

## Biodata



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**Nationality** : Indian  
**Gender** : Male  
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**Qualifications** : **Ph.D. (Applaid Science) - 2023**  
National Institute of Technology Raipur (C.G.)

**Titlte:** “Design, Synthesis, Structural, Physico-Chemical Analysis and Applications of Coordination Polymers with Cobalt, Copper, Zinc and Cadmium Metals and Some Multidentate Organic Ligands”.

**Area of research** : Coordination Polymers (CPs), Metal Organic Frameworks (MOFs)

**M.Sc. Chemistrty - 2015**

School of Studies, Pt. Ravishankar Shukla University Raipur (C.G.)

**CSIR-NET Qualified - 2016**

**GATE Qualified 2016 and 2017**

**Job Profile** : **Guest Lecturer**

Govt. V. Y. T. PG Autonomous College Durg (C.G.)

**Research Experience : 8 Years**

**Teaching Experience : 6 Years**

**Scholar Link : <https://share.google/EKQ48OKqzhUfSCKLI>**

**Publications : 16 (SCI Papers)**

1. Barsa Sahu, Sunita Sanwaria, Ajay Kumar Singh, **Somnath**, Jyoti Patel, Ravin Jugade, Ambient Temperature Fabrication of ZIF-67 MOF: A Robust UV-Activated Photocatalyst for Dye Degradation, *Journal of Molecular Structure*, **2025**, 1327, 141152.
2. Preeti Sharma, M. Ahmad, **Somnath**, Nazrul Haq, K. A. Siddiqui, C–H...I Assisted 2D Cd(II)-coordination Polymer: Remarkable Photocatalytic Degradation of Rose Bengal Dye and Efficient Colorimetric Recognition of  $\text{La}^{3+}$  and  $\text{ClO}_4^-$ , *Journal of Molecular Structure*, **2025**, 1319, 139576.
3. Manish Kukreja, M. Ahmad, **Somnath**, K. A. Siddiqui, Cationic Cu(II)-MOF with 6-C Uni-Nodal Network: Photocatalytic Degradation of Rose Bengal Dye and Notable Colorimetric Recognition of TEA and 2,4-DNP, *Inorganic Chimica Acta*, **2024**, 572, 122274.
4. Anat Ram Sidar, **Somnath**, M. Ahmad, K. A. Siddiqui, Synthesis of 3-D Co(II)-oxonate Colorimetric Probe for Selective Detection of Isopropanol,  $\text{Co}^{2+}$ , and  $\text{MnO}_4^-$ , *Journal of Coordination Chemistry*, **2024**, 77, 1003–1029.
5. **Somnath**, M. Ahmad, K. A. Siddiqui, A Zn-Polyrotaxane One-Dimensional Coordination Polymer as a Multi-responsive Luminescence Sensor and Photocatalyst for Dye Degradation, *Journal of Coordination Chemistry*, **2024**, 77, 466–489.
6. **Somnath**, Ashok Kumar Bharti, M. Ahmad, Robert L. LaDuca, Anwar Jahan Wahidi, K. A. Siddiqui, 1D+3D→3D Zinc Polyrotaxane MOF: Selective Fluorescent Detection of Nitrobenzene, Uric Acid and Sucrose and Photocatalytic Degradation of Rose Bengal and Congo Red Dyes, *Journal of Molecular Structure*, **2024**, 1299, 137200.
7. **Somnath**, M. Ahmad, K. A. Siddiqui, Ratiometric Luminescent Sensing of a Biomarker for Sugar Consumption in an Aqueous Medium using a Cu(II) Coordination Polymer, *Dalton Transactions*, **2023**, 52, 3643–3660.
8. **Somnath**, M. Ahmad, K. A. Siddiqui, Cu(II)-Based Coordination Polymer

Encapsulated Formate: Unveiling Efficient Photocatalytic Degradation of Rose Bengal Dye and Remarkable Sensing of DMF, Acetone and Acetonitrile, *Journal of Molecular Structure*, **2023**, 1280, 135055.

9. **Somnath**, M. Ahmad, K. A. Siddiqui, Synthesis of a Mixed-Ligand H-Bonded Cu-Coordination Polymer: Exploring the pH-Dependent High Photocatalytic Degradation of Rhodamine 6G, Methyl Violet, Crystal Violet, and Rose Bengal Dyes under Room Illumination, *ACS Omega*, **2022**, 7, 41120–41136.
10. **Somnath**, Waris, A. Ali, M. Ahmad, K. A. Siddiqui, Bifunctional Self-Penetrating Co(II)-Based 3D MOF for High-Performance Environmental and Energy Storage Applications, *Crystal Growth & Design*, **2022**, 22, 7374–7394.
11. **Somnath**, M. Ahmad, K. A. Siddiqui, Multifunctional  $[\text{CdI}_4]^{2-} \cdot [\text{H}_2\text{Bimb}]^{2+}$  Complex to Probe High Performance Photocatalytic Degradation of Methyl Violet and Fluorescent Detection of  $\text{Cr}_2\text{O}_7^{2-}$  and  $\text{Hg}^{2+}$  ions, *New Journal of Chemistry*, **2023**, 47, 342–361.
12. **Somnath**, M. Ahmad, K. A. Siddiqui, Synthesis of Mixed Ligand 3D Cobalt MOF: Smart Responsiveness towards Photocatalytic Dye Degradation in Environmental Contaminants, *Journal of Molecular Structure*, **2022**, 1265, 133390.
13. **Somnath**, M. Ahmad, K. A. Siddiqui, 0D + 1D = 1D Zn-orotate-Bimb polyrotaxane coordination polymer: Synthesis, structure, thermogravimetric and variable temperature luminescence analysis, *Polyhedron*, **2022**, 215, 115693.
14. **Somnath**, L. Tyagi, R. Singh, P. Lama, K. A. Siddiqui, Gas sorption and luminescence properties of activated forms of a Cd(II)-coordination polymer, *Journal of Coordination Chemistry*, **2021**, 74, 2227–2238.
15. A. Yadav, **Somnath**, M. Ahmad, K. A. Siddiqui, Luminescent Properties of Activated Forms of Rigid ligand Cd(II)-coordination Polymers Sustained by Hydrogen Bond, *Inorganica Chimica Acta*, **2022**, 529, 120660.
16. A. K. Bharati, **Somnath**, P. Lama, K. A. Siddiqui, A Novel Mixed Ligand Zn-coordination Polymer: Synthesis, Crystal Structure, Thermogravimetric Analysis and Photoluminescent Properties, *Inorganica Chimica Acta*, **2020**, 500, 119219.

## **List of Paper Presented/Attended in National/International Conferences**

1. Organizing Committee Member in an **International Conference on Materials Science for Sustainable Development (ICMSSD - 2025)**, March 5-6<sup>th</sup> 2025.
2. **Somnath**, K. A. Siddiqui, Presented Poster on **Luminescence in Lanthanide Coordination Polymers: Current Status**; 2<sup>nd</sup> International Conference on “**Chemistry, Industry and Environment**” organized by Department of Chemistry, Zakir Hussain College of Engineering & Technology, Aligarh Muslim University, Aligarh, India from **18-02-2019 to 19-02-2019**.
3. **Somnath**, K. A. Siddiqui, Presented Poster on **Porous Coordination Polymers: Gas Storage and Separation**; 1<sup>st</sup> International Conference on “**Crystal Engineering From Molecule to Crystal**” (**CE-FMC-2019**) organized by Department of Chemistry, National Institute of Technology, Raipur, C.G., India from **30-03-2019 to 31-03-2019**.
4. Attended one X-RAY DIFFRACTION workshop program; “**One Day Bruker Workshop on X-RAY DIFFRACTION**” in Department of Chemistry, National Institute of Technology, Raipur (C.G.) India, **01-04-2019**.
5. Attended 2<sup>nd</sup> International Conference on “**Crystal Engineering: From Molecule to Crystal-2020 [CE:FMC]**”, A Virtual Meeting from **19-06-2020 to 20-06-2020**.
6. **Somnath**, K. A. Siddiqui, Presented Oral entitled **Cd-coordination Architecture: Synthesis, Structure and Applications**; 1<sup>st</sup> International Virtual Conferences on “**Recent Advances in Material Science and Organic Synthesis**” (**RAMSOS-2021**) organized by Department of Chemistry, National Institute of Technology, Raipur, C.G., India from **20-12-2021 to 21-12-2021**.
7. Attended International Web Conference on **Emerging Fields in Chemistry: Advances and Applications**; organized by Govt. Kamla Devi Rathi Girls P. G. College, Rajnandgaon, C.G, India from **10-08-2021 to 11-08-2021**.
8. Attended National Web Conference on **Novel Trends in Chemical Sciences (NTCS-2021)** organized by Govt. Digvijay Auto. P. G. College, Rajnandgaon, C.G., India from **20-10-2021 to 21-10-2021**.