4. Passed senior Secondary (12th) with first honours.

LIST OF PUBLICATIONS

1. Gelatin-coated Copper based Metal-Organic Framework for Controlled Insulin Delivery: Possibility towards oral delivery system
ACS Materials Lett. **2023**, 5, 4, 1100–1108
Kumar, P; Kaur, N; Tiwari, P; Gupta, A.K.; Shaikh M. Mobin
2. Catalytic CO₂ Fixation over a Robust Lactam-Functionalized Cu(II) Metal-Organic Framework,
Inorg. Chem., **2019**, 58, 15, 9723-9732.
Ansari, S. N.⁺; **Kumar, P.**⁺; Gupta. A. K.; Mathur, P. and Shaikh M. Mobin
(⁺Equal Contribution)
3. Electrochemical energy storage properties of solvothermally driven ZnFe₂O₄ microspheres,
Mater. Res. Express, **2019**, 6(9).
Saraf, M.; Natarajan, K.; Gupta, A. K.; **Kumar, P.**; Rajak, R. and Shaikh M. Mobin
4. Multifaceted carbon dots: Towards pH-responsive delivery of 5-fluorouracil for in vitro antiproliferative activity
ACS Appl. Bio Mater. **2023**, 6, 7, 2760–2770
Kaur, N; Tiwari, P; **Kumar, P**; Biswas, M; Sonawane, A; and Shaikh M. Mobin

CONFERENCES/COURSES ATTENDED

Sep 06, 2017	<i>“5th Industry Academia Conclave”</i> organized by Indian Institute of Technology Indore, Simrol, India
Nov 06 - 17, 2017	<i>“Chemistry and Biology of Carbohydrates”</i> organized by Department of Chemistry, Indian Institute of Technology Indore in association with Max Plank Institute of Colloids and Interfaces, Germany
Dec 22 - 24, 2017	<i>“Contemporary Facets in Organic Synthesis 2017”</i> organized by Department of Chemistry, Indian Institute of Technology Roorkee – 247667 Uttarakhand, India
Jan 08 - 12, 2018	<i>“Inorganic chemistry of imaging: Magnetic resonance and optical imaging with coordination complexes”</i> organized by Department of Chemistry, Indian Institute of Technology Indore in association with University at Buffalo, The State University of New York
Jan 30, 2018	<i>“IIT Indore RSC Symposium on Advances in Chemical Sciences”</i> organized by Department of Chemistry, Indian Institute of Technology Indore in association with Royal Society of Chemistry, London
Feb 05 - 09, 2018	<i>“Metal-Ligand Interplay in Advanced Coordination Chemistry”</i> organized by Department of Chemistry, Indian Institute of Technology Indore in association with University of Strasbourg, France
Mar 12 - 18, 2018	<i>“Supramolecular Science: Basic Concepts, New Directions and Technology”</i> organized by Department of Chemistry, Indian Institute of Technology Indore in association with University of North Texas, USA
Aug 15 - Nov 18, 2019	<i>“Basics of Quantum Mechanics”</i> organized by Centre for Continuing Education, Indian Institute of Technology Kanpur, India
Apr 2 – Jun 10, 2020	<i>“Learning Physics Through Simple Experiments”</i> organized by Continuing Education, Indian Institute of Technology Kanpur, India
Aug 22, 2020	<i>“1st International conference on Advance and Colloidal and Polymeric systems (ASAPS-2020)”</i> organized by School of Chemical Engineering, Vellore Institute of Technology Vellore, India
Aug 25 - 26, 2020	<i>“Contagion Narratives: Society, Culture and Ecology of the Global South”</i> organized by the Department of English, School of Social Sciences and Languages, Vellore Institute of Technology, Vellore, India

Sep 20, 2020	<i>“Innovative Data Analytics Tools for Chemical and Life Sciences Research”</i> Organised by the Jharkhand Chemical Society, Ranchi, India
Oct 3, 2020	<i>“International Conference on Clinical Research”</i> organized by School of Bioscience and Technology, Vellore Institute of Technology Vellore, India
Oct 10, 2020	<i>“Educational Dynamics on Real & Virtual Platforms...Copyright Implications”</i> organized by Office of Research & Development, Indian Institute of Technology Indore, India
Nov 09 – 12, 2020	<i>“National Awareness Workshop on UGC-DAE CSR Facilities”</i> organized online by UGC-DAE CSR Mumbai Centre, CFB, BARC Campus, Trombay, Mumbai, Maharashtra Swayam Cell HNB Garhwal University (A Central University), Srinagar – Garhwal, Uttarakhand
Mar 04 – 05, 2021	International Conference on <i>“MATERIALS CHEMISTRY AND CATALYSIS”</i> (VIRTUAL MODE) organized by Department of Chemical Sciences, Tezpur University, Assam, India
Aug 30 – 31, 2021	<i>“Recent trends in chemistry at the interface with biology”</i> organized by Department of Chemistry, Bagnan College Howrah, India
Jan 28, 2022	<i>“Laser Spectroscopy applications to biology and medicine”</i> organized by ACS and Indian Institute of Science Education and Research, Bhopal-462066, India
Feb 21 - 26, 2022	<i>“Materials Engineering from Synthesis to Applications”</i> organized by the Department of Metallurgy Engineering and Materials Science, Indian Institute of Technology Indore, India
Mar 1 - 5, 2022	<i>“Chemistry from computational tools for beginner (CCTB-2020)”</i> organized by Department of Chemistry, SVNIT Surat, India
Jan 19 – 20, 2023	Poster present in <i>“RSC Symposium on Materials Science Towards New Horizons-2023”</i> organized by RSC London, United Kingdom and Department of Chemistry, Indian Institute of Technology Indore, India

SKILLS

1. Well-versed with mounting of single crystal & structure solving (Data collection, Data reduction) by using ShelXle package
2. Independent working in Cell culture, Confocal Imaging and Drug delivery Technology
3. Origin, Graph-Pad for all types of graphs
4. ACD lab for NMR data solving
5. CCDC database (for searching scientific information)
6. Well versed with C Language programming
7. Vesta and Diamond software for schematic diagram of crystal up to publication level

INSTRUMENTS EXPLORED

Single crystal X-ray diffractometer	96 well plate, UV-visible, spectrometer
Confocal Microscopy	Gel-electrophoresis
NMR 400 MHz	Spectrofluorometer
LCMS-HPLC	Powder X-ray diffractometer
GCMS	Thermogravimetric Analysis (TGA)

REFERENCES

1. **Prof. Shaikh M. Mobin**

Professor

1D-421, Chromium Building

Department of Chemistry and Adjunct Faculty,

Metallurgy Engineering and Materials Science (MEMS) and

Bioscience and Biomedical Engineering (BSBE) and

Indian Institute of Technology Indore, Khandwa Road, Simrol

Indore - 453552, India

Tel: 91-731-2438 752

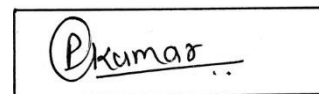
Email: xray@iiti.ac.in

Webpage: <http://people.iiti.ac.in/~xray/>

Declaration: I hereby declare that above the information is correct to the best of my knowledge.

Date: **30.08.2023**

Place: **IIT Indore**



(Pawan Kumar)