

Curriculum Vitae

Dr. LATA RANA

Assistant Professor
Department of Chemistry
S. V. National Institute of Technology Surat
Surat – 395007, Gujarat, India
Mobile No.: +91–8266805482
Email: latarana@chem.svniit.ac.in; lataranaiitr@gmail.com



EDUCATION

2012–2017	Ph.D. Chemistry (Entitled “Synthesis, Reactivity and Catalytic Activity of Molybdenum and Tungsten Complexes”) Indian Institute of Technology Roorkee, India Thesis Supervisor: Prof. M.R. Maurya
2008–2010	Master of Science, Specialization in Organic chemistry J.D.B. Girls College, University of Kota, Kota
2005–2008	Bachelor of Science (Chemistry, Botany, Zoology) J.D.B. Girls College, University of Kota, Kota

POST Ph.D. EXPERIENCE

August 2019– April 2021	Assistant Professor (Ad-hoc) Miranda House, University of Delhi, Delhi
June 2019 – August 2019	Senior Project Scientist Indian Institute of Technology Delhi, Delhi
March 2019–April 2019	Assistant Professor (Guest) Kirori Mal College, University of Delhi, Delhi
May 2018–December 2018	Research Associate Shiv Nadar University, Greater Noida, India Mentor: Dr. G. P. Roy

RESEARCH INTEREST

1. Synthesis, Characterization, and catalytic as well as biomimetic/bio-relevant properties of Transition metal complexes (Homogeneous and Heterogeneous compounds)
2. Design and synthesis of polymer supported transition metal catalysts for organic transformations under ecologically acceptable reaction conditions.
3. Ditholene based molybdenum and tungsten complexes and their Structural and functional modelling, and oxygen atom transfer reactions.

ACHIEVEMENTS

1. Qualified Graduate Aptitude test Examination (GATE) conducted by Ministry of Human Resources and Development, Govt. of India, 2012.
2. Selected for CSIR-JRF (Junior Research Fellowship) conducted by Joint CSIR-UGC in 2011.
3. Selected for Lectureship (NET) in 2010.

RESEARCH PUBLICATIONS IN INTERNATIONAL JOURNALS

1. **Lata Rana**, Mannar R. Maurya, and Fernando Avecilla, "Catalytic oxidation of internal and terminal alkenes by oxidoperoxidomolybdenum(VI) and dioxidomolybdenum(VI) complexes", *Inorg. Chim. Acta*, 429 (2015) 138–147.
2. **Lata Rana**, Mannar R. Maurya, and Fernando Avecilla, "Oxidoperoxido-tungsten(VI) and dioxidotungsten(VI) complexes catalyzed oxidative bromination of thymol in presence of H₂O₂-KBr-HClO₄", *Inorg. Chim. Acta*, 440 (2016) 172–180.
3. **Lata Rana**, Mannar R. Maurya, and Fernando Avecilla, "Molybdenum complexes with μ -O{MoO₂}₂ core: Synthesis, crystal structure and application as catalyst for the oxidation of bicyclic alcohols using N-based additives", *New J. Chem.*, 41 (2017) 724–734.
4. **Lata Rana**, Mannar R. Maurya, and Fernando Avecilla, "Phloroglucinol and resorcinol based mononuclear dioxidomolybdenum(VI) complexes: Synthesis, structural characterization and catalytic epoxidation", *Polyhedron*, 126 (2017) 60–71.
5. **Lata Rana**, Mannar R. Maurya, Nancy Jangra and Fernando Avecilla, "Bis{cis-[MoO₂]} complexes of 4,6-diacetyl resorcinol bis(hydrazone) and their catalytic application for the three components dynamic covalent assembly via hantzsch reaction", *Chemistry Select*, 2 (2017) 6767–6777.
6. Mannar R. Maurya, Reshu Tomar, **Lata Rana** and Fernando Avecilla, "Trinuclear Dioxidomolybdenum(VI) Complexes of Tritopic Phloroglucinol based ligands and their Catalytic Applications for the Selective Epoxidation of Olefins", *Eur. J. Inorg. Chem.*, 25 (2018) 2952–2964.

NATIONAL/INTERNATIONAL CONFERENCES/ WORKSHOP/ WEBINAR ATTENDED

1. Mannar R. Maurya, **Lata Rana** and Fernando Avecilla, "Synthesis, Spectral and Structural Characterization of Oxidoperoxidomolybdenum (VI) Complexes", 50th Annual Convention of Chemists, Punjab University, December 04–07, 2013. (Poster)
2. Mannar R. Maurya, **Lata Rana** and Fernando Avecilla, "Catalytic oxidation of internal and terminal alkenes by oxidoperoxidomolybdenum(VI) and dioxidomolybdenum(VI) complexes", Recent Advancements in Chemical Sciences (RAICS–2015), Malaviya National Institute of Technology (MNIT), Jaipur, August 21–23, 2015. (Poster)

3. Mannar R. Maurya, **Lata Rana** and Fernando Avecilla, "Oxidoperoxido tungsten(VI) and dioxidotungsten(VI) complexes catalysed oxidative bromination of thymol in presence of H₂O₂-KBr-HClO₄", *10th RSC-CRSI Symposium*, Punjab University, February 4–7, 2016. (Poster)
4. **Lata Rana**, National Webinar on Scintillating Chemistry, *Association of Chemistry Teachers*, TIFR, Mumbai, India on June 8, 2020.
5. **Lata Rana**, Online training workshop on *Computational Density Functional Theory*, Thanthai Periyar Government polytechnic College, Vellore, Tamilnadu, July 4th–5th, 2020.
6. **Lata Rana**, Indo-USA webinar on SARS-CoV-2 Transport and shipping, SARS-CoV-2 Laboratory Emergency Response, *SARS-CoV-2 and COVID-19 Risk Communication*, by Punjab University, Chandigarh, India, July 11, 2020.
7. **Lata Rana**, *TEQIP-III, Transforming Pedagogy in India*, by NIT Jamshedpur, August 1-3, 2020.
8. **Lata Rana**, The Bilateral Indo-Us Webinar on *COVID Biology*, by IISER Kolkata, India in collaboration with IISC Bangalore, India, University of Pennsylvania, and the University of Colorado, School of Medicine USA, August 16–19, 2020
9. **Lata Rana**, A webinar on *The SHE of Science World* by Department of Chemistry, Pandit Deendayal Energy University, Gandhinagar, Gujarat, India, March 8, 2021.
10. **Lata Rana**, Two day International Webinar on *Waste to Best: Sustainable Environment Remediation* by Department of Chemistry, Pandit Deendayal Energy University, Gandhinagar, Gujarat, India, April 12th–13th, 2021.

ORGANISED CONFERENCE/ WORKSHOP/WEBINAR

1. **Lata Rana**, An organizing Committee member in the National Workshop on *Nano Road Show-2020*, Miranda House, University of Delhi, February 1st, 2020.
2. **Lata Rana**, An organizing Committee member in the International webinar on *Empowering Diversity in Science* by Department of Chemistry, Miranda House, University of Delhi, Delhi, India, February 12, 2021.
3. **Lata Rana**, An organizing Committee member in the International conference on *Chemistry –the catalyst for change* by Department of Chemistry, Miranda House, University of Delhi, Delhi, India, February 19–20, 2021.

INSTRUMENTATION AND SOFTWARE SKILLS

1. FT-IR (*Thermo Nicolet 2200*)
2. UV-Vis (*Shimadzu 1601*)

3. NMR(*Bruker Avance III*)
4. Gas chromatography (*Shimadzu 2010 plus*)
5. Gas chromatography mass spectrometry (GC/MS) (*Perkin-Elmer, model Clarus 500*).
6. Origin for UV-Vis analysis and Jeol softwares/Mnova for NMR Plots.
7. Mass Spectrometer

COURSES TAUGHT

1. B.Sc.(H) Chemistry: Physical Chemistry -III, Phase Equilibria and Electrochemical Cells.
2. B.Sc.(H) Chemistry: Physical Chemistry- I, States of Matter & Ionic Equilibrium.
3. B.Sc. Life Science: Chemical Energetics, Equilibria and Functional Group Organic Chemistry-I.
4. B.Sc. (H) Zoology, GE: Molecules of Life.
5. B.Sc. Life Science: Solutions, Phase Equilibrium, Conductance, Electrochemistry and Functional Group Organic Chemistry-II.
6. B.Sc. (H) Zoology, GE: Chemistry of d-block elements, quantum chemistry & Spectroscopy.

PERSONAL DETAILS

Date of Birth	October 25, 1989
Nationality	Indian
Marital Status	Single

LANGUAGE PROFICIENCY

English, Hindi

REFERENCES

Dr. Mannar R. Maurya, Dean & Professor
Department of Chemistry
Indian Institute of Technology Roorkee
Roorkee-247667 (Uttarakhand), India
Email- mannarfcy@gmail.com, rkmanfcy@iitr.ac.in

Dr. Ravi Bhushan, Professor
Department of Chemistry
Indian Institute of Technology Roorkee
Roorkee-247667 (Uttarakhand), India
Email- rbushfcy@iitr.ac.in

Dr. C. N. Ramachandran, Assistant Professor
Department of Chemistry
Indian Institute of Technology Roorkee
Roorkee-247667 (Uttarakhand), India,
Email- ramcnfcy@iitr.ac.in