

ACADEMIC PROFILE



DR. RAJARSHI CHATTERJEE

Associate Professor of Chemistry (W.B.E.S.)

M.Sc., Ph.D.

Email: rajuchacha.2009@gmail.com

- **Specialization:** Inorganic Chemistry
- **Date of joining in this college:** 21.05.2026
- **Total teaching experience in college level:** 20 years+
- **Area of research:** Polyoxometalates
- **Title of Ph.D. thesis :** Organic/Metalloorganic–Polyoxometalate Based Hybrid Materials: Synthesis, Structure and other Physical Properties
- **Research guidance (if any):** Nil
- **Research projects [completed /ongoing]:** Nil
- **List of publications:**

List of Publications (Book/Chapter)

Single Author of two reference books of under graduate level

Inorganic Chemistry: A Study Guide by Platinum Publishers ISBN: 978-81-89874-28-5

Inorganic Chemistry: Theory and Problems (CBCS) by Platinum Publishers ISBN: 978-81-89874-483

List of publications

1. Synthesis, crystal structure and helical ladder-like assembly of a novel terephthalato-bridged binuclear Cu(II) complex: First report on terephthalate bridging under tetraaza macrocyclic environment

February (2006) *Inorganic Chemistry Communications* 9(2):167-170

2. Hydrothermal synthesis and structural characterization of novel α -Keggin unit-supported Cu(II)- and Mn(II)-bipyridine complexes from a tri-lacunary precursor
February (2009) Transition Metal Chemistry 34(1):1-5
3. 4-(3,5-Dimethyl-1H-pyrazol-4-yl-methyl)-3,5-dimethyl-1H-pyrazol-2-iumdihydrogen phosphate: A combined X-ray and DFT study
April (2010) Acta Crystallographica Section C Crystal Structure Comm. 66(Pt 4):o190-3
4. Hydrothermal synthesis and characterization of bis(4,4'-bipyridinium) dodecatungstosilicate dehydrate
June (2013) Indian Journal of Chemistry Section a 52(6):749-752
5. In situ solid state polymerization and characterization of poly (N-vinylcarbazole) encapsulated Keggin type polyoxometalate nanocomposite
August (2013) Journal of Molecular Structure 1045:139–144
6. Encapsulation of a double-helical water–nitrate chain inside unique double helical chiral channels formed from Keggin POM and hexaquo-cobalt(II) units
January (2014) Polyhedron 68:265–271
7. Hydrated Potassium Cluster Based 2D Coordination Polymer OF β - $[\text{Mo}_8\text{O}_{26}]^{4-}$: Design Of a Supramolecule
B.N. Seal Journal of Science (2015) P 37-46
8. A Novel Rare-earth Polyoxometalates: Synthesis, Characterization through Crystallography and Spectroscopy *B.N. Seal Journal of Science (2017) P 71-78*
9. Bioremediation: A tribute to Green Chemistry
Conscientia (2017)
10. Hydrothermal Synthesis and Structural Characterization of Novel Transition metal Functionalized Hybrid Keggin Polyoxometalates
Scholarly Research Journal for Interdisciplinary Studies (SRJIS) (2017) Mar-April Vol - 4/30
11. Polyoxometalates: a two hundred year–journey since its Inception
(SRJIS) (2018) May-June Vol- 5/45: 10914-10928
12. Crystal Engineering of nano-architecture from Giant Polyoxometalate: Synthesis and its characterization
Journal of Emerging Technologies and Innovative Research (JETIR) July (2018), Volume 5, Issue 7: 98-104
13. A Novel Organic-Inorganic Hybrid Iron-bipyridyl Keggin Polyoxometalates: Synthesis and Characterization
JETIR February (2019), February, Volume 6, Issue 2: 861-869
14. A New Ruthenium-Based Borotungstate POM as Photosensitizer: Synthesis and Characterization
JETIR May (2019), Volume 6, Issue 5
15. Hydrothermal Synthesis and Physical Studies of Cobalt Substituted Trilacunary Polyoxotungstates
International Journal of Engineering, Science and Mathematics (IJESM) (2020)
Vol. 9 Issue 06, June: 58-63

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16. Synthesis and spectral characterization of a new lanthanide sandwich-type trilacunary Keggin Polyoxometalate

(SRJIS) (2021), Jan-Feb Vol- 8/63: 14882-14890

17. The Greener Side of Polyoxometalate: As an Efficient Photocatalyst for Degradation of Phenol from Contaminated Water Source

International Journal for Multidisciplinary Research (IJFMR) (2022) Sept-Oct Vol- 4, Issue 5: 1-11

18. Synthesis and Structural Elucidation of POM-based Hybrid with a Common Cobalt Centre: It's Antibacterial Activity and Future Perspectives

International Journal for Multidisciplinary Research (IJFMR) (2023) March-April Vol- 5, Issue 2: 1-14

19. A New Avenue in Hybrid Polyoxometalate Chemistry: Synthesis and Characterization of Mn (II) Functionalized POM Based Ionic Liquids

International Journal for Multidisciplinary Research (IJFMR) (2024) Jan-Feb, Volume 6, Issue 1

20. The Vibrant Palette of Ancient India: The Chemistry of Colors

International Journal on Science and Technology (IJSAT) (2025) October-December Vol-16, Issue 4

A. Participation in Seminars/Symposia/Conferences/Workshops:

Serial No.	Name of the Seminar/Symposium/Webinar	Organizer	Date	International/National	Nature of Presentation
1.	Malviya Mission Teacher Training Centre	IIT (Indian School of Mines) Dhanbad	December 16 th to 20 th 2024	National	Participation in Workshop

B. Participation in OP/RC/FIP/FDP

Name of the Course	Place	Duration	Sponsoring Agency
NA			

C. Membership of Learned Societies/ Editorial Boards, etc. (if any):

➤ **Patents (if any):** Nil

➤ **Awards (if any):**

➤ **Other notable activities (if any):**
