Dr. Sanjib Ganguly (Ph.D)

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*Dr. Sanjib Ganguly was brought up in Kolkata and his schooling was in **Calcutta Boys' School**. After completing his ISC Examination, he took admission in **Presidency College, Kolkata** (currently Presidency University) from where he received his graduation degree in Chemistry (Hons). Thereafter, he completed his post-graduation in Chemistry (Inorganic Special) from **University of Calcutta** (Rajabazar Science College) and qualified the CSIR NET as well as GATE (98.85 percentile) in the same year. Subsequently, he joined as a junior research fellow (JRF) at the Indian Association for the Cultivation of Science (**IACS, Kolkata**) from where he was promoted to senior research fellow after 2 years and finally was awarded the Ph. D degree (under the supervision of Prof. Animesh Chakravorty)*

He joined St. Xavier's College (Autonomous) Kolkata as a Lecturer in Chemistry in January, 2001 and is currently serving the same institute as an Associate Professor in Chemistry.

Teaching Experience:

Under-graduate level: 24 years

Post-graduate level: 15 years (Jadavpur University and Presidency University)

Ph. D. Course-work: 2 years

Areas of Research Interest:

- Metal mediated chemical transformation
- Coordinated radicals: Stabilization & Electron Transfer Pathways
- Electron transfer catalysis using coordinated electron poor ligands
- Electrocatalytic carbon dioxide reduction reaction (CO_2RR)
- Anti-cancer and anti-microbials properties of transition metal complexes

Research Group:

Current Ph. D student: Gopal Kanrar, Aratrika Samajdar, Aritra Das

Current Project student: Mohar Majumdar, Jhanwi Pathak, Kaushik Kundu

Past Ph. D. Student: Dr. Shuvam Pramanik, Dr. Soumitra Dinda

Research Projects Undertaken:

Granting Agency with Ref. No. & Date (Ongoing/Completed)	Title of the Project	Duration	Research scholars provided	Amount in Rs.
UGC Minor Research Grant (COMPLETED)	Hetero-polymetallated Radical Complexes: Synthetic, Structural, Spectral and Magnetic Studies	2009-2011 (1.5 years)	NIL	1,17,000
UGC Major Research Grant Reference No. & Date: F. No. 42-248/2013(SR) (COMPLETED)	Synthesis, Structure, Spectral, Theoretical Study and Exploration of Reactivity of Transition Metal Complexes with ligands containing azo group in conjunction with other function.	2013–2015 (2 years)	NIL	4, 48,000
WBDST Grant No. 683(Sanc.)/ST/P/S&T/4G-11/2014 (COMPLETED)	Mono and Polynuclear Complexes with π-acidic Oximato Function: Synthesis and Spectral, Electrochemical, Theoretical & Reactivity Study	2016–2019 (3 years)	ONE (1)	12.78,000
Intramural Grant from St. Xavier's College (Autonomous), Kolkata (**ONGOING**)	Exploration of the role of inexpensive catalyst using 3d-complexes of novel redox non-innocent ligands for synthesis of C–C bonds and N-hetero-cycles.	2023-2025 (2 years)	NIL	3,00,000

Presentations in Symposia, Conferences & Workshops

1. ***International Symposium on Advanced Biological Inorganic Chemistry***, **SABIC- 2024**, ***January 7-11, 2024*** organized jointly by IACS & NCL, Pune ***(ORAL PRESENTATION)***
2. ***Resource Person*** in the International webinar on ***"Impact of Covid-19 on education at institutions of higher education across the globe" on 25th April, 2022 organized by Central Connecticut State University, USA.***
3. Delivered an ***online Lecture*** in the ***Faculty Development Programme (FDP) on "Bioinorganic Chemistry"*** on ***30th September, 2021*** organized by the **DBT Star College Scheme**, St. Xavier's College (Autonomous), Kolkata.
4. Delivered an ***online Lecture*** on ***"Redox Principles in certain Chemical & Biochemical Reactions"*** for under-graduate students of Chemistry on ***3rd August, 2021***, organized by the Department of Chemistry, Birati College (Mrinalini Dutta Mahavidyapith)
5. ***Resource Person*** in UGC CPE funded State Level Workshop on "***Analytical Techniques for Biological Research***" on ***February 16, 2020*** at the **BRSN College**
6. **International Conference RACBC-2020** at **St. Xavier's College**, **Kolkata** ***January 10, 2020***. (***ORAL PRESENTATION***)
7. ***Popular Lecture*** on **"Intriguing Metal Mediated Organic Transformation**", ***February 2020*** at the **Surendranath College, Kolkata**
8. International Conference on **Modern Trends in Inorganic Chemistry (MTIC)-2019 at IIT Guwahati,** ***December 11, 2019***. (***ORAL PRESENTATIONS***)
9. ***Popular Lecture*** on ***"Role of Periodic Table in Biological Research"*** organized by the **Royal Society of Chemistry** at the Birla Science Museum on ***November 30 2019.***
10. ***Resource Person*** in UGC CPE funded State Level Workshop on "***Refreshing Chemistry for Biologist***" on ***December 14, 2017*** at the **BRSN College**.

11. ***Asian Meeting on Metal Oxide Assemblies*** (AMMOA 2017), ***May 9-10, 2017*** at **IISER, Kolkata**. ***(ORAL PRESENTATIONS)***
12. National Seminar on Emerging Trends in Chemistry (**ETC- 2017**), ***February 15, 2017***. (***POSTER PRESENTATION***)
13. ***International Symposium on Advanced Biological Inorganic Chemistry***, **SABIC- 2017**, ***January 7-11, 2017*** organized jointly by IACS & NCL, Pune ***(ORAL PRESENTATION)***
14. ***International Symposium on Modern Trends in Inorganic Chemistry- XVI*** (MTIC- XVI), ***December 3-5, 2015*** at the **Jadavpur University**, Kolkata. ***(POSTER PRESENTATION)***
15. ***International Conference on Structural Chemistry of Molecules and Materials***, SCOMM-2014, ***November 30- December 2, 2014*** at Centre for Research in Nanoscience and Nanotechnology (CRNN), University of Calcutta. ***(POSTER PRESENTATION)***

Awards & Recognitions:

1. **Bursary Grant** for attending 24th **IUCr Congress and General Assembly** in Hyderabad in 2017
2. **CSIR NET** fellowship in 1995 for pursuing Ph. D.
3. **GATE** conducted by IIT1995 (98.85 percentile, AIR: 21)

Convener/ Coordinator in Symposia

- **Convener** of the International Seminar on "Modern Perspectives of Chemistry in Biology," MPCB-2024 organized by St. Xavier's College in association with the Royal Society of Chemistry (Eastern India Section) on ***January 6th, 2024***.
- Convener of the Professional Scientific Development Programme **PSPD 2022** organized by St. Xavier's College (Autonomous), Kolkata, ***November 23rd - 30th, 2022***
- **Convener** of the "National Symposium on Modern Research Trends in Chemistry, **MRTC-2019**", ***February 22-23, 2019*** at the St. Xavier's College, Kolkata (jointly with the Royal Society of Chemistry, Eastern India Section)
- **Convener** of the "International Symposium on Chemistry in Modern day Cancer Research, **CMCR-2019**", ***January 8th, 2019*** at the St. Xavier's College, Kolkata
- **Convener** of the "International Symposium on Chemistry & its Role in Environmental Biology, **CREB-2018**", ***June 20th, 2018*** at the St. Xavier's College, Kolkata
- **Convener** of the "National Symposium on Facets of Chemistry in Materials & Biology, **FOCMB-2018**", ***February 16- 17, 2018*** at the St. Xavier's College, Kolkata
- **Convener** of the "International Symposium on Facets of Chemistry in Biology, **FOCB- 2017**", ***January 12th, 2017*** at the St. Xavier's College, Kolkata
- **Convener** of the "National Symposium on Facets of Chemistry in Biology, **FOCB-2016**", ***February 22- 23, 2016*** at the St. Xavier's College, Kolkata

List of Research Publications in peer reviewed journals

1. N–N hydrazonyl bond cleavage in benzothiazolyl-hydrazino-phenathrenequinone mediated by ruthenium(II) via an anion radical intermediate: Gopal Kanrar, Supriyo Halder, Srijita Naskar, Debashis Jana, Arup Sarkar, Bikash Kumar Panda, Soumitra Dinda, Kausikisankar Pramanik* and **Sanjib Ganguly***
   Journal of Molecular Structure, **2024**, 1314, 138720. (**Impact Factor: 4.0**)
2. Halogen Bonding in Stereoselective Metal Chloride (M–Cl) Bond Activation and Transformation to Metal Triiodide ($M–I_3$): Soumitra Dinda, Debashis Jana, Rosa M Gomila, Antonio Frontera*, Subhadip Roy, Sarat Chandra Patra, Kausikisankar Pramanik* and **Sanjib Ganguly***
   Cryst. Growth Des. **2024**, 24, 8, 3342–3354. (**Impact Factor: 3.8**)
3. Coordinatively fluxional diazo-based organo-electrocatalyst for conversion of CO_2 to C2 and C3 products: Nidhi Kumari, Supriyo Halder, Srijita Naskar, **Sanjib Ganguly***, Kausikisankar Pramanik*, Farzaneh Yari, Adrian Dorniak, Wolfgang Schöfberger*, Soumyajit Roy*
   Materials Today Catalysis, **2024**, 5, 100049. (**Impact Factor: 8.0**).
4. Ruthenium complexes of redox non-innocent aryl-azo-oximes for catalytic α-alkylation of ketones and synthesis of 2-substituted quinolines: Supriyo Halder, Srijita Naskar, Debashis Jana, Gopal Kanrar, Kausikisankar Pramanik*, **Sanjib Ganguly***
   New J. Chem. **2024**, 48, 8181-8194.
5. Electron transfer catalysis mediated by 3d complexes of redox non-innocent ligands possessing an azo function: a perspective. Alok Apan Swatiputra, Debaarjun Mukherjee, Soumitra Dinda, Subhadip Roy, Kausikisankar Pramanik*, **Sanjib Ganguly***
   Dalton Trans., **2023**,52, 15627-15646 (**Impact Factor: 4.569**)
6. Role of ligand disposition and oxime… oximato hydrogen bonding upon redox non-innocent character of rhodium (III) phenylazooximates: S. Naskar, S. Halder, G. Kanrar, D. Jana, S. Dinda, K. Pramanik* and **Sanjib Ganguly***
   Polyhedron, **2023**, 235, 116342. (**Impact Factor: 2.975**)
7. Electrocatalytic Nitrogen Reduction Reaction (NRR) A Probable Alternative to Haber-Bosch Process (HBP): J. Basu and **Sanjib Ganguly***
   Resonance, **2023**, 28, 279-291. (**Impact Factor: 0.21**)
8. Molecular and Electronic Structures, Spectra, Electrochemistry and Anti-bacterial Efficacy of Novel Heterocyclic Hydrazones of Phenanthrenequinone and Their Nickel (II) Complexes: S. Dinda, D. Maitra, B. Roy, P. Khan, A. Samajdar, Arup Kumar Mitra, S. Roy, A. Mondal, K. Pramanik* and

Sanjib Ganguly*

***ChemistrySelect*, 2022**, (34), e202202151 (**Impact Factor: 2.307**)

9. Azo-oximate metal-carbonyl to metallocarboxylic acid via the intermediate Ir(iii) radical congener: quest for co-ligand driven stability of open- and closed-shell complexes:

   S. Dinda, S. Pramanik, J. Basu, S. C. Patra, K. Pramanik* and **Sanjib Ganguly***

   ***Dalton Trans.*, 2022**, 51, 10121-10135. (**Impact Factor: 4.569**)

10. A perspective on exploration of synthetic reaction pathways of stable metallocarboxylic acids and structural features of MCOOH moiety: S. Pal, S. Dinda, **Sanjib Ganguly***

    ***J. Organomet. Chem.*, 2022**, 968-969, 122355 (**Impact Factor: 2.345**)

11. Diarylazooxime complex of cobalt(III): synthesis, structure, ligand redox, DFT calculations and spectral characteristics: Soumitra Dinda, Koushik Sarkar, Bikash Kumar Panda, K. Pramanik* & **Sanjib Ganguly***

    ***Transition Metal Chemistry*, 2022**, 47, 31–38 (**Impact Factor: 2.266**)

12. An insight into the coordination specificity of polyaromatic hydrocarbons (PAHs) grafted hydrazones towards rhodium(III): S. Dinda, S. Naskar, S. Roy, K. Pramanik* and **Sanjib Ganguly***

    ***Polyhedron* 2021**, *205*, 115318 (**Impact Factor: 2.975**)

13. Coligand driven diverse organometallation in benzothiazolyl-hydrazone derivatized pyrene: ortho vs. peri C–H activation

    S. Dinda, S. C. Patra, S. Roy, S. Halder, T. Weyhermüller, K. Pramanik*, **Sanjib Ganguly***

    ***New J. Chem.* 2020**, 44, 1407-1417 **(Impact Factor: 3.925)**

14. Ruthenocycles of benzothiazolyl and pyridyl hydrazones with ancillary PAHs: Synthesis, structure, electrochemistry and antimicrobial activity

    S. Dinda, T. Sultana, S. Sultana, S. C. Patra, A. Mitra, S. Roy, K. Pramanik*, **Sanjib Ganguly***

    ***New J. Chem.* 2020**, 44, 11022-11034 **(Impact Factor: 3.925)**

15. Rhodium assisted peri-C–H activation in benzothiazolyl-hydrazone derivatized pyrene

    S Dinda, SC Patra, T Samanta, A Basu, K Pramanik*, **Sanjib Ganguly***

    ***Polyhedron* 2020,** 179, 114352 **(Impact Factor: 2.975)**

16. Polyaromatic hydrocarbon derivatized azo-oximes of cobalt (iii) for the ligand-redox controlled electrocatalytic oxygen reduction reaction

    S Dinda, S Roy, SC Patra, S Bhandary, K Pramanik*, **Sanjib Ganguly***

    ***New J. Chem.* 2020**, 44, 3737-3744 **(Impact Factor: 3.925)**

17. Rhodium(III) complex with pyrene-pyridyl-hydrazone: synthesis, structure, ligand redox, spectral characterization and DFT calculation.

    ***J. Chem. Sci.* 2019**, 131(3), 24 (doi.org/10.1007/s12039-019-1598-5) **(Impact Factor: 2.150)**

    Soumitra Dinda, Sarat Chandra Patra and **Sanjib Ganguly***

18. Synthesis, X-ray crystal structure, DFT calculations, spectroscopic characterization and redox behaviour of a rhodium (III) complex of an anthracene-pyridylhydrazone ligand.

Transition Met. Chem. **2019**, 44, 0000 (doi.org/10.1007/s11243-018-00300-4) (**Impact Factor: 2.266**)

Soumitra Dinda, Sarat Chandra Patra, Bikash Kumar Panda and **Sanjib Ganguly***

19. Ambient-Stable Bis-Azoaromatic-Centred Diradical [(L•)M(L•)] Complexes of Rhodium(III): Synthesis, Structure, Redox and Spin-Spin Interaction

Inorg. Chem. **2017**, 56(21), 12764-12774. **(Impact Factor: 5.436)**

Sima Roy, Shuvam Pramanik, Sarat Chandra Patra, Basab Adhikari, Abhishake Mondal,

Sanjib Ganguly and Kausikisankar Pramanik*

20. Luminescent Closed Shell Nickel(II) Pyridyl-azo-oximates and the Open Shell Anion Radical Congener: Molecular and Electronic Structure, Ligand Redox and Biological Activity

New. J. Chem., **2017**, *41*, 4157-4164. **(Impact Factor: 3.925)**

Shuvam Pramanik, Suhana Dutta, Sima Roy, Soumitra Dinda, Tapas Ghorui, Arup Kumar Mitra, Kausikisankar Pramanik and **Sanjib Ganguly***

21. Iridium(III) Mediated Reductive Transformation of Closed-Shell Azo-oxime to Open-Shell Azo-imine Radical Anion: Molecular and Electronic Structure, Electron Transfer and OptoelectronicProperties"

Inorg. Chem., **2016**, *55(4)*, 1461-1468. **(Impact Factor: 5.436)**

Shuvam Pramanik, Sima Roy,Tapas Ghorui, Kausikisankar Pramanik and **Sanjib Ganguly***

22. Molecular and electronic structure of nonradical homoleptic pyridyl-azo-oxime complexes of cobalt(III) and the azo-oxime anion radical congener: an experimental and theoretical investigation

Dalton Trans., **2014**, *43*, 5317. **(Impact Factor: 4.569)**

Shuvam Pramanik, Sima Roy,Tapas Ghorui, **Sanjib Ganguly*** and Kausikisankar Pramanik

23. Oximato Bridged Hetero-binuclear $Ru^{III}M^{I}$ Complexes (M = Cu, Ag)

J. Ind. Chem. Soc., **2012**, *89*, 107. **(Impact Factor: 0.729)**

Sanjib Ganguly

24. Trinuclear Ru^{III}-Mn^{II}-Ru^{III} Complexes incorporating azo-oxime function

J. Ind. Chem. Soc., **2010**, *87*, 1299. **(Impact Factor: 0.729)**

Indranil Bhattacharyya and **Sanjib Ganguly***

25. Oximato bridged Rh $^{III}M_2^{II}$ and $Rh^{III}M^{I}$ species (M^{II} = Mn, Co, Ni; M^{I} = Cu, Ag)

***J. Chem. Sci.*, 2008**, *120*, 87. **(Impact Factor: 2.150)**

Indranil Bhattacharyya, **Sanjib Ganguly**, Bikash Kumar Panda and Animesh Chakravorty.

26. Planar four coordinate nickel(II) complexes of tridentate ligands incorporating azo,- oxime-carboxyl chelation: synthesis and structure.

***J. Ind. Chem. Soc.*, 2005**, *82,* 898.

Sanjib Ganguly and Soma Karmakar

27. Azo-oxime-carboxylates of bivalent platinum

***J. Ind. Chem. Soc.*, 2004**, *81,* 327.

Sanjib Ganguly

28. A very rare mononuclear nickel(II) species bonded via oxygen atom of oximato function using pyridyl-azo-oxime type of ligands

***J. Ind. Chem. Soc.*, 2002**, *79,* 271.

Chandan Kumar Pal and **Sanjib Ganguly***

29. Synthesis, structure and reactivity of palladated azo-oxime-carboxylates.

***Indian J. Chem*., 2001**, *40A,* 90.

Chandan Kumar Pal, Soma Mukherjee (Karmakar) and **Sanjib Ganguly***

30. Synthesis and Structure of Silver Azo-oximates. Hydrogen Bonding and Non-bonded Ag…Ag Interactions.

***Inorg. Chem.*, 2000**, *39,* 2954. **(Impact Factor: 5.436)**

Sanjib Ganguly, Surajit Chattopadhyay, Chittaranjan Sinha and Animesh Chakravorty

31. Regiospecific Oximato-O coordination at the oxygen site: Ligand Design and Low-spin Mn^{II} and $Fe^{II/III}$ Species.

***Inorg. Chem*. 1999**, *38,* 5984. **(Impact Factor: 5.436)**

Sanjib Ganguly, Soma Karmakar, Chandan Kumar Pal and Animesh Chakravorty

32. A New Family of Acylrhodium Organometallics.

***Organometallics*, 1999**, *18,* 1486. **(Impact Factor: 3.837)**

Sujay Pattanayak, Swarup Chattopadhyay, Kaushik Ghosh, **Sanjib Ganguly**, Prasanta Ghosh and Animesh Chakravorty.

33. Synthesis and structural studies of cobalt complexes of tridentate ligands incorporating azo, oxime and carboxylate functions.

***Indian J. Chem*., 1999**, *38A,* 335.

Sanjib Ganguly and Soma Karmakar

34. Synthesis and structure of bis azooximes of dichlororhodium(III): the oxime…oximato OH…O bridge and effect of its deprotonation.

J. Chem. Soc., Dalton Trans. **1998**, 461. **(Impact Factor: 4.569)**

Sanjib Ganguly, Vadivelu Manivannan and Animesh Chakravorty.

35. Azo oximes of bi- and tri-valent Nickel

J. Chem. Soc., Dalton Trans. **1997**, 585. **(Impact Factor: 4.569)**

Soma Karmakar, Suranjan Bhanja Chowdhury, **Sanjib Ganguly** and Animesh Chakravorty

36. First examples of carboxyl-bonded low-spin Mn(III) complexes

Inorg. Chem., **1997**, *36,* 116. **(Impact Factor: 5.436)**

Sanjib Ganguly, Soma Karmakar and Animesh Chakravorty