

## BIO-DATA

**NAME:** Dr. MRINAL KANTI GHOSH  
**FATHER'S NAME:** KANAK KUMAR GHOSH  
**FULL ADDRESS:** VILL+P.O- DALIMOULA, P.S- DHUBULIA,  
DIST- NADIA, PIN-741140, WEST BENGAL, INDIA.  
**EMAIL ID:** [ghoshmrinal88@gmail.com](mailto:ghoshmrinal88@gmail.com)  
**CONTACT NO:** 8420143588  
**DATE OF BIRTH:** 24-08-1988  
**GENDER:** MALE



### ❖ ACADEMIC QUALIFICATION:

Examination	Year of Passing	Subjects Taken	University/Institution	% of Marks
MADHYAMIK	2004	BFL, ESL, BIOS	W.B.B.S.E	77.75
H.S	2006	BNGA, ENGB,CHEM, MATH, PHYS, BIOS	W.B.C.H.S.E	80.1
B.Sc	2009	CHEMISTRY(HONS)	UNIVERSITY OF KALYANI	57.63
M.Sc	2011	CHEMISTRY (INORGANIC SPECIALIZATION)	UNIVERSITY OF KALYANI	68.33
Ph.D	2018	CHEMISTRY	UNIVERSITY OF KALYANI	-

### ❖ Ph.D THESIS TITLE, SUPERVISOR'S NAME:

**THESIS TITLE:** "Organometallic Chemistry of Ruthenium Incorporating Different Chelating Ligands."

**SUPERVISOR:** Dr. Swarup Kumar Chattopadhyay.

### ❖ Professional Recognition/ Award/ Prize/ Certificate, Fellowship received:

SL. No.	Name of Award	Awarding Agency	Year
1	Gate-2012(AIR-973)	Indian Institute of Technology (IIT)	2012
2	UGC-JRF (AIR-79)	CSIR-UGC	2015
3	Merit Cum Means Scholarship	Govt. of West Bengal	2009

❖ **Research Experience:** Five (05) Yrs.

Designed and synthesized a family of four membered orthometallated ruthenium organometallics and studied their reactivities towards different monodentate and bidentate and tridentate ligands, e.g; acetylacetonato, 2-mercaptopyrimidine, pyridine-2,6-dicarboxylate, thiophenolate, phenolate, dithiocarbamate, benzazolate, nitro benzoate, 2-picolate, 2-hydroxypyridine etc. I have also synthesized a series of dirhenium complexes containing various triphenylguanidinato, dithiocarbamate, nitro benzoate, different thiophenol and phenolic ligands. Designed the dirhenium paddlewheel complexes containing rhenium-rhenium quadruple bonds and used them as synthons in the generation of larger metal clusters and chains by using a variety of linkers. I have used different spectroscopic techniques such as UV-vis, NMR, HRMS, FTIR and DFT to characterize these species. Structural identity of these complexes was obtained by single crystal XRD.

❖ **PUBLICATIONS:**

1. “Spectroscopic, structural, electrochemical and cytotoxicity studies of dithiocarbamate chelated ruthenium organometallics incorporating imine-phenol function” **Mrinal Kanti Ghosh**, Suman Mandal, Sudip Mohapatra, Annesha Chatterjee, Arindam Bhattacharyya, Swarup Chattopadhyay\* *J. Coord. Chem.* **2019**, 72(Issue-1), 180-200.
2. “Pyridine-2-olato chelated ruthenium(II) organometallics incorporating imine-phenol function: spectroscopic, structural, electrochemical and theoretical studies” Anikul Islam, **Mrinal Kanti Ghosh**, Suman Mandal, Paula Brandão, Swarup Chattopadhyay\* *J. Coord. Chem.* **2019**, 72(Issue-1), 164-179.
3. “Ruthenium—Carbon(Aryl) Bond Cleavage and Change in the Ligand Coordination Mode in a Four-Membered Ortho-Metalated Ruthenium(II) Organometallics Promoted by Thiolato Ligands” *ChemistrySelect*, **2017**, 2, 6710–6716. **Mrinal Kanti Ghosh**, Suman Mandal, Anikul Islam, Sudip Mohapatra, and Swarup Chattopadhyay\*
4. “The First Examples of Multiply Bonded Dirhenium(III,II) Paramagnetic Complexes Containing Nitrobenzoate Ligands: Spectroscopic, Structural, Cytotoxicity and Computational Studies” *J. Chem. Soc., Dalton Trans*, **2017**, 46, 5670–5679. Suman Mallick, **Mrinal Kanti Ghosh**, Suman Mandal, Vinayak Rane, Ramakant Kadam, Annesha Chatterjee, Arindam Bhattacharyya and Swarup Chattopadhyay\*
5. “Cleavage of Ru-C(aryl) Bond of a Four-membered Ortho-metalated Ruthenium(II) Organometallics by Mercaptopyrimidine and Pyridine-2,6-dicarboxylate Ligands: Spectroscopic, Structural and Computational Studies” *Polyhedron* **2016**, 104, 73–79. **Mrinal Kanti Ghosh**, Suman Mallick, Anikul Islam, Sudip Mohapatra and Swarup Chattopadhyay\*
6. “Dirhenium Paddlewheel Complexes Bearing para-Substituted Triphenylguanidinate Ligands: Synthesis, Spectroscopic and Computational studies” *J. Indian. Chem. Soc.* **2015**, 92, 1875-1883. Suman Mallick, **Mrinal Kanti Ghosh**, Anikul Islam and Swarup Chattopadhyay\*
7. “Triphenylguanidine-Promoted ortho-Metalation Reaction in a Triply Bonded Dirhenium System – Spectroscopic, Structural, and Computational Studies” *Eur. J. Inorg. Chem.* **2015**, 1759–1765. Suman Mallick, **Mrinal Kanti Ghosh** and Swarup Chattopadhyay\*
8. “Acetylacetonato Chelated Ruthenium Organometallics Incorporating Imine–phenol Function: Spectroscopic, Structural, Electrochemical and Cytotoxicity Studies” *Inorg. Chim. Acta* **2015**, 430, 36–45. Suman Mallick, **Mrinal Kanti Ghosh**, Ananda Sarkar, Samir Jana, Arindam Bhattacharyya, Sudip

Mohapatra and Swarup Chattopadhyay\*

9. "Synthesis, Structure and Spectral Properties of Dithiocarbamate Bridged Dirhenium(III,II) Complexes: A Combined Experimental and Theoretical Study" *Inorg. Chim. Acta* **2015**, 424, 129-135. Suman Mallick, **Mrinal Kanti Ghosh**, Manoj Mohapatra, Sudip Mohapatra and Swarup Chattopadhyay\*
10. "Reactions of the Dirhenium(III) Complex  $\text{Re}_2(\mu\text{-O}_2\text{CCH}_3)_4\text{Cl}_2$  with Triphenylguanidine: Dirhenium Paddlewheel Complex Versus the Mononuclear Quadruple Bond Cleavage Product" *Polyhedron* **2014**, 71, 104–110. Suman Mallick, **Mrinal Kanti Ghosh**, Rajat Saha and Swarup Chattopadhyay\*

❖ **Selected Symposium/Conference Presentation:**

1. "Ru-C(aryl) Bond Cleavage of an Ortho-metalated Ruthenium(II) Organometallics" National Seminar on Current Trends in Chemistry-VII (NSCTC-VII), February 24, 2016 Department of Chemistry, University of Kalyani, Kalyani, India.

2. "Spectroscopic, Structural and Computational Studies of Dirhenium Complexes Incorporating the Guanidinato and Dithiocarbamate Ligands" National Conference on Chemistry Interfacing With Biology and Physics, January 27-28, 2017 Indian Institute of Science Education and Research Kolkata (IISER Kolkata), Inida.

❖ **Additional Skills:**

- Design and implementation of multi-step syntheses.
- Experienced in synthesis and handling of air and moisture sensitive compounds, separation of compounds by column chromatography, structure elucidation of inorganic / organic/organometallic compounds by UV-vis, HRMS, IR, NMR, EPR, and DFT.
- Conversant with commonly used computer software (MS Excel, MS PowerPoint, MS Word, ChemDraw, Chem3D Pro 7.0, gOpenMol, Mercury 2.2, Diamond 3, Ortep 3V2, ISIS draw 2.2, OriginPro 6.1 etc.), search databases (Scopus, Reaxys etc.).
- Instruments operated: IR, UV-vis, Fluorimeter, Electrochemistry System, HP Z400 workstation etc.
- Experienced to perform different theoretical work (geometry optimization, single point energy calculation, TD-DFT by using ORCA2.9.1 software package).
- Excellent oral and written communication skills. Experienced in writing reports and publications.

❖ **Teaching Experience:**

More than one year (**March 2012 to April 2013**) of teaching experience as a visiting faculty in the department of Chemistry of Kalyani Govt. Engineering College, West Bengal, India.

- Presently working as a State Aided College Teacher -1 (SACT-1) at the Department of Chemistry of Srikrishna College (W.B) on and from 04<sup>th</sup> July 2018.

❖ **Webinar Attended:**

- Participated in the Ministry of Human Resources Development (MHRD)- Scheme for Promotion of Academic and Research Collaborations (SPARC) supported International online Faculty Development Programme on “Translational And Interdisciplinary Research In Human Diseases Management” organized by the Centre for Drug Discovery and Development, Sathyabama Institute of Science and Technology, Chennai from 24th to 30th July 2020.
- Participated in One Week Online FDP on “Engineering Physics and Materials Science”, organized by Department of Physics, Chaitanya Bharathi Institute of Technology, Hyderabad from 03-08-2020 to 07-08-2020.
- Participated in One Day International Webinar on “Covid-19 Pandemic: a Search for Relief” organized by the Department of Chemistry in Association with IQAC, Charuchandra College, Kolkata, West Bengal, India, on 22nd August, 2020.
- Participated in the 3 days-webinar series titled “International Virtual Symposium On Advances In Chemical Sciences” held on 14th, 21st & 24th September 2020 organized by Department of Chemistry, Diamond Harbour Women’s University, West Bengal in association with Royal Society of Chemistry.

**DECLARATION:** I do hereby declare that the particulars of information and facts stated above are true, correct and complete to the best of my knowledge and belief.

Mrinal Kanti Ghosh

Dr. MRINAL KANTI GHOSH