# Curriculum Vitae of Prof. Dr. Rabindranath Mukherjee

#### a. General Information

Name: RABINDRANATH MUKHERJEE (popularly known as R. N. Mukherjee)

Date of Birth: April 19, 1953

### Address:

Office:

Department of Chemistry Indian Institute of Technology Kanpur Kanpur 208 016 Uttar Pradesh, INDIA

Phone: +91 512 259 7437 Fax: +91 512 259 7436 E-mail: rnm@iitk.ac.in

Campus Residence:

F/A D-402 IIT Kanpur Campus Kanpur 208 016

Residence (Permanent): Elita Garden Vista, Block 5, Flat # 11-01 Action Area III, New Town, Rajarhat Kolkata 700 135, INDIA

# b. Academic Experience-1

# **Academic Qualification:**

MSc (Specialization: Inorganic Chemistry)

University of Burdwan, Burdwan, West Bengal (1976)

PhD (Supervisor: Professor Animesh Chakravorty) (1978 – 1982)

Department of Inorganic Chemistry

Indian Association for the Cultivation of Science (IACS), Calcutta (now Kolkata)

University of Calcutta, Kolkata (1983)

#### **Positions Held:**

Post-doctoral Research Associate (in the laboratory of Professor Animesh Chakravorty), IACS, Kolkata (1983 – 1985)

Post-doctoral Research Associate (in the laboratory of Professor Richard H. Holm) Harvard University, USA (1985 – 1987)

Assistant Professor, Department of Chemistry, IIT Kanpur (1987 – 1993) Associate Professor, Department of Chemistry, IIT Kanpur (1987 – 1993) Professor, Department of Chemistry, IIT Kanpur (1995 –) Head, Department of Chemistry, IIT Kanpur (August 2010 – January 2012) Chair Professor, IIT Kanpur (Poonam and Prabhu Goel Chair) (2011 – 2012)

#### **Awards & Honors:**

Fellow, Indian National Science Academy, New Delhi (2008)

Fellow, Indian Academy of Sciences, Bangalore (1999)

Fellow, Royal Society of Chemistry, UK (2003)

Silver and Bronze Medal, Chemical Research Society of India, Bangalore (2011 and 2001, respectively)

Vice President, Chemical Research Society of India, Bangalore (2008 – 2014)

J. C. Bose National Fellowship, Department of Science & Technology, New Delhi (2008 –)

Professor Priyadaranjan Ray Memorial Award for the Year 2010, Indian Chemical Society, Kolkata (2011)

Bimala Churn Law Memorial Lecture, Indian Association for the Cultivation of Science, Kolkata (February 29, 2008)

A. V. Rama Rao Foundation Prize Lecture in Chemistry, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore (March 23, 2005)

Ajit Memorial Lecture at the Indian Association for the Cultivation of Science, Kolkata (December 6, 1999)

Short-Term Research Scholarship, Georg-August-Universität, Göttingen, Germany (Visit: May 31 – June 30, 2011)

The Royal Society of Chemistry Journals Grants for International Authors Award, UK (Visit: May 02 – June 02, 2001)

# **Membership of Editorial Boards:**

Member, Editorial Advisory Board of *Inorganic Chemistry* (ACS) (2017 –)

Member, Advisory Board, *Dalton Transactions* (RSC) (2008 –)

Member, Editorial Board of *Inorganica Chimica Acta* (Elsevier) (2011 – 2013)

### c. Administrative Experience-1

Director, Indian Institute of Science Education and Research (IISER) Kolkata (01/02/2012 to 24/07/2017)

Head, Department of Chemistry, Indian Institute of Technology Kanpur (2010 – 2012)

Convener, Senate Educational Policy Committee, Indian Institute of Technology Kanpur (2002 – 2003)

In-Charge, Facility for Ecological and Analytical Testing, Indian Institute of Technology Kanpur (2000 – 2005)

In-Charge, Glass Blowing Section, Indian Institute of Technology Kanpur (1996 – 2005)

# d. Academic Experience-2

# **Visiting Appointments:**

Visiting Professor, Institut für Anorganische Chemie, Georg-August-Universität, Göttingen, Germany (July 1–14, 2007)

Visiting Professor, Department of Chemistry, Stanford University, USA (May 2005 – May 2006)

Visiting Professor, Departament de Química, Universitat de Girona, Spain (September – October, 2004)

### National/International Committee Work:

Member, National Scientific Committee, 33rd International Chemistry Olympiad, Mumbai, India (July 6–15, 2001)

Member, Sectional Committee in Chemistry, Indian Academy of Sciences, Bangalore (2004 – 2006; 2013 – 2015)

Member, Research Advisory Committee, IISER Mohali (2008 – 2011)

Member, S. P. Mukherjee Fellowship Committee, Council of Scientific & Industrial Research, New Delhi (2008 and 2011)

Member, Selection Committee for Nobel Laureates Meeting, Department of Science & Technology, New Delhi (2009)

Member, School Board, School of Chemistry, University of Hyderabad, Hyderabad (2009 – 2011)

Member, Board of Studies in Chemistry, Allahabad University, Allahabad (2011 – 2013)

Member/Chairman, SwarnaJayanti Fellowship Committee (Chemical Sciences), DST (2010 and 2011/2015)

Member, Sectional Committee in Chemistry, Indian National Science Academy, New Delhi (2009 – 2011)

Member, Chemical Sciences Research Committee, Council of Scientific & Industrial Research, New Delhi (2009 – 2011)

Member, Inorganic & Physical Chemistry Research Committee, Council of Scientific & Industrial Research, New Delhi (2011 – 2014)

Member/Chairman, Programme Advisory Committee on Inorganic Chemistry, under Science & Engineering Research Board (SERB) (2012 – 2013 / 2013 – 2015)

Member, Management Committee, KVPY, IISc Bangalore (2012 –)

Member, Indian Chemical Society (2014 – 2016)

Member, Finance Committee, National Institute of Biomedical Genomics (2013–2017)

Member, DST-INSA INSPIRE Program, INSA (2011 – )

Planning Committee Member, International Conference on Coordination Chemistry (2004 –)

International Committee Member, Asian Coordination Chemistry Conference (2007 –)

Member, Academic Council, Ramakrishna Mission Vivekananda Centenary College, Rahara, Kolkata – 700 118 (2017-2018)

#### **Research Interest:**

Synthetic coordination chemistry of transition-metal ions with designed organic ligands is central to his research work. His research covers extensive synthesis and properties (spectroscopic and redox), and understanding of metal-ligand bonding characteristics in which the main focus is to assign the correct description of the electronic structure (based on Density Functional Theory calculations) of compounds containing open-shell organic ligands and paramagnetic metal ions.

#### **Research Areas:**

Notably, his group focuses on diversified problems. The research themes include:

- (i) Bioinorganic synthetic model work: chemical modeling of tyrosinase and catechol oxidase [dioxygen activation and aromatic ring hydroxylation, phenoxo-/hydroxo-bridged dicopper(II) systems]; bio-inspired synthesis of binuclear oxo-/acetate-bridged dimanganese(III,III; III,IV; IV,IV) systems and reactivity studies of the dimanganese(IV) complex with phenols of relevance to photosystem II; demonstration of hydrolysis of biologically-relevant substrates (HPNP) by phenoxo-bridged Mn<sup>II</sup><sub>2</sub>, Co<sup>II</sup><sub>2</sub>, Ni<sup>II</sup><sub>2</sub>, Cu<sup>II</sup><sub>2</sub>, and Zn<sup>II</sup><sub>2</sub> complexes (detailed kinetic investigations to throw light on the mechanistic aspects); stability and properties of metal-coordinated phenoxyl radicals, including galactose oxidase
- (ii) Stabilization of nickel(III) and nickel(IV) states; Cobalt-coordinated C–S(thioether) bond cleavage and Co–C bond formation; Stabilization of iron(III)/ruthenium(III)-coordinated obenzosemiquinonato radical supported by deprotonated pyridine amide ligands; Synthesis and properties of ligand-bridged six-coordinate cobalt(III) and four-coordinate cobalt(III) complexes and also a series of hetero-bimetallic complexes
- (iii) Metal-coordinated ligand-radicals: molecular and electronic structural investigation of metal-coordinated cation and anion radicals using *o*-aminophenol-based redox-active ligands and formation of radical-based C–N, C–O–C, and N–N bonds (benzo-triazole ring formation)
- (iv) Discovery of a new class of Fe<sup>II</sup>N<sub>6</sub> spin-equilibria systems, exhibiting interesting cooperativity phenomena
- (v) Co–C bond formation [cobalt(III)-alkyl and cobalt(III)-dialkyl complexes] and investigation of their properties and stabilization of ligand-bridged dinickel(II), dicopper(II), nickel(II)-nickel(I) systems, supported by pyrazole-based chelating ligands
- (vi) Magneto-structural studies of discrete binuclear, trinuclear, and oligonuclear transition metal complexes and coordination polymers
- (vii) Assembly and properties (structural and magnetic) of discrete high-nuclearity clusters and coordination polymers supported by (2-pyridyl)alkylamine-appended carboxylates/pyridine amide ligands in their neutral form

- (viii) Synthesis of half-sandwich organometallic molecules and nucleophilic addition reactions onto the ruthenium(II)-coordinated benzene
- (ix) Identification of non-covalent interactions from careful analysis of crystal packing, with emphasis on C–H...Cl hydrogen-bonding
- (x) Anion (bisulfate) recognition using ferrocene-appended amide groups

# **Teaching:**

Has taught a variety of undergraduate and postgraduate core/elective courses at the Department of Chemistry, Indian Institute of Technology Kanpur.

Core Courses: CHM101 (General Chemistry: Theory and Laboratory), CHM 201 (General Chemistry), CHM 341 (Introduction to Inorganic Chemistry), CHM 343 (Inorganic Laboratory), CHM 441 (Inorganic Chemistry – I), CHM 442 (Inorganic Chemistry –II), CHM 443 (Inorganic Laboratory), CHM 342A (Inorganic Chemistry –II)

Elective Courses: CHM 641 (Advanced Inorganic Chemistry –I), CHM 642 (Advanced Inorganic Chemistry – II), CHM 645 (Principles of Inorganic Chemistry), CHM 646 (Bioinorganic Chemistry), CHM 691 / SE 343 (introduced this course, now a Science Elective, "Frontiers in Inorganic Chemistry")

Received Commendations from the Director, IIT Kanpur for teaching excellence several times

Has taught undergraduate and postgraduate core/elective courses at IISER Kolkata

Core Course: CH1101 – Elements of Chemistry

Elective Courses: CH4201 – Bioinorganic Chemistry, CH4104 – Important Perspectives of Inorganic/Organic Chemistry

### **Students Trained / Being Trained:**

#### PhD

- 1. K. Ramesh (1987 1991); 2. Manabendra Ray (1988 1992);
- 3. Samiran Mahapatra (1989 1992); 4. Tapan K. Lal (1991 1996);
- 5. Debalina Ghosh (1993 1997); 6. Apurba K. Patra (1993 1999);
- 7. Rajeev Gupta (1995 2000); 8. V. Balamurugan (1999 2004);
- 9. Jhumpa Mukherjee (1999 2004); 10. Akhilesh K. Singh (2002 2007);
- 11. Vibha Mishra (2002 2007); 12. Wilson Jacob (2003 2007)
- 13. Haritosh Mishra (2003 2008); 14. Sukanta Mandal (2003 2009);
- 15. Himanshu Arora (2004 2009); 16. Atasi Mukherjee (2004 2009);
- 17. Anui K. Sharma (2005 2009); 18. Anindita De (2005 2009);
- 19. Sharmila Pandey (2006 2010); 20. Saleem Javed (2007 2014);

- 21. Ravindra Singh (2007 2014); 22. Suman K. Barman (2008 2014);
- 23. Amit Rajput (2009 2015); 24. Partha Pratim Das (2009 2017);
- 25. Akram Ali (2010 2017)

### PhD

At IIT Kanpur: Currently working

- 1. Arunava Sengupta (2011 –); 2. Akhilesh Kumar (2011 –); 3. Shashi Kant (2011 –);
- 4. Indresh Verma (2014 –); 5. Sayeed Ahmed (2017 )

### At IISER Kolkata: Currently working

- 1. Arup K. Das (2013 –); 2. Narottam Mukhopadhyay (2013 –);
- 3. Anannya Saha (2014 –); 4. Munirathnam, M. (2014 –);
- 5. Saumitra Bhowmik (2015 –)

# Post-doctoral Research Associate

At IIT Kanpur

- 1. Dr. Nishi Gupta (1990 1992); 2. Dr. Zahida Shirin (1992 1995);
- 3. Dr. Shubha Singh (2001 2003)

# Master of Science Projects:

50 (IIT Kanpur) and 21 (other institutes)

3 (IISER Kolkata) and 10 (other institutes)

# At IIT Kanpur:

### M.Sc. (2 Years) Students:

1. Rajesh Manchanda (1989); 2. Anupam Talapatra (1990); 3. Subhasish Mukerjee (1990);

4.Debnath Bhuniya (1991); 5.Pampa Das (1992); 6.Ranajeet Ghose (1992); 7.Sangita Ghosh (1993); 8.Pulakesh Mukherjee (1994); 9.Surajit Pal (1994); 10.Suman (1995); 11.Viswanath Mahadevan (1995); 12. Rajdeep Das (1996); 13. Rupa Mukhopadhyay (1996); 14. Pratip K. Bhattacharya (1997); 15. Sumitra Mukhopadhyay (1997); 16. Diptabhas Sarkar (1998); 17. Manami Roychowdhury(1999); Hotchandani (1998); 18. Chowdhury(1999); 20. Arani Chanda (2001); 21. Aruna Sathyamurthy (2001); 22. Ritika Uppal (2002); 23. Supratim Giri (2002); 24. Bappaditya Samanta (2004); 25. Rajib Mondal (2005); 26. Sounik Saha (2005); 27. Tarun K. Bera (2005); 28. Ritobroto Sengupta (2008); 29. Ranadeep Talukdar (2009); 30. Biplab Dutta (2010); 31. Mainak Mitra (2010); 32. Pradip K. Das (2010); 33. Pradyumna K. Pradhan (2010); 34. Sourav Biswas (2010); 35. Subrata Ghosh (2010); 36. Akash K. Basak (2011); 37. Arkalekha Mandal (2011); 38. Debanjan Dhar (2011); 39. Priyabrata Ghana (2011); 40. Arun Maji (2012); 41. Papri Sutar (2012); 42. Sayan Saha (2012); 43. Shanti Gopal Patra (2012); 44. Sneha Shah (2012); 45. Srobona Sen (2012); 46. Amrita Chauhan (2017); 47. Ajay Tamang (2017); 48. Ankur Jyoti Konwar (2017)

Integrated M.Sc. (5years) Students:

1. Puneet Gupta (2008); 2. Ashish Tiwari (2008)

#### Other institutes:

- A. 1. Mini Kuriakose (MG University, Kottayam, Kerala; 2002); 2. Sunil Varughese (MG University, Kottayam, Kerala; 2002); 3. Roby Kurian (MG University, Kottayam, Kerala; 2002); 4. Sujith S. (MG University, Kottayam, Kerala; 2002); 5. Abdul Malik (MG University, Kottayam, Kerala; 2003); 6. Jibi. E. (MG University, Kottayam, Kerala; 2003); 8. Adarsh N. N. (MG University, Kottayam, Kerala; 2003); 9. Anumol E. A. (MG University, Kottayam, Kerala; 2005); 10. Jasmin Joseph (MG University, Kottayam, Kerala; 2005); 11. Renjith Kumar P. V. (MG University, Kottayam, Kerala; 2005)
- B. 1. Manmantha Mahato (S. K. Porwal College, Kamptee, Nagpur University, Maharashtra; 2008); 2. Saswati Sarkar (S. K. Porwal College, Kamptee, Nagpur University, Maharashtra; 2008); 3. Shrabanti Mukherjee (S. K. Porwal College, Kamptee, Nagpur University, Maharashtra; 2008)
- C. 1. Jishnu Chakraborty (C. S. J. M University, Kanpur; 2004), 2. Manna Prasad Gupt (D.A.V. College, Kanpur; 2007)
- D. 1. Vinay Khandelwal (S.G.T.B. Khalsa College, University of Delhi; 2007; Sponsored by Indian Academy of Sciences, Bangalore); 2. Manasa Rath (Miranda House, University of Delhi; 2008; Sponsored by Indian Academy of Sciences, Bangalore); 3. M. Hariharan (V. H. N. S. N. College, Virudhunagar; 2009; Sponsored by Indian Academy of Sciences, Bangalore); 4. Firoz Khan (Banaras Hindu University; 2011; Sponsored by Indian Academy of Sciences, Bangalore); 5. Rishabh Garg (NISER, Bhubaneswar; 2011; Sponsored by Indian Academy of Sciences, Bangalore)

# At IISER Kolkata:

1. Anshula Mondal (IISER Kolkata; 2016; Sponsored by KVPY); 2. Dipannita Ghosh (IISER Kolkata; 2016; Sponsored by DST-INSPIRE); 3. Surasree Rakshit (IISER Kolkata; 2016; Sponsored by DST-INSPIRE)

#### Other Institutes:

- A. 1.Debanjana Chakraborty (IIT Kharagpur; 2013; Sponsored by DST-INSPIRE); 2. Narottam Mukhopadhyay (University of Kalyani, Kalyani West Bengal; 2013); Sponsored by DST-INSPIRE); 3. Neha Chauhan (NISER Bhubaneswar; 2013; Sponsored by DST-INSPIRE); 4. Perna Yadav (NISER Bhubaneswar; 2014; Sponsored by DST-INSPIRE); 5. Ranit Pandey (IIT Kharagpur; 2015; Sponsored by DST-INSPIRE); 6.Chinmoy Das (IIT Kharagpur; 2017; Sponsored by DST-INSPIRE)
- B. 1. Aswin Vijay (NIT Trichy; 2015; Sponsored by IAS-NASI-INSA Fellowship)
- C. 1. Sanchayita Mukherjee (University of Hyderabad, Hyderabad; 2016); 2. Subrata Kundu (IIT Guwahati; 2016); 3. Nilanjana Goswami (St. Xavier's College, Kolkata; 2017)

# Sponsored Research (National and International): 16

Received funding from the following agencies:

Department of Science & Technology (DST)

Council of Scientific & Industrial Research (CSIR)

Volkswagen Foundation, Germany

Indo-French Centre for the Promotion of Advanced Research (IFCPAR)

Swedish Research Links

**DST-Ukraine** 

**DST-DFG** 

### a) DST Project (No. SR/S1/IC-30/2009) (2009 – 2012)

Metal-Coordinated Radicals. Bioinorganic and Inorganic Perspectives Rs. 28,46,000/-

b) DST J. C. Bose (No. SR/S2/JCB-79/2007) (2008 – 2018)

Rs. 1,24,900,00/-

c) DST Project (No. SR/S1/IC-29/2004) (2005 – 2008)

Hydrolysis of Esters by Metal Complexes of Designed Ligands: Inorganic and Bioinorganic Perspectives

Rs. 23,05,200/-

# d) DFG-DST (INT/FRG/DFG/P-33/2010) with Prof. F. Meyer (Institut für

Anorganische Chemie, Georg-August-Universität, Göttingen, Germany)

(2010 – 2012): Combining Bimetallic Scaffolds and Metal-Coordinated Phenoxyl-Radicals for Multi-Electron Transformations: A Step Beyond Nature

Rs. 14,39,600

e) India and Ukraine Joint Science & Technology Project

(DST: INT/UKRAINE/UKR-16/2006) with Prof. I. Fritsky (University of Kiev,

Ukraine) (2008 – 2011)

Novel Biomimetic Catalysts Based on Copper(III) Complexes

Rs. 4,11,000 (travel and per-diem)

f) Swedish Research Links Project with Prof. Ebbe Nordlander (University of Lund, Sweden) (2008 – 2011)

Modeling of Dinuclear Active Sites in Metalloproteins (Planning Grants) and Synthesis and Reactivity Studies of Model Complexes for Dinuclear Active Sites in Metalloenzymes

Rs. 15,39,104 (excluding expenditures on travel to Lund two times and living expenses)

g) Indo-French Centre for the Promotion of Advanced Research (IFCPAR),

New Delhi sponsered Project with Prof. Francois Varret (Laboratoire de

Magnétisme et d'Optique CNRS-Université de Versailles, France (2006-2009)

Spin Transition in Fe(II) & Cyano-Bridged Molecular Magnets

Rs. 6,56,390 (excluding expenditures on travel to France two times and living expenses)

h) DST Project (2001 – 2004)

Activation of Molecular Oxygen by Manganese(II), Iron(II), and Copper(I) Complexes of Designed Dinucleating Ligands. Inorganic and Bioinorganic Perspectives

i) DST Project (1996 – 2000)

Magnetostructural Correlations in Novel Ligand-Bridged Dimetal Systems. Dicopper(II) Complexes of Biological Relevance

j) DST Project (1992 – 1996)

Synthesis and Characterization of Novel Transition Metal Complexes. Relevance to Metallobiomolecules with Intrinsic Active Sites

k) DST Project (1989 – 1992)

Binuclear Iron Centers in Biology: Model Compound Studies

1) DST Project (1989 – 1991)

Probe into the Structure of the Active Site of Binuclear Iron Centers in Hemerythrin: A Synthetic Analogue Approach

m) Council of Scientific & Industrial Research (CSIR), India Project (2004 – 2007)

Recognition and Sensing of Anionic Guest Species by Transition Metal Receptors

n) CSIR Project (1999 – 2002)

Dicopper(II) Complexes: Synthesis, Characterization and Catecholase Activity

o) CSIR Project (1993 – 1997)

Synthesis and Characterization of Half-Sandwich Complexes having Ru(η6-C6H6)2+ Moiety: A Conceptual Link between Classical Werner Complexes and Organometallic Molecules

p) CSIR Project (1988 – 1992)

Stabilization of the FeIV=O Moiety Present in Horseradish Peroxidase: A Synthetic Analogue Approach

### **Organization of Course/Conference:**

Indian Academy of Sciences, Bangalore – Sponsored Refresher Course on *Frontiers in Inorganic Chemistry*, Department of Chemistry, IIT Kanpur, Kanpur (December 18-31, 2003)

Institute of Research Development & Training (Technical Education Department) U.P. Kanpur – Sponsored Short Term Training Course on *Latest Developments in Chemistry* for Diploma in Engineering Courses: Applied Chemistry (February 25-28, 2004)

Organized 'Department Day', IIT Kanpur on October 25, 2010, as a part of Golden Jubilee Celebration of Indian Institute of Technology Kanpur (organized along with students, staff, and faculty members of Chemistry Department)

Celebration of Chemistry@IITK: International Year of Chemistry-2011, Department of Chemistry, Indian Institute of Technology Kanpur (December 03-05, 2011) (Organized along with Drs. Pratik Sen, J. K. Bera, and M. L. N. Rao)

#### **Editorial Work:**

Has been invited to serve as co-guest editor along with Prof. Tim Storr (Canada) for the Forum Issue on 'Applications of Metal Complexes with Ligand-Centered Radicals' in *Inorganic Chemistry* journal (American Chemical Society) – 2017

Guest Editor along with Prof. C. P. Rao, Department of Chemistry, Indian Institute of Technology Bombay, Powai and Prof. S. Mazumdar, Department of Chemical Sciences, Tata Institute of Fundamental Research, Mumbai: Special Issue on Bioinorganic Chemistry Dedicated to Professor Samaresh Mitra on the occasion of his 70th birthday, *Indian J. Chem.* **2011**, *50A*, 339–547.

Guest Editor along with Prof. Akhil R. Chakravarty, Department of Inorganic & Physical Chemistry, Indian Institute of Science, Bangalore: Special Issue Dedicated to Professor Animesh Chakravorty on the occasion of his 75th birthday, *Inorg. Chim. Acta* **2010**, *363*, 2693–3138.

Guest Editor, Special Thematic Issue on Bioinorganic Chemistry, *Proc. Indian Natl. Sci. Acad.*, *Part A, Physical Sciences* **2004**, *70*, 267–398.

# **Reviewing/Refereeing Work for the Journals:**

Inorganic Chemistry, Chemical Communications, Dalton Transactions, RSC Advances, New Journal of Chemistry, Physical Chemistry Chemical Physics, CrystEngComm, Catalysis Letters, Energy & Environmental Science, Angewandte Chemie International Edition, Chemistry – A European Journal, European Journal of Inorganic Chemistry, Inorganica Chimica Acta, Inorganic Chemistry Communications, Journal of Molecular Structure, Journal of Hazardous Materials, Catalysis Communications, Solid State Sciences, Journal of Coordination Chemistry, Australian Journal of Chemistry, Indian Journal of Chemistry—Section A, Indian Journal of Chemical Technology, Journal of Chemical Sciences, Current Science, Journal of Indian Chemical Society

# **Membership in Professional Society:**

Member, American Chemical Society (1999 –) Member, Royal Society of Chemistry (2003 –) Life Member, Chemical Research Society of India (1999 –) Life Member, Indian Association of Chemistry Teachers (2007 –)

# List of Publications (in reverse chronological order):

- (140) A. Sengupta, A. Rajput, S. K. Barman, and R. Mukherjee, "Low-spin [ $M^{II}(L)_2$ ] and [ $M^{III}(L)_2$ ]<sup>+</sup> (M = Fe and Co) Complexes of Tridentate Azo-Containing Pyridine/Pyrazine Amide Ligands: Structures, Properties and Redox Potential Correlations", *Dalton Trans.* **2017**, *46*, 11291–11305.
- (139) S. K. Barman, T. Mondal, D. Koley, F. Lloret, and R. Mukherjee, "A Phenoxo-bridged Dicopper(II) Complex as a Model for Phosphatase Activity: Mechanistic Insights from Combined Experimental and Computational study", *Dalton Trans.* **2017**, *46*, 4038–4054.
- (138) S. K. Barman, F. Lloret, and R. Mukherjee, "A Bioinspired Dinickel(II) Hydrolase: Solvent-Vapor-Induced Hydrolysis of Carboxyesters at Ambient Conditions", *Inorg. Chem.* **2016**, *55*, 12696–12706.
- (137) S. Pandey and R. Mukherjee, "Crystal structure of dichloro[(*N*-phenyl-carbamoyl)pyridine]-bis(dimethylsulphoxide)ruthenium(II). A voltammetric study to monitor acid-base controlled *N*,O to *N*,*N* donor site switch over", *J. Ind. Chem. Soc.* **2016**, *93*, 1027–1034.
- (136) H. Arora, J. Cano, F. Lloret, and R. Mukherjee, "Carboxylate-Bridged NiII8 Cluster with Distorted Cubane Topology: Structure, Magnetism and Density Functional Study", *Dalton Trans.* **2016**, *45*, 14174–14183.
- (135) A. Ali, D. Dhar, S. K. Barman, F. Lloret, and R. Mukherjee, "A Nickel(II) Complex of a Hexadentate Ligand with Two o-Iminosemiquinonato(1–)  $\pi$ -Radical Units and Its Monocation and Dication", *Inorg. Chem.* **2016**, *55*, 5759–5771.
- (134) A. Ali, S. K. Barman, and R. Mukherjee, "Palladium(II) Complex of a Redox-Active Amidophenolate-Based *O,N,S,N* Ligand: Its Monocation and Dication and Reactivity with PPh3", *Inorg. Chem.* **2015**, *54*, 5182–5194.
- (133) A. Ali, A. Sengupta, and R. Mukherjee, "Palladium(II) Complexes of a Redox-Active o-Aminophenolate-Based ONSN Ligand. Proof-of-Concept of Hemilability in Reactivity with PPh<sub>3</sub> Providing ONNP and ONSP Coordination", *J. Ind. Chem. Soc.* **2015**, 92, 1981–1991. (Special Issue Dedicated to Professor Animesh Chakravorty on the Occasion of His 80th Birth Anniversary)

- (132) V. Mishra, A. K. Sharma, and R. Mukherjee, "Formation of 1D-Chain via C–H...Cl Interaction Utilizing [(L3)ZnIICl2] (L3 = 2-[3-(2'-pyridyl)pyrazol-1-ylmethyl](1-methyl-imidazole)) Tecton", *Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci.* **2014**, *84*, 315–320.
- (131) R. Singh, F. Lloret, and R. Mukherjee, "Mono- and Di-chloro-Bridged Discrete Dimers and Trimers and Mono-Chloro-Bridged 1D-Coordination Polymer of Copper(II). Magneto-structural Studies", *Z. Anorg. Allg. Chem.* **2014**, *640*, 1086–1094 (Special Issue Dedicated to Professor C. N. R. Rao on the Occasion of His 80th Birthday).
- (130) B. Das, H. Daver, M. Pyrkosz-Bulska, E. Persch, S. K. Barman, R. Mukherjee, E. Gumienna-Kontecka, M. Jarenmark, F. Himo, and E. Nordlander, "A Dinuclear Zinc(II) Complex of a New Unsymmetric Ligand with an N<sub>5</sub>O<sub>2</sub> Donor Set; A Structural and Functional Model for the Active Site of Zinc Phosphoesterases", *J. Inorg. Biochem.* **2014**, *132*, 6–17.
- (129) A. Rajput, A. K. Sharma, S. K. Barman, D. Koley, M. Steinert, and R. Mukherjee, "Neutral, Cationic, and Anionic Low-Spin Iron(III) Complexes Stabilized by Amidophenolate and Iminobenzosemiquinonate Radical in *N*,*N*,*O* Ligands", *Inorg. Chem.* **2014**, *53*, 36–48.
- (128) A. K. Sharma, F. Lloret, and R. Mukherjee, "Phenolate- and Acetate (Both  $\mu_2$ -1,1 and  $\mu_2$ -1,3 Modes)-Bridged Linear Co<sup>II</sup><sub>3</sub> and Co<sup>II</sup><sub>2</sub>Mn<sup>II</sup> Trimers: Magnetostructural Studies", *Inorg. Chem.* **2013**, *52*, 4825–4833.
- (127) A. Rajput and R. Mukherjee, "Coordination Chemistry with Pyridine/Pyrazine Amide Ligands. Some Noteworthy Results", *Coord. Chem. Rev.* **2013**, 257, 350–368 (Edward Solomon Invitation Issue).
- (126) S. Mandal, J. Mukherjee, F. Lloret, and R. Mukherjee, "Modeling Tyrosinase and Catecholase Activity Using New *m*-Xylyl-Based Ligands with Bidentate Alkylamine Terminal Coordination", *Inorg. Chem.* **2012**, *51*, 13148–13161.
- (125) H. Arora, S. K. Barman, F. Lloret, and R. Mukherjee, "Isostructural Dinuclear Phenoxo-/Acetato-Bridged Manganese(II), Cobalt(II), and Zinc(II) Complexes with Labile Sites: Kinetics of Transesterification of 2-Hydroxypropyl-*p*-nitrophenylphosphate", *Inorg. Chem.* **2012**, *51*, 5539–5553.
- (124) S. Pandey, P. P. Das, A. K. Singh, and R. Mukherjee, "Cobalt(II), Nickel(II) and Copper(II) complexes of a Hexadentate Pyridine Amide Ligand. Effect of Donor Atom (Ether *vs.* Thioether) on Coordination Geometry, Spin-State of Cobalt and M<sup>III</sup>–M<sup>II</sup> redox potential", *Dalton Trans.* **2011**, *40*, 10758–10768 (Special Issue: Dalton Transactions 40th Anniversary).

- (123) H. Arora, J. Cano, F. Lloret, and R. Mukherjee, "Unprecedented Heptacopper(II) Cluster with Body-Centred Anti-Prismatic Topology. Structure, Magnetism and Density Functional Study", *Dalton Trans.* **2011**, *40*, 10055–10062.
- (122) S. Javed, V. Balamurugan, W. Jacob, A. K. Sharma, and R. Mukherjee, "Discrete monomeric and chloride-bridged dimeric and 1D coordination polymeric mercury(II) complexes of a class of pyridyl-pyrazole ligands with variable denticity and flexibility", *Indian J. Chem. Sec.*, **2011**, *50A*, 1248–1256 (Special Issue Dedicated to 150th Birth Anniversary of Acharya Prafulla Chandra Ray) 12
- (121) A. K. Sharma, A. De, V. Balamurugan, and R. Mukherjee, "Conformational Flexibility of 2,6-Bis(pyrazol-1-ylmethyl)pyridine (L<sup>5</sup>) in [(L<sup>5</sup>)Co<sup>II</sup>(H<sub>2</sub>O)<sub>3</sub>]Cl<sub>2</sub> and [(L<sup>5</sup>)Ni<sup>II</sup>(H<sub>2</sub>O)<sub>2</sub>Cl]Cl·H<sub>2</sub>O. Molecular Structures and Non-covalent Interactions", *Inorg. Chim. Acta* **2011**, *372*, 327–332. (Special Issue Dedicated to Professor S. S. Krishnamurthy on the occasion of his 70th birthday)
- (120) A. Mukherjee and R. Mukherjee, "Bidentate Coordination of a Potentially Tridentate Ligand. A Mononuclear Four-Coordinate Ni(II) Complex Supported by Two *o*-Iminobenzosemiquinonato Units", *Indian J. Chem.* **2011**, *50A*, 484–490. (Special Issue on Bioinorganic Chemistry: Dedicated to Professor S. Mitra on the occasion of his 70th birthday)
- (119) A. K. Sharma, S. Biswas, S. K. Barman, and R. Mukherjee, "Azo-Containing Pyridine Amide Ligand. A Six-Coordinate Nickel(II) Complex and Its One-Electron Oxidized Species: Structure and Properties", *Inorg. Chim. Acta* **2010**, *363*, 2720–2727. (Special Issue Dedicated to Professor Animesh Chakravorty on the occasion of his 75th birthday)
- (118) H. Arora and R. Mukherjee, "Coordination Polymers using (2-Pyridyl)alkylamine-appended Carboxylates: Magnetic Properties", *New J. Chem.* **2010**, *34*, 2357–2365 (**Invited Perspective Article**). Themed Issue: Coordination Polymers: Structure and Function (Editor: K. Biradha)
- (117) H. Mishra and R. Mukherjee, " $[(\eta^6-C_6H_6)Ru^{II}(L)(Cl/N_3/CN/CH_3CN)]^{+/2+}$  Complexes of Non-Planar Pyrazolylmethylpyridine Ligands: Formation of Helices Due to C–H<sup>...</sup>X (X = Cl, N) Interaction", *J. Organomet. Chem.* **2010**, 695, 1753–1760.
- (116) A. Mukherjee, F. Lloret, and R. Mukherjee, "Diphenoxo-Bridged Co<sup>II</sup> and Zn<sup>II</sup> Complexes of Tripodal N<sub>2</sub>O<sub>2</sub> Ligands: Stabilization of MII-Coordinated Phenoxyl Radical Species", *Eur. J. Inorg. Chem.* **2010**, 1032–1042.
- (115) H. Arora, F. Lloret, and R. Mukherjee, "Molecular Squares of Ni<sup>II</sup> and Cu<sup>II</sup>: Ferromagnetic Exchange Interaction Mediated by Syn–Anti Carboxylate–Bridging", *Dalton Trans.* **2009**, 9759–9769.

- (114) V. Mishra, H. Mishra, R. Mukherjee, E. Codjovi, J. Linarès, J.-F. Létard, C. Desplanches, C. Baldé, C. Enachescu, and F. Varret, "Spin-transition in  $[Fe^{II}(L^5)_2][ClO_4]_2$   $[L^5 = 2-[3-(2-pyridyl)pyrazol-1-ylmethyl]-(1-methylimidazole)]: A Further Example of Coexistence of Features Typical for Disorder and Cooperativity",$ *Dalton Trans.***2009**, 7462–7472.
- (113) S. Mandal, V. Balamurugan, F. Lloret, and R. Mukherjee, "Syntheses, X-ray Structures, and Physicochemical Properties of Phenoxo-Bridged Dinuclear Nickel(II) Complexes: Kinetics of Transesterification of 2-Hydroxypropyl-*p*-nitrophenylphosphate", *Inorg. Chem.* **2009**, *48*, 7544–7556. 13
- (112) H. Arora, F. Lloret, and R. Mukherjee, "One-Dimensional Coordination Polymers of Mn<sup>II</sup>, CuII, and Zn<sup>II</sup> Supported by Carboxylate-Appended (2-Pyridyl)alkylamine Ligands. Structure and Magnetism", *Eur. J. Inorg. Chem.* **2009**, 3317–3325.
- (111) V. Mishra, H. Mishra, and R. Mukherjee, "Generation and Properties of Co<sup>I</sup>/Ni<sup>I</sup> Species Supported by a Tetradentate Pyridylpyrazole Ligand: Crystal Structures of Co<sup>III</sup>-Dialkyl Complexes", *Eur. J. Inorg. Chem.* **2009**, 2973–2980.
- (110) H. Mishra, V. Mishra, F. Varret, R. Mukherjee, C. Balde, C. Desplanches, and J.-F. Létard, "Opposite Effects of Interactions and Disorder on the Switching Properties of the Spin Transition Compound [Fe<sup>II</sup>(L)<sub>2</sub>][ClO<sub>4</sub>]<sub>2</sub>·C<sub>7</sub>H<sub>8</sub>", *Polyhedron* **2009**, 28, 1678–1683.
- (109) H. Arora, F. Lloret, and R. Mukherjee, "One-Dimensional Co<sup>II</sup> and Cu<sup>II</sup> Coordination Polymers and Discrete Cu<sup>II</sup><sub>4</sub> Complex of Carboxylate-Appended (2-Pyridyl)alkylamine Ligands: Spin-Canting and Anti-/Ferromagnetic Coupling", *Inorg. Chem.* **2009**, *48*, 1158–1167.
- (108) W. Jacob, H. Mishra, S. Pandey, F. Lloret, and R. Mukherjee, "Six-coordinate CoIII and Four-Coordinate MII (M = Co, Zn) Mixed-Valence Dimers Supported by a Deprotonated Pyridine Amide Ligand: Magnetism of a Co<sup>III</sup>Co<sup>II</sup> Complex and C-H···O/Cl/Br Interactions", *New J. Chem* **2009**, *33*, 893–901.
- (107) H. Mishra, A. K. Patra, and R. Mukherjee, "Relative Stability of Half-Sandwich  $\eta^6$ -Benzene Ru(II) Complexes of Tridentate (2-Pyridyl)alkylamine Ligands of Varying Chelate Ring-Size: Nucleophilic Addition of Hydride ion onto the Benzene Ring", *Inorg. Chim. Acta* **2009**, *362*, 483–490.
- (106) V. Mishra, R. Mukherjee, J. Linares, E. Codjovi, F. Varret, and M. Lawson-Daku, "Spin-Transition in Nearly Cubic Site in [Fe<sup>II</sup>(L)<sub>3</sub>][PF<sub>6</sub>]<sub>2</sub>", *Hyperfine Interactions* **2009**, *188*, 71–78.

- (105) A. K. Sharma, A. De, and R. Mukherjee, "Design, Structure, and Properties of Functional Metal-Ligand Inorganic Modules", (Special thematic issue on *Crystal Engineering: Structure, Design and Function*), *Curr. Opin. Solid State and Mat. Sci.* **2009**, *13*, 54–67.
- (104) S. Mandal, F. Lloret, and R. Mukherjee, "Discrete and 1D Coordination Polymeric Chloro-Bridged Copper(II) Dimers Exhibiting Ferro- and Antiferromagnetic Exchange Coupling: Magneto-Structural Correlations and Non-Covalent Interactions", *Inorg. Chim. Acta* **2009**, *362*, 27–37. 14
- (103) V. Mishra, R. Mukherjee, J. Linares, C. Balde, C. Desplanches, J.-F. Létard, E. Collet, L. Toupet, M. Castro, and F. Varret, "Temperature-dependent interactions and Disorder in the Spin-Transition Solid [Fe<sup>II</sup>(L)<sub>2</sub>][ClO<sub>4</sub>]<sub>2</sub>·C<sub>7</sub>H<sub>8</sub> Through Structural, Calorimetric, Magnetic, Photomagnetic, and Diffuse Reflectance Investigations" *Inorg. Chem.* **2008**, *47*, 7577–7587.
- (102) A. Mukherjee, F. Lloret, and R. Mukherjee, "Synthesis and Properties of Diphenoxo-Bridged CoII, NiII, CuII, and ZnII Complexes of a New Tripodal Ligand: Generation and Properties of MII-Coordinated Phenoxyl Radical Species", *Inorg. Chem.* **2008**, *47*, 4471–4480.
- (101) A. K. Singh, W. Jacob, A. K. Boudalis, J.-P. Tuchagues, and R. Mukherjee, "A Tetragonal Core with Asymmetric Iron Environments Supported Solely by  $Bis(\mu\text{-OH})\{\mu\text{-(O-H}^{\text{...}}O)\}$  Bridging and Terminal Pyridine Amide (N, O) Coordination: A New Member of the Tetrairon(III) Family", *Eur. J. Inorg. Chem.* **2008**, 2820–2828.
- (100) A. K. Sharma and R. Mukherjee, "Synthesis and properties of (2-pyridyl)alkylamine- and (2-pyridyl)alkylamine-amide-coordinated copper(II) complexes. Structures and non-covalent interactions", *Inorg. Chim. Acta* **2008**, *361*, 2768–2776.
- (99) S. Mandal, A. De, and R. Mukherjee, "Reaction Between a Mononuclear Copper(I) Complex and Dioxygen Forms a  $\{Cu^{III}_{2}(\mu-O)_{2}\}^{2+}$  Core: Exogenous Substrate Reactivity", *Chemistry & Biodiversity*, **2008**, *5*, 1594–1608. [**Invited Article:** Special Issue on International Conference on Biological Inorganic Chemistry (ICBIC 13), Vienna, Austria]
- (98) W. Jacob and R. Mukherjee, "Coordination Polymers of Manganese(II) and Cobalt(II) of a Flexible Tetradentate Pyridine Amide Ligand: 1D Zigzag Network", *Inorg. Chim. Acta* **2008**, *361*, 1231–1238.
- (97) A. De, S. Mandal, and R. Mukherjee, "Modeling Tyrosinase Activity. Effect of ligand topology on aromatic ring hydroxylation: An Overview", *J. Inorg. Biochem.* **2008**, *102*, 1170–1189. [Invited Focused Review Article: Special Issue on International Conference on Biological Inorganic Chemistry (ICBIC 13), Vienna, Austria]

- (96) W. Jacob and R. Mukherjee, "Two-Dimensional Supramolecular Networks *via* C–H···Cl and N–H···Cl Interactions Utilizing Bidentate neutral Pyridine Amide Coordinated Mn<sup>II</sup>Cl<sub>2</sub> Tectons", *J. Chem. Sci.* **2008**, *120*, 447–453.
- (95) J. Astner, M. Weitzer, S. P. Foxon, S. Schindler, F. W. Heinemann, J. Mukherjee, R. Gupta, V. Mahadevan, and R. Mukherjee, "Syntheses, characterization, and reactivity of copper complexes with tridentate N-donor ligands", *Inorg. Chim. Acta* **2008**, *361*, 279–292.
- (94) A. K. Singh and R. Mukherjee, "Co<sup>II</sup> and Co<sup>III</sup> Complexes of Thioether- Containing Hexadentate Pyrazine Amide Ligands. Effect of Chelate Ring-Size on Base-induced Transformation of Cobalt(III)-Thioether Chelates: C–S Bond Cleavage and Cyclometalation Reaction", *Dalton Trans.* **2008**, 260–270 (**Selected as Hot Article**).
- (93) A. K. Sharma, F. Lloret, and R. Mukherjee, "Phenolate-and Acetate-Bridged (both  $\mu$ -1,1 and  $\mu$ -1,3 mode) Face-Shared Trioctahedral Linear Ni<sup>II</sup><sub>3</sub>, Ni<sup>II</sup><sub>2</sub>M<sup>II</sup> (M = Mn, Co) Complexes: Ferro- and Antiferromagnetic Coupling", *Inorg. Chem.* **2007**, *46*, 5128–5130.
- (92) A. K. Singh and R. Mukherjee, "Synthesis and crystal structure of a copper(II) complex of deprotonated N,N'-bis(2-pyridinecarboxamide)-2,2'-biphenyl: Comparative redox study of CuN4 pyridine amide complexes", *Inorg. Chim. Acta* **2007**, *360*, 3456–3461.
- (91) H. Mishra and R. Mukherjee, "Half-sandwich  $\eta^6$ -benzene Ru(II) complexes of phenolate-based pyridylalkylamine/alkylamine ligands: synthesis, structure, and stabilization of one-electron oxidized species", *J. Organomet. Chem.* **2007**, 692, 3248–3260. (**Invited Article:** Special Issue on One-Electron Organometallic Reactivity; Editor: R. Poli).
- (90) V. Mishra, F. Lloret, and R. Mukherjee, "Bis-μ-Pyrazolate-Bridged Dinickel(II) and Dicopper(II) Complexes: An Example of Stereoelectronic Preference of Metal Ions and Stabilization of Mixed-Valence Ni<sup>III</sup>Ni<sup>II</sup> Species", *Eur. J. Inorg. Chem.* **2007**, 2161–2170.
- (89) V. Mishra, S. Singh, and R. Mukherjee, "Synthesis, Structure and Properties of a Monomeric Copper(II) Complex with a Multidentate Pyridylpyrazole Ligand", *Indian J. Chem.* **2007**, *46A*, 1573–1578.
- (88) V. Balamurugan, J. Mukherjee, M. S. Hundal, and R. Mukherjee, "Supramolecular Architectures with Ladder and Lamellar Topologies Using Metal-Ligand Coordination Units *via* C–H...Cl and O–H...Cl Hydrogen-Bonding", *Struct. Chem.* **2007**, *18*, 133–144. (**Invited Article:** Special Issue on Structural Chemistry in India; Editor: R. J. Butcher).
- (87) W. Jacob and R. Mukherjee, "Synthesis, Structure and Properties of Monomeric Fe(II), Co(II), and Ni(II) Complexes of Neutral N-(aryl)-2-pyridinecarboxamides", *Inorg. Chim. Acta* **2006**, *359*, 4565–4573.

- (86) V. Mishra, F. Lloret, and R. Mukherjee, "Coordination versatility of 1,3-bis[3-(2-pyridyl)pyrazol-1-yl]propane: Co(II) and Ni(II) complexes", *Inorg. Chim. Acta* **2006**, *359*, 4053–4062.
- (85) S. Mandal and R. Mukherjee, "A new tyrosinase model with 1,3-bis[(2-dimethylaminoethyl)iminomethyl]benzene: binuclear copper(I) and phenoxo-/hydroxo-bridged dicopper(II) complexes", *Inorg. Chim. Acta* **2006**, *359*, 4019–4026.
- (84) H. Mishra and R. Mukherjee, "Half-sandwich □ 6benzene Ru(II) complexes of pyridylpyrazole and pyridylimidazole ligands: synthesis, spectra, and structure", *J. Organomet. Chem.* **2006**, *691*, 3545–3555.
- (83) J. Mukherjee and R. Mukherjee, "Reaction with dioxygen of a Cu(I) complex of 1-benzyl-[3-(2'-pyridyl)]pyrazole triggers ethyl acetate hydrolysis: acetato-/pyrazolato-, dihydroxo- and diacetato-bridged Cu(II) complexes", *Dalton Trans.* **2006**, 1611–1621 (**Appeared as Cover Page Article: Issue #13**).
- (82) A. K. Singh and R. Mukherjee, "Bivalent and Trivalent Iron Complexes of Acyclic Hexadentate Ligands Providing Pyridyl/Pyrazine-Amide-Thioether Coordination", *Inorg. Chem.* **2005**, *44*, 5813–5819.
- (81) A. K. Singh and R. Mukherjee, "Structure and Properties of Bivalent Nickel and Copper Complexes with Pyrazine-Amide-Thioether Coordination: Stabilization of Trivalent Nickel", *Dalton Trans.* **2005**, 2886–2891.
- (80) J. Mukherjee, R. Gupta, T. Mallah, and R. Mukherjee, "A New (μ<sub>3</sub>-carbonato)- tricopper(II) Complex with Symmetry Related Equilateral Triangular Array of Metal Centers: Structure and Magnetism", *Inorg. Chim. Acta* **2005**, *358*, 2711–2717.
- (79) V. Balamurugan and R. Mukherjee, "Helical vs. Zigzag Coordination Polymer: Influence of Structural Preference of Metal-ion Coordination Geometry", *Inorg. Chim. Acta* **2005**, *359*, 1376–1382.
- (78) V. Balamurugan and R. Mukherjee, "Homochiral 1D-Helical Metal-Organic Frameworks from Achiral Components. Formation of Chiral Channel *via* C–H···Cl Interaction", *CrystEngComm* **2005**, *7*, 337–341.
- (77) J. Mukherjee, V. Balamurugan, M. S. Hundal, and R. Mukherjee, "Fixation of CO<sub>2</sub> in Air: Synthesis and Crystal Structure of a  $\mu_3$ -CO<sub>3</sub>-Bridged Tricopper(II) Compound", *J. Chem. Sci.* **2005**, *117*, 111–116.

- (76) C. Enachescu, J. Linares, F. Varret, K. E. Codjovi, S. G. Salunke, and R. Mukherjee, "Nonexponential Relaxation of the Metastable State of the Spin-Crossover System  $[Fe(L)_2](ClO_4)_2$ 'H<sub>2</sub>O [L=2,6-bis(pyrazol-1'-ylmethyl)pyridine]", *Inorg. Chem.* **2004**, *43*, 4880–4888.
- (75) S. P. Foxon, D. Utz, J. Astner, S. Schindler, F. Thaler, F. W. Heinemann, G. Liehr, J. Mukherjee, V. Balamurugan, D. Ghosh, and R. Mukherjee, Reaction Behaviour of Copper(I) Complexes with *m*-Xylyl-based Ligands Towards Dioxygen", *Dalton Trans.* **2004**, 2321–2328.
- (74) V. Balamurugan, M. S. Hundal, and R. Mukherjee, "First Systematic Investigation of C–H...Cl Hydrogen Bonding Using Inorganic Supramolecular Synthons: Lamellar, Stitched Stair-Case, Linked-Ladder and Helical Structures", *Chem. Eur. J.* **2004**, *10*, 1683–1690.
- (73) R. Mukherjee, Chapter on Copper in *Comprehensive Coordination Chemistry-II: From Biology to Nanotechnology*, Vol. 6 (Volume Editor: D. E. Fenton), Editors: J. A. McCleverty and T. J. Meyer, Elsevier/Pergamon, Amsterdam, **2004**, pp. 747–910.
- (72) V. Balamurugan, W. Jacob, J. Mukherjee, and R. Mukherjee, "Designing Neutral Coordination Networks Using Inorganic Supramolecular Synthons: Combination of Coordination Chemistry and C-H ... Cl Hydrogen Bonding", *CrystEngComm* **2004**, *6*, 396–400.
- (71) R. Mukherjee, "Bioinorganic Chemistry of Dinuclear Copper Proteins", *Proc. Indian Natl. Sci. Acad.*, *Part A, Physical Sciences*, **2004**, *70*, 329–341. (Special Thematic Issue on Bioinorganic Chemistry; Guest Editor: R. N. Mukherjee).
- (70) A. K. Singh, V. Balamurugan, and R. Mukherjee, "Synthesis and Characterization of Low-Spin and Cation Radical Complexes of Ruthenium(III) of a Tridentate Pyridine Bis-Amide Ligand", *Inorg. Chem.* **2003**, *42*, 6497–6502.
- (69) J. Mukherjee, V. Balamurugan, R. Gupta, and R. Mukherjee, "Synthesis and properties of Fe<sup>III</sup> and Co<sup>III</sup> complexes: structures of  $[(L^2)Fe(N_3)_3]$ ,  $[(L^2)_2Fe_2(\mu\text{-O})(\mu\text{-O}_2CMe)_2][ClO_42^2H_2O$  and  $[(L^2)_2Co_2(\mu\text{-OH})_2(\mu\text{-O}_2CMe)][ClO_43^2MeCN [L^2 = methyl[2-(2-pyridyl)ethyl](2-pyridylmethy)amine]",$ *Dalton Trans.***2003**, 3686–3692.
- (68) S. Singh, V. Mishra, J. Mukherjee, N. Seethalekshmi, and R. Mukherjee, "Synthesis and Properties of  $[M^{II}(L^6)_2][ClO_4]_2$  (M = Fe, Co and Ni): Structures of Co and Ni Complexes and Spin-State Transition by Fe Complex ( $L^6 = 2$ -[3-(2'- pyridyl)pyrazol-1-ylmethyl]pyridine)", *Dalton Trans.* **2003**, 3392–3397.
- (67) D. Utz, F. W. Heinemann, J. Mukherjee, and R. N. Mukherjee, "Synthesis and Structural Characterization of a New Tetranuclear Macrocyclic Copper(I) Complex", *Z. Anorg. Allg. Chem.* **2003**, 629, 2211–2215 (Special Issue Dedicated to Professor Bernt Krebs on the Occasion of His 65th Birthday).

- (66) R. Mukherjee, "The Bioinorganic Chemistry of Copper", *Indian J. Chem.* **2003**, *42A*, 2175–2184. (Special Issue on Modern Inorganic Chemistry; Guest Editor and Co-editors: A. Chakravorty; P. Banerjee and S. Goswami). 18
- (65) R. Gupta, T. K. Lal, and R. Mukherjee, "Synthesis and Properties of  $[Cu(L^5)_2]$   $[ClO_4]_2$ ·H<sub>2</sub>O having Square Planar and Pseudo-Octahedral Geometries in the Same Unit Cell, and Anionbound Complexes  $[Cu(L^5)_2X][ClO_4]$  ( $X = Cl^-$ , NCS<sup>-</sup>, N<sub>3</sub><sup>-</sup>)  $[L^5 = 2$ -(3,5-dimethylpyrazol-1-ylmethyl)pyridine]", *Polyhedron* **2002**, *21*, 1245–1253.
- (64) J. Mukherjee and R. Mukherjee, "Catecholase Activity of Dinuclear Copper(II) Complexes with Variable Endogenous and Exogenous Bridge", *Inorg. Chim. Acta* (Special Issue Dedicated to Prof. K. Wieghardt) **2002**, *337*, 429–438.
- (63) R. Gupta and R. Mukherjee, "Five-Coordinate Anion –Bound Copper(II) Complexes with Non-Planar Tridentate Ligands. X-ray Structures of  $[Cu(L^3)(N_3)_2]$  and  $[Cu(L^3)(ONO)(OClO_3)]$  ( $L^3 = 2,6$ -bis(3,5-dimethyl-pyrazol-1-ylmethyl)pyridine)", *Polyhedron*, **2001**, 20, 2545–2549.
- (62) S. Mahapatra, R. J. Butcher, and R. Mukherjee, "Crystal Structure of  $[Fe(L^1)_2](ClO_4)_2$ 'H<sub>2</sub>O having FeIIN6 coordination[L1 = 2,6-bis(pyrazol-1-ylmethyl)pyridine]", *Indian J. Chem.* **2001**, 40A, 973–975.
- (61) R. Gupta and R. Mukherjee, "Catalytic Oxidation of Hindered Phenols by a Copper(I) Complex and Dioxygen", *Tetrahedron Letters* **2000**, *41*, 7763–7767.
- (60) R. Gupta, R. Hotchandani, and R. Mukherjee, "Magnetic Interactions in Dicopper(II) Complexes of a New Endogenous Alkoxo Bridging Ligand with Exogenous Pyrazolate, Azide and Acetate Bridges. X-ray Structure of  $[Cu_2L(\mu-C_3H_3N_2)(OClO_3)(H_2O)](ClO_4)$ 'H<sub>2</sub>O (HL = 1,3-bis[*N*-methyl- *N*-(2-pyridylethyl)amino]propan-2-ol)", *Polyhedron* **2000**, *19*, 1429–1435.
- (59) A. K. Patra, M. Ray, and R. Mukherjee, "Magneto-structural Studies of Monohydroxo-Bridged Dicopper(II) Complexes  $M[Cu_2L^2(OH)]$   $^2H_2O[M = Na+/K+1]$  and  $\mathbf{2}$ ;  $H_2L = 2,6$ -bis[N-(phenyl)carbamoyl]pyridine]. Effect of Cu–OH–Cu Bridge Angle on Antiferromagnetic Coupling", *Polyhedron* **2000**, *19*, 1423–1428.
- (58) R. Gupta and R. Mukherjee, "Synthesis and Properties of [CuLCl<sub>2</sub>] and [CuL(N<sub>3</sub>)(OClO<sub>3</sub>)] H<sub>2</sub>O (L =  $\alpha$ , $\alpha$ '-Bis(pyrazolyl)-*m*-xylene). X-ray Structure of [CuLCl<sub>2</sub>]<sub>2</sub>", *Polyhedron* **2000**, *19*, 719–724.
- (57) A. K. Patra, M. Ray, and R. Mukherjee, "Synthesis and Characterization of Pyridine Amide Cation Radical Complexes of Iron: Stabilization Due to Coordination with Low-SpinIron(III) Center", *Inorg. Chem.* **2000**, *39*, 652–657.

- (56) R. Gupta, D. Ghosh, and R. Mukherjee, "Modelling Tyrosinase Monooxygenase Activity. Activation of Dioxygen by Dicopper(I) Complexes and Characterization of Dicopper(II) Complexes", *Proc. Indian Acad. Sci. (Chem. Sci.)* **2000**, *112*, 179–186 (Special Issue on Modern Trends in Inorganic Chemistry).
- (55) R. Mukherjee, "Pyrazole-Containing Chelating Ligands: Molecular Structural Aspects", *Coord. Chem. Rev.* **2000**, *203*, 151–218. 19
- (54) R. Gupta, S. Mukherjee, and R. Mukherjee, "Synthesis, magnetism, <sup>1</sup>H NMR and Redox Activity of Dicopper(II) Complexes having a Discrete  $\{Cu_2(\mu\text{-phenoxide})_2\}^{2+}$  Unit Supported by a Non-Macrocyclic Ligand Environment. X-Ray Structure of  $[Cu_2(L)_2(OClO_3)_2]$  [L = 4-Methyl-2,6-bis(pyrazol-1-ylmethyl)phenol]", *J. Chem. Soc., Dalton Trans.*, **1999**, 4025–4030.
- (53) A. K. Patra, M. Ray, and R. Mukherjee, "Synthesis, Crystal Structure and Properties of Bipyramidal  $[M(L^5)_2(H_2O)]$ ' $H_2O$  Complexes [M = Cobalt(II) (S = 3/2)and Copper(II) (S = 1/2); HL5 = N-2-Chloro-6-methylphenyl-pyridine-2-carboxamide]", *J. Chem. Soc.*, *Dalton Trans*. **1999**, 2461–2466.
- (52) T. K. Lal, R. Gupta, S. Mahapatra and R. Mukherjee, "Synthesis, Spectra and Redox Properties of Mononuclear Five-Coordinate Copper(II) Complexes with Non- Communicable Pyrazole/Pyridyl Containing Ligands. X-ray Structure of [2,6-bis(3,5-dimethylpyrazol-1-ylmethyl)pyridine][2-(3,5-dimethylpyrazol-1-ylmethyl)pyridine]-copper(II) Perchlorate", *Polyhedron* **1999**, *18*, 1743–1750.
- (51) A. K. Patra and R. Mukherjee, "Bivalent, Trivalent, and Tetravalent Nickel Complexes with a Common Tridentate Deprotonated Pyridine Bis-Amide Ligand. Molecular Structures of Nickel(II) and Nickel(IV) and Redox Activity, *Inorg. Chem.* **1999**, *38*, 1388–1393.
- (50) A. K. Patra and R. Mukherjee, "Synthesis and Properties of a Monomeric and a  $\square$ -Oxo-Bridged Dimeric Iron(III) Complex with a Tetradentate Pyridine Amide In-Plane Ligand. X-ray Structure of [Fe(bpc)Cl(DMF)] [H<sub>2</sub>bpc = 4,5-Dichloro-1,2-bis(pyridine-2-carboxamido)benzene]", *Polyhedron*, **1999**, *18*, 1317–1322.
- (49) R. Mukherjee, "Coordination Chemistry of Life Processes: Bioinorganic Chemistry", *Resonance* **1999**, *4*, 53–62.
- (48) D. Ghosh and R. Mukherjee, "Modeling Tyrosinase Monooxygenase Activity. Spectroscopic and Magnetic Investigations of Products Due to Reactions between Copper(I) Complexes of Xylyl-Based Dinucleating Ligands and Dioxygen: Aromatic Ring Hydroxylation and Irreversible Oxidation Products", *Inorg. Chem.* **1998**, *37*, 6597–6605.

- (47) T. K. Lal and R. Mukherjee, "Modeling the Oxygen-Evolving Complex of Photosystem II. Synthesis, Redox Properties, and Core Interconversion Studies of Dimanganese Complexes Having  $\{Mn^{III}_{2}(\mu\text{-O})(\mu\text{-OAc})_{2}\}^{2+}$ ,  $\{Mn^{III}Mn^{IV}(\mu\text{-O})_{2}(\mu\text{-OAc})\}^{2+}$  and  $\{Mn^{IV}_{2}(\mu\text{-O})_{2}(\mu\text{-OAc})\}^{3+}$  Cores with MeL as a Terminal Ligand: A New Asymmetric Mixed-Valence Core", *Inorg. Chem.* **1998**, *37*, 2373–2382. 20
- (46) T. K. Lal, J. F. Richardson, M. S. Mashuta, R. M. Buchanan, and R. Mukherjee, "Synthesis, X-ray Structure, and Properties of a New Nitrite-Bound Copper(II) Complex with 2-(3,5-dimethyl-pyrazol-1-ylmethyl)pyridine in a CuN4(O) Coordination", *Polyhedron* **1997**, *16*, 4331–4336.
- (45) T. K. Lal and R. Mukherjee, "New Cobalt(II) and Nickel(II) Complexes with 2- (pyrazol-1-ylmethyl)pyridine. Stereochemical Variations in Cobalt(II) Complexes and X-ray Crystal Structure of Bis[2-(pyrazol-1-ylmethyl)pyridine]dichloro-cobalt(II) Tetrahydrate", *Polyhedron* **1997**, *16*, 3577–3583.
- (44) M. Ray, D. Ghosh, Z. Shirin, and R. Mukherjee, "Highly Stabilized Low-Spin Iron(III) and Cobalt(III) Complexes of a Tridentate Bis-Amide Ligand 2,6-Bis(*N*-phenylcarbamoyl)pyridine. Novel Nonmacrocyclic Tetraamido-N Coordination and Two Unusually Short Metal-Pyridine Bonds", *Inorg. Chem.* **1997**, *36*, 3568–3572.
- (43) R. Mukherjee, "Binuclear Iron, Manganese, and Copper Centers in Biology: Synthetic Analogue Approach", *Current Science* **1997**, *72*, 802–807.
- (42) R. Gupta and R. Mukherjee, "A New Tyrosinase Model System: Formation of a Phenoxy-and Hydroxy-Bridged Copper(II) Complex with Partial Hydrolysis of a Tetraaza Macrocyclic Schiff Base Ligand", *Inorg. Chim. Acta* **1997**, *263*, 133–137 (Special Issue Dedicated to Prof. R. H. Holm).
- (41) Z. Shirin, A. Pramanik, P. Ghosh, and R. Mukherjee, "Stable Cyclohexadienyl Complexes of Ruthenium in a Piano Stool Geometry Containing a Tridentate Nitrogen Donor Ligand. First Structural Characterization of the ( $\eta^5$ -Cyanocyclohexadienyl)ruthenium(II) Complex and Spectroelectrochemical Correlation", *Inorg. Chem.* **1996**, *35*, 3431–3433.
- (40) D. Ghosh, T. K. Lal, and R. Mukherjee, "Dicopper Complexes of Relevance to Tyrosinase Modelling: An Overview", *Proc. Indian Acad. Sci. (Chem. Sci.)* **1996**, *108*, 251–256 (Special Issue on Modern Trends in Inorganic Chemistry).
- (39) D. Ghosh, T. K. Lal, S. Ghosh, and R. Mukherjee, "Aromatic Hydroxylation in a New Tyrosinase Model System and Formation of a Novel Bis( $\mu$ -hydroxo)-dicopper(II) Complex Due to Unprecedented Ligand Coupling Reaction", *Chem. Commun.* **1996**, 13–14.

- (38) S. Mahapatra, T. K. Lal, and R. Mukherjee, "Synthesis, Characterization, and Novel Redox Properties of a New Triply Bridged Dimanganese(III) Complex with a  $\{Mn^{III}_{2}(\mu\text{-O})(\mu\text{-O}_{2}CCH_{3})_{2}\}^{2+}$  Core", *Inorg. Chem.* **1994**, *33*, 1579–1580.
- (37) M. Ray, R. Mukherjee, J. F. Richardson, M. S. Mashuta and R. M.Buchanan, "Control of the Stereochemistry of Four-Coordinate Copper(II) Complexes by Pyridinecarboxamide Ligands: Crystal Structure, Spectral, and Redox Properties", *J. Chem. Soc.*, *Dalton Trans.* **1994**, 965–969. 21
- (36) Z. Shirin, R. Mukherjee, J. F. Richardson, and R. M. Buchanan, "New Piano-Stool Ruthenium(II) Complexes of Benzene and Bidentate/Tridentate Nitrogen-Donor Ligands: Synthesis and Characterization", *J. Chem. Soc.*, *Dalton Trans.* **1994**, 465–469.
- (35) S. Mahapatra, R. J. Butcher, and R. Mukherjee, "Observation of the Longest Fe-N(pyridine) Bond in an FeIIN6 Chromophore. Crystal Structure and 1H Nuclear Magnetic Resonance Studies of  $[FeL^2_2][ClO_4]_2$  [  $L^2 = 2$ -(3,5-dimethylpyrazol-1-ylmethyl)-6-(pyrazol-1-ylmethyl)pyridine]", *J. Chem. Soc.*, *Dalton Trans.* **1993**, 3723–3726.
- (34) M. Ray, R. Mukherjee, J. F. Richardson and R. M. Buchanan, "Spin-State Regulation of Iron(III) Centres by Axial Ligands with Tetradentate Bis(picolinamide) In-plane Ligands", *J. Chem. Soc.*, *Dalton Trans.* **1993**, 2451–2457.
- (33) S. Mahapatra and R. Mukherjee, "Singlet 

  Quintet Transition in a Six- Coordinate Iron(II) Complex of a Tridentate Bis(pyrazolyl)pyridine Ligand", *Polyhedron* **1993**, *12*, 1603–1606.
- (32) S. Mahapatra, T. K. Lal, and R. Mukherjee, "Highest CoIII-CoII Redox Potential in  $Co^{II}N_6$  (S=3/2) Complexes of Tridentate Ligands. Predominance of Steric over Electronic Effect", *Polyhedron* **1993**, *12*, 1477–1481.
- (31) S. Mahapatra and R. Mukherjee, "A New Mixed-Ligand Ruthenium(II) Complex with RuN<sub>6</sub> Coordination Sphere having Weak  $\pi$ -Accepting Ligand", *Indian J. Chem.* **1993**, *32A*, 428–430.
- (30) S. Mahapatra, P. Das, and R. Mukherjee, "A. New Mixed-Valence Binuclear Complex Containing the  $[Mn^{IV}(\mu\text{-O})_2(\mu\text{-O}_2CMe)Mn^{III}]^{2+}$  Core: Synthesis, Magnetism, Electron Paramagnetic Resonance and Redox Properties", *J. Chem. Soc.*, *Dalton Trans.* **1993**, 217–220.
- (29) S. Mahapatra and R. Mukherjee, "Synthesis and Spectral Characterization of Mono and Bis Chelates of Nickel(II) (S = 1) with Tridentate Pyridylpyrazole Ligands", *Indian J. Chem.* **1993**, 32A, 64–66.

- (28) K. Ramesh, T. K. Lal, and R. Mukherjee, "Synthesis, Spectra, and Electrochemistry of Non-Oxo Vanadium(IV) Bischelates of Tridentate Schiff Base Ligands. Magnetism of Bis[*N*-(2-hydroxyphenyl)-5-Methylsalicylideniminato]- vanadium(IV)", *Polyhedron* **1992**, *11*, 3083–3089.
- (27) S. Mahapatra, N. Gupta, and R. Mukherjee, "New Triply Bridged Diiron(III) Complexes with  $[Fe_2(\mu\text{-O})(\mu\text{-X})_2]^{2+}$  Cores (X = MeCO<sub>2</sub>, PhCO<sub>2</sub> or (PhO)<sub>2</sub>PO<sub>2</sub>]", *J. Chem. Soc.*, *Dalton Trans.* **1992**, 3041–3045. 22
- (26) M. Ray and R. Mukherjee, "Cobalt(III) Complexes Using In-Plane Tetradentate Pyridinecarboxamide ligands and Two Monodentate Axial Ligands: Spectro-electrochemical Correlation", *Polyhedron* **1992**, *11*, 2929–2937.
- (25) Z. Shirin and R. Mukherjee, "Synthesis, Spectra, and Electrochemistry of Ruthenium(III) Complexes with Cage-Like Schiff Base Ligands", *Polyhedron* **1992**, *11*, 2625–2630.
- (24) S. Mahapatra and R. Mukherjee, "Synthesis, Spectroscopy, and Electrochemistry of Ruthenium(II) Complexes of Tridentate Pyridylpyrazole Ligands. Predominance of Electronic over Steric Effects", *J. Chem. Soc.*, *Dalton Trans.* **1992**, 2337–2341.
- (23) S. Mahapatra, D. Bhuniya, and R. Mukherjee, "Consequences of Electronic/Steric Effect on Monochelate and Bischelate Manganese(II) (S = 5/2) Complexes Using Pyridinylpyrazole Ligands. Synthesis and Electrochemistry", *Polyhedron* **1992**, *11*, 2045–2049.
- (22) N. Gupta, S. Mukerjee, S. Mahapatra, M. Ray, and R. Mukherjee, "Triply Bridged Diruthenium Complexes with  $[Ru^{III}_{2}(\mu\text{-O})(\mu\text{-O}_{2}CCH_{3})_{2}]^{2+}$  and  $[Ru^{IV}Ru^{III}(\mu\text{-O})(\mu\text{-O}_{2}CCH_{3})_{2}]^{3+}$  Cores: Synthesis, Spectra, and Electrochemistry", *Inorg. Chem.* **1992**, *31*, 139–141.
- (21) K. Ramesh and R. Mukherjee, "Trends in the Spectral and Redox Potential Data of Mononuclear Iron(III) (S = 5/2) Phenolate Complexes", *J. Chem. Soc.*, *Dalton Trans.* **1992**, 83–89.
- (20) K. Ramesh and R. Mukherjee, "Vanadium(III) Complexes with VN<sub>3</sub>O<sub>3</sub> Coordination by Sexidentate Schiff Base Ligands: Synthesis, Spectra and Redox Activity", *J. Chem. Soc.*, *Dalton Trans.* **1991**, 3259–3262.
- (19) K. Ramesh and R. Mukherjee, "Manganese(III) Complexes with  $Mn^{III}N_3O_3$  (S=2) Coordination by Sexidentate Schiff Base Ligands: Synthesis, Spectra and Electrochemistry", *J. Chem. Soc.*, *Dalton Trans.* **1991**, 2917–2920.
- (18) S. Mahapatra, N. Gupta, and R. Mukherjee, "Consequences of Incremental Steric Crowding at the Fe<sup>II</sup>N<sub>6</sub> (S = 2) Coordination Sphere. Synthesis, Spectra and Electrochemistry", *J. Chem. Soc.*, *Dalton Trans.* **1991**, 2911–2915.

- (17) K. Ramesh and R. Mukherjee, "A Low Spin Iron(II) Diimine Complex of a Schiff Base Ligand: Charge Transfer Transition and Electrochemistry", *Indian J. Chem.* **1991**, *30A*, 1057–1059.
- (16) M. Ray, S. Mukerjee, and R. Mukherjee, "Manganese(III) Complexes of 1,2-Bis(2-pyridinecarboxamido)benzene: Synthesis, Spectra and Electrochemistry", *J. Chem. Soc., Dalton Trans.* **1990**, 3635–3638. 23
- (15) R. Mukherjee, A. J. Abrahamson, G. S. Patterson, T. D. P. Stack, and R. H. Holm, "A New Class of (*N*,*N*'-Bis(salicylideneamino)-ethanato)iron(II) Complexes: Five-Coordinate [Fe<sup>II</sup>(salen)L]<sup>-</sup>. Preparation, Properties, and Mechanism of Electron–Transfer Reactions", *Inorg. Chem.* **1988**, *27*, 2137–2144.
- (14) R. Mukherjee, T. D. P. Stack, and R. H. Holm, "Angle Dependence of the Properties of the  $[Fe_2X]$  Bridge Unit (X = O, S): Structures, Antiferromagnetic Coupling and Properties in Solution", J. Am. Chem. Soc. 1988, 110, 1850–1861.
- (13) B. K. Ghosh, R. Mukherjee, and A. Chakravorty, "Osmium Azo Oxime Chemistry. Facial Tris Chelate and Trinuclear OsMOs Species", *Inorg. Chem.* **1987**, *26*, 1946–1950.
- (12) S. Bhattacharya, R. Mukherjee, and A. Chakravorty, "A Nickel(III) Complex with a NiO<sub>6</sub> Coordination Sphere", *Inorg. Chem.* **1986**, *25*, 3448–3452.
- (11) R. Mukherjee, Ch. Pulla Rao, and R. H. Holm, "Solution Chemistry of Ethane- 1,2-dithiolate Complexes: Equilibria and Electron-Transfer Reactions", *Inorg. Chem.* **1986**, *25*, 2979–2989.
- (10) S. Pal, R. Mukherjee, M. Thomas, L. R. Falvello, and A. Chakravorty, "Trinucleation of Arylazo Oxime Ensembles. Linear Fe<sup>II</sup>Ni<sup>II</sup>Fe<sup>II</sup> and Related Systems", *Inorg. Chem.* **1986**, *25*, 200–207.
- (9) R. Mukherjee, S. Goswami, and A. Chakravorty, "Binding of a Nickel(IV) Complex in a Polyion-Modified Graphite Electrode: Electroprotic Equilibria", *Inorg. Chem.* **1985**, *24*, 4528–4533.
- (8) S. Pal, T. Melton, R. Mukherjee, A. R. Chakravarty. M. Thomas, L. R. Falvello, and A. Chakravorty, "Trinucleation of Arylazo Oxime Ensembles: Structure and Reactions of Novel Linear Fe<sup>II</sup>Fe<sup>II</sup> Species", *Inorg. Chem.* **1985**, *24*, 1250–1257.
- (7) R. Mukherjee and A. Chakravorty, "Ligand Redistribution in Triazene-1-Oxide Complexes: A Voltammetric Study", *Inorg. Chem.* **1984**, *23*, 4753–4755.

- (6) S. Bhattacharya, A. Chakravorty, F. A. Cotton, R. Mukherjee, and W. Schwotzer, "Ruthenium(IV) in Centrosymmetric RuX<sub>2</sub>N<sub>2</sub>O<sub>2</sub> Coordination: Synthesis, Structure and Redox Properties of Dihalobis(triazene-1-oxidato)ruthenium Species", *Inorg. Chem.* **1984**, *23*, 1709–1713.
- (5) S. Goswami, R. Mukherjee, and A. Chakravorty, "Reactions of Bidentate Ligands with Diaquobis[2-(arylazo)pyridine)]ruthenium(II) Cation. Stereoretentive Synthesis of Tris Chelates and Their Characterization: Metal Oxidation, Ligand Reduction and Spectroelectrochemical Correlation", *Inorg. Chem.* **1983**, 22, 2825–2832
- (4) R. Mukherjee and A. Chakravorty, "Triazene-1-Oxide Complexes of Bis(2,2'-bipyridine)ruthenium-(II) and -(III). Synthesis, Spectra and Electrochemistry", *J. Chem. Soc.*, *Dalton Trans.* **1983**, 2197–2203.
- (3) R. Mukherjee and A. Chakravorty, "New Tris Complexes of Ruthenium(III). Synthesis, Spectra and Redox Activity", *J. Chem. Soc.*, *Dalton Trans.* **1983**, 955–959.
- (2) R. Mukherjee, O. A. Rajan, and A. Chakravorty, "Electron Transfer in Groups of Iron, Cobalt and Copper Triazene-1-Oxides: Hammett Correlation, Ligand Redistribution and Crystal Field Effects", *Inorg. Chem.* **1982**, *21*, 785–790.
- (1) R. Mukherjee and A. Chakravorty, "Identification of a One-Electron Redox Process in Fe(III), Co(III) and Cu(II) Complexes of 1-Ethyl-3-phenyltriazene-1-Oxide", *Indian J. Chem., Sec. A.* **1981**, *20*, 73–74.

### **Popular Level Article:**

(1) R. Mukherjee, "A Dicopper(II) Complex Hydrolyzes the Phosphate Diester Bond!" *Resonance* **1996**, *1*, 58–60.

### **Symposia Proceedings:**

#### In India

- (59) A. Kumar, A. Sengupta, and R. Mukherjee, "Mixed-Valent Bis(μ-oxo) Dimanganese(III, IV) Complexes with different ligands and reactivity and Phenolic Substrates", 21<sup>st</sup> CRSI National Symposium in Chemistry (CRSI NSC-21), Hyderabad, (July 14-16, 2017) (Poster Presentation by A. Kumar)
- (58) A. Saha and R. Mukherjee, "Bio-inspired Mononuclear Copper(II) Complex with Labile Coordination site: Galactose Oxidase Modeling and Alkane Oxidation", Chemistry interfacing with Biology and Physics (IISER Kolkata), (January 27-28, 2017) (Poster Presentation by A. Saha)

(57) N. Mukhopadhayay and R. Mukherjee, "Zn<sup>II</sup>-Mediated Ligand Radical- driven -O-CH2-O-Bond Formation", Chemistry interfacing with Biology and Physics (IISER Kolkata), (January 27-28, 2017)
(Poster Presentation by N. Mukhopadhyay)

(56) A. Sengupta, A. Rajput, S. K. Barman, and R. Mukherjee, "Azo-containing Pyridine/Pyrazine Carboxamide Ligands: Series of Six Coordinated Fe<sup>III/II</sup> and Co<sup>III/II</sup> Complexes: Structures, Properties and Trend of  $E_{1/2}$  Values For M<sup>III</sup>/M<sup>II</sup> Redox Process", 5<sup>th</sup> Symposium on Advanced Biological Inorganic Chemistry (SABIC)-Kolkata, (January 7-11, 2017) (Poster Presentation by A. Sengupta)

(55) A. Kumar, A. Sengupta, and R. Mukherjee, "Mixed-Valent Bis(μ-oxo) Dimanganese(III, IV) Complexes with different ligands and reactivity and Phenolic Substrates", 5<sup>th</sup> Symposium on Advanced biological Inorganic Chemistry (SABIC)-Kolkata, (January 7-11, 2017) (Poster Presentation by A. Kumar)

- (54) A. Saha and R. Mukherjee, "Bio-inspired Mononuclear Copper(II) Complex with Labile Coordination site: Galactose Oxidase Modeling and Alkane Oxidation", 5<sup>th</sup> Symposium on Advanced Biological Inorganic Chemistry (SABIC)-Kolkata, (January 7-11, 2017) (Poster Presentation by A. Saha)
- (53) Shashi Kant and R. Mukherjee, "Magnetostructural Aspects of Polynuclear complexes of Carboxylate-Appended (2-Pyrydyl)alkylamines", Modern Trends in Molecular Magnets (MTMM) (IIT Bombay), (May 19-21, 2016) (Poster and Oral presentation by Shashi Kant)
- (52) N. Mukhopadhyay and R. Mukherjee, "Metal-Ligand Radical Driven C-O Bond Formation", 4<sup>th</sup> DCS Day (IISER Kolkata), (January 28, 2016) (Oral Presentation by N. Mukhopadhayay)
- (51) Akram Ali, Suman K. Barman and R. Mukherjee, "Ligand Radical-Cordinated Palladium(II) Complexes and their Reactivity, Coordination Chemistry with Metal-Coordinated Radical Species", MTIC –XVI (Jadavpur University, Kolkata), (December 3-5, 2015) (Poster Presentation by A. Ali)
- (50) Shashi Kant and R. Mukherjee, "Carboxylate-Appended (2-Pyrydyl)alkylamines. Synthesis of Clusters and their Topologies", Chemfest (IIT Kanpur), (October 11, 2014) (Poster Presentation by S. Kant)

- (49) A. Rajput, A. K. Sharma, S. K. Barman, and R. Mukherjee, "Coordination Chemistry with Metal-Coordinated Radical Species", MTIC-XIV (IIT Roorke), (December 13-15, 2013) (Poster Presentation by A. Rajput)
- (48) S. K. Barman and R. Mukherjee, "Binuclear Cu<sup>II</sup> Complexes with Dinucleating Phenolbased Ligands: Catecholase and Phosphatase-like Activity", MTIC XIV (University of Hyderabad), (December 10-13, 2011) (Poster Presentation by S. K. Barman)
- (47) A. Rajput, D. Dhar, P. Ghana, S. K. Barman, and R. Mukherjee, "Coordination Chemistry with Metal-Coordinated Radical Species", Asian Coordination Chemistry Conference (ACCC-3), Delhi, (October 17-20, 2011) (Poster Presentation by A. Rajput)
- (46) S. K. Barman, A. K. Sharma, and R. Mukherjee, "Chemistry with Non-innocent Ligands. Molecular and Electronic Structure, and Properties", International Symposium on Frontiers in Inorganic Chemistry (FIC-2010), Indian Association for the Cultivation of Science, Kolkata, Book of Abstracts (P-84), (December 11-13, 2010) (Poster Presentation by S. K. Barman)
- (45) P. P. Das, S. Pandey, A. K. Singh, and R. Mukherjee, "Chemistry with Multidentate Pyridine Amide Ligands: Structures and Properties", International Symposium on Frontiers in Inorganic Chemistry (FIC-2010), Indian Association for the Cultivation of Science, Kolkata, Book of Abstracts (P-52), (December 11-13, 2010) (Poster Presentation by P. P. Das)
- (44) R. Singh and R. Mukherjee, "Reactivity Studies of a Dihydroxo-bridged Dicopper(II) Complex of Tridentate Ligand Methyl[2-(2-pyridyl)ethyl)]-(2-pyridylmethyl)amine", Symposium on Modern Trends in Inorganic Chemistry (MTIC-XIII), Department of Inorganic & Physical Chemistry, Indian Institute of Science, Bangalore, Book of Abstracts (p-188), (December 07-10, 2009)
  (Poster Presented by R. Singh)
- (43) S. K. Barman, S. Mandal, H. Arora, and R. Mukherjee, "Kinetics of Transesterification of 2-Hydroxypropyl-*p*-nitrophenylphosphate using Phenoxo-bridged Dinuclear Co<sup>II</sup>, Ni<sup>II</sup>, and Zn<sup>II</sup> Complexes", Symposium on Modern Trends in Inorganic Chemistry (MTIC-XIII), Department of Inorganic & Physical Chemistry, Indian Institute of Science, Bangalore, Book of Abstracts (p-109), (December 7-10, 2009) (Oral Presentation by S. K. Barman)
- (42) R. Singh and R. Mukherjee, "Kinetics of Transesterification of 2-Hydroxypropyl-*p*-nitrophenylphosphate by a Dimer-of-DimerType Tetranuclear Copper(II) Complex", Symposium on Advanced Biological Inorganic Chemistry (SaBIC-2009), Tata Institute of Fundamental Research, Mumbai, Book of Abstracts (P-235), (November 2-7, 2009) (Poster Presented by R. Singh)

- (41) W. Jacob, H. Mishra, S. Pandey, F. Lloret, and R. Mukherjee, "Six-coordinate Co<sup>III</sup> and Four-Coordinate M<sup>II</sup> (M = Co, Zn) Mixed-Valence Dimers: Magnetism of a Co<sup>III</sup>Co<sup>II</sup> Complex and C–H...O/Cl/Br Interactions", 11th National Symposium in Chemistry (NSC-11), National Chemical Laboratory, Pune, Book of Abstracts (P-49), (February 6-8, 2009) (Poster Presentation by S. Pandey)
- (40) S. Pandey and R. Mukherjee, "Ferrocene-based Anion Receptors: A Voltammetric Study", Modern Trends in Inorganic Chemistry, Department of Chemistry, Indian Institute of Technology Madras, Chennai, Book of Abstracts (P-D3-201), (December 6-8, 2007) (Poster Presentation by S. Pandey)
- (39) A. De and R. Mukherjee, "Cyano-bridged Polynuclear Complexes: Structure and Magnetism", Modern Trends in Inorganic Chemistry, Department of Chemistry, Indian Institute of Technology Madras, Madras, Book of Abstracts (P-D1-015), (December 6-8, 2007) (Poster Presentation by A. De)
- (38) A. Mukherjee, F. Lloret, and R. Mukherjee, "Diphenoxo-bridged Dimers: Stabilization of Phenoxy Radical", 9th National Symposium in Chemistry (NSC-9), University of Delhi, Delhi, Book of Abstracts (P-142), (February 1-4, 2007) (Poster Presentation by A. Mukherjee)
- (37) S. Mandal and R. Mukherjee, "Demonstration of Aromatic Ring Hydroxylation (Tyrosinase-like Activity) Using New *m*-Xylyl-Based Schiff Base Ligand: Copper-Oxygen Intermediate Due to Reaction between Bis(□-hydroxo)dicopper(II) and Hydrogen Peroxide", 8th National Symposium in Chemistry (NSC-8), Indian Institute of Technology Bombay, Mumbai, Book of Abstracts (P-9), (February 3-5, 2006) (Poster Presentation by S. Mandal)
- (36) A. K. Singh and R. Mukherjee, "Co(II) and Co(III) Complexes of Thioether-Containing Pyrazine Amide Ligands: Effect of Ligand Ring Size on Metal Oxidation State", 8th National Symposium in Chemistry (NSC-8), Indian Institute of Technology Bombay, Mumbai, Book of Abstracts (P-27), (February 3-5, 2006) (Poster Presentation by A. K. Singh)
- (35) H. Arora and R. Mukherjee, "Mononuclear and Dinuclear Oxo-bridged Fe<sup>III</sup> Complexes of Phenol-based Dinucleating Compartental Ligands", Modern Trends in Inorganic Chemistry, Department of Chemistry, Indian Institute of Technology Delhi, New Delhi, Book of Abstracts (p-80), (December 8-10, 2005) (Poster Presentation by H. Arora)
- (34) V. Mishra and R. Mukherjee, "Singlet 

  Quintet Spin Transition in Six-Coordinate Iron(II) Complexes of Tridentate Pyridyl/Pyrazole/Imidazole-based Ligands", Modern Trends in Inorganic Chemistry, Department of Chemistry, Indian Institute of Technology Delhi, New Delhi, Book of Abstracts (p-79), December 8-10, 2005) (Poster Presentation by V. Mishra)

- (33) A. K. Singh and R. Mukherjee, "Co(II) and Co(III) Complexes of Thioether-containing Pyrazine Amide Ligands. Effect of Ligand Ring Size on Metal Oxidation State", 8th National Symposium in Chemistry (NSC-8), Indian Institute of Technology Bombay, Mumbai, Book of Abstracts (p-27), (February 3-5, 2006) (Poster Presented by A. K. Singh)
- (32) S. Mandal and R. Mukherjee, "Demonstration of Aromatic Ring Hydroxylation (Tyrosinase-like Activity) Using New *m*-Xylyl-Based Schiff Base Ligand: Copper-Oxygen Intermediate Due to Reaction between Bis(□-hydroxo)dicopper(II) and Hydrogen Peroxide", 8th National Symposium in Chemistry (NSC-8), Indian Institute of Technology Bombay, Mumbai, Book of Abstracts (p-9), (February 3-5, 2006) (Poster Presentation by S. Mandal)
- (31) H. Mishra, A. K. Patra, and R. Mukherjee, "Half-Sandwich (□ 6C6H6)RuII Complexes with Evidence for C-H ... Cl Interaction and Structure of a Cyclohexadienyl Derivative", 7th National Symposium in Chemistry (NSC-7), Indian Association for the Cultivation of Science, Kolkata, Book of Abstracts (p-367), (February 4-6, 2005) (Poster Presentation by H. Mishra)
- (30) A. K. Singh and R. Mukherjee, "Transition Metal Complexes of Pyridine/Pyrazine-2-carboxamide-based Hexadentate Ligands with Amido-Pyridyl/Pyrazine-Thioether Coordination", 7th National Symposium in Chemistry (NSC-7), Indian Association for the Cultivation of Science, Kolkata, Book of Abstracts (p-366), (February 4-6, 2005) (Poster Presentation by A. K. Singh)
- (29) V. Mishra, J. Mukherjee, V. Balamurugan, and R. Mukherjee, "Spin-State Transition in Fe(II), Inorganic Crystal Engineering *via* C-H <sup>...</sup> Cl Hydrogen Bonding and Mononuclear/Dipyrazolato-bridged Cu(II) Complexes with Pyridyl/Pyrazole-based Chelating Ligands", 6th
  National Symposium in Chemistry (NSC-6), Indian Institute of Technology Kanpur,
  Book of Abstracts (p-129), (February 6-8, 2004)
  (Poster Presentation by V. Mishra) 28
- (28) J. Mukherjee, V. Balamurugan, and R. Mukherjee, "Triply-bridged Diiron(III), Dicobalt(III) and Phenoxo-bridged Dinickel(II) Complexes: A Bioinorganic Perspective", 6th National Symposium in Chemistry (NSC-6), Indian Institute of Technology Kanpur, Book of Abstracts (P-4), (February 6-8, 2004) (Poster Presentation by J. Mukherjee)
- (27) A. K. Singh and R. Mukherjee, "Synthesis and Characterization of Low-Spin and Cation Radical Complexes of Ruthenium(III) of a Tridentate Pyridine Bis-Amide Ligand", Modern Trends in Inorganic Chemistry, Department of Chemistry, Indian Institute of Technology Bombay, Powai, Mumbai, Book of Abstracts (P-25), (December 14-17, 2003) (Poster Presentation by A. K. Singh)

- (26) V. Balamurugan, M. S. Hundal, and R. Mukherjee, "Non-Charge-Assisted Inorganic Crystal Engineering via Intra- and Intermolecular C-H ... Cl2-MII Hydrogen Bonds", Modern Trends in Inorganic Chemistry, Department of Chemistry, Indian Institute of Technology Bombay, Powai, Mumbai, Book of Abstracts (P-25), (December 14-17, 2003), (Poster Presentation by V. Balamurugan)
- (25) V. Balamurugan, J. Mukherjee, and R. Mukherjee, "Reactions of Copper(I) Complexes of Designed Ligands with Dioxygen from the Standpoint of Modeling Tyrosinase/Catechol Oxidase Activity", 5th National Symposium in Chemistry (NSC-5), Central Leather Research Institute, Chennai, Book of Abstracts (p-22), (February 7-9, 2003) (Poster Presentation by V. Balamurugan)
- (24) J. Mukherjee and R. Mukherjee, "Bioinorganic Studies on Catechol Oxidase", Modern Trends in Inorganic Chemistry, Department of Inorganic Chemistry, Indian Association for the Cultivation of Science, Kolkata (125 years of IACS and 50 years of the Department), Book of Abstracts (P-25), (December 12-14, 2001) (Poster Presentation by J. Mukherjee)
- (23) R. Mukherjee, "Chemistry of Dinuclear Metal Complexes from Bioinorganic Perspectives" National Seminar on 'Emerging Trends in Chemistry in New Millennium' Department of Chemistry, University of North Bengal, Darjeeling (September 6-7, 2001) (Oral Presentation)
- (22) R. Mukherjee, "Copper(I)-Iodosylbenzene Reactivity: Bioinorganic and Environmental Perspectives", 3rd National Symposium in Chemistry (NSC-3), Department of Chemistry & Centre of Advanced Studies in Chemistry, Panjab University, Chandigarh, Book of Abstracts (p-22), (February 2-4, 2001), (Oral Presentation)
- (21) R. Mukherjee, "Magnetic Exchange Interactions in Ligand-Bridged Dimetal Systems: Some Recent Results", Indo French Workshop on Current Trends in Molecular Magnetism, Book of Abstracts, Jawaharlal Nehru Centre for Advanced Scientific Research, Indian Institute of Science, Bangalore, (December 4-8, 2000) (Oral Presentation)
- (20) R. Mukherjee, "Reactivity of Copper(I) Complexes with Dioxygen/ Iodosylbenzene from Bioinorganic Perspectives: Aromatic Ring Hydroxylation and Exogenous Substrate Reactivity", One Day Symposium in Chemistry, Book of Abstracts, (p.10), Department of Chemistry, Indian Institute of Technology, Kharagpur, (August 11, 2000) (Oral Presentation)
- (19) R. Mukherjee and R. Gupta, "Modeling Tyrosinase Activity: Dioxygen Activation by Copper(I) Complexes: Exogenous Substrate Oxidation", Fifth IUPAC International Symposium on Bio-Organic Chemistry, Book of Abstracts (IL-28), National Chemical Laboratory, Pune, (January 30 February 4, 2000) (Oral Presentation by R. Mukherjee)

(18) R. Mukherjee, "Modeling Tyrosinase Monooxygenase Activity. Synthesis, Structure and Reactivity of Dicopper Complexes", Symposium on Frontiers in Inorganic Chemistry, Department of Inorganic and Physical Chemistry and Jawaharlal Nehru Center for Advanced Scientific Research, Indian Institute of Science, Bangalore, Book of Abstracts, L-4 (January 18-20, 2000) (Oral Presentation)

(17) R. Mukherjee, "Dicopper Complexes of Relevance to Tyrosinase Modelling", Twelfth Annual National Symposium, Department of Chemistry, Panjab University, Chandigarh, Book of Abstracts (March 13, 1999)
(Oral Presentation)

- (16) R. Mukherjee, "Modelling the Oxygen-Evolving Complex of Photosystem II and Manganese-Containing Catalase", First National Symposium in Chemistry, Indian Institute of Science, Bangalore, Book of Abstracts, IL-11, (January 27-30, 1999) (Oral Presentation).
- (15) R. Gupta, S. Mukhopadhyay, and R. Mukherjee, "Nonheme Iron Centers in Oxygen Activation", Symposium on Frontiers in Inorganic Chemistry, Department of Inorganic and Physical Chemistry and Jawaharlal Nehru Center for Advanced Scientific Research, Indian Institute of Science, Bangalore, Book of Abstracts, P-8 (July 8-10, 1998) (Poster Presentation by R. Gupta)
- (14) A. K. Patra, M. Ray, and R. Mukherjee, "Mononuclear Iron(III), Cobalt(III), Nickel(II) and Nickel(IV) and Dinuclear Copper(II) Complexes of a Tridentate Bis-Amide Ligand. Novel Structural Features and Properties", National Seminar on Coordination Chemistry, Department of Chemistry, Utkal University, Vani Vihar, Bhubaneswar, Book of Abstracts (March 30-31, 1998)

(Poster Presentation by R. N. Mukherjee)

(13) S. Mukhopadhyay, R. Gupta, and R. Mukherjee, "Oxo-Bridged Motifs in Caged Environment", Symposium on Modern Trends in Inorganic Chemistry, Department of Chemistry, Indian Institute of Technology, Kanpur, Book of Abstracts, P-58 (December 4-6, 1997)

(Poster Presentation by R. Gupta)

(12) A. K. Patra, M. Ray, and R. Mukherjee, "Supramolecular Array of Cation-Anion Interactions. The Use of Dianionic 2,6-Bis(*N*-phenylcarbamoyl)pyridine as an Assembler of Anionic Single Hydroxo-Bridged Dicopper(II) Motifs Bound to Distorted Tetrahedrally Coordinated Sodium Cations", Symposium on Modern Trends in Inorganic Chemistry, Department of Chemistry, Indian Institute of Technology, Kanpur, Book of Abstracts, P-11 (December 4-6, 1997)

(Poster Presentation by A. K. Patra)

- (11) R. Mukherjee, "Dicopper Complexes of Relevance to Biology", Symposium on Advances in Bioinorganic Chemistry, Tata Institute of Fundamental Research, Mumbai, Book of Abstracts, L-5 (October 7-11, 1996) (Oral Presentation)
- (10) R. Mukherjee, "New Copper(II) Complexes of Interesting Structural Varieties Using Bidentate and Tridentate Pyrazole/Pyridine-Containing Ligands", National Symposium on Perspectives of Inorganic Chemistry, Department of Inorganic Chemistry, Indian Association for the Cultivation of Science, Calcutta, Book of Abstracts, L-14 (December 21-22, 1995) (Oral Presentation)
- (9) R. Mukherjee, "A Dicopper Chemistry with Nitrogen Donor Ligand: Inorganic and Bioinorganic Perspectives", Symposium on Modern Trends in Inorganic Chemistry, School of Chemistry, University of Hyderabad, Hyderabad, Book of Abstracts, L-19 (August 17-19, 1995) (Oral Presentation)
- (8) R. Mukherjee, "Biomimetic Studies on Tyrosinase: Some Recent Results", Fifth National Symposium on Bio-Organic Chemistry, Department of Chemistry, Shivaji University, Kolhapur, Book of Abstracts, OC-10 (February 24-25, 1995), (Oral Presentation)
- (7) Z. Shirin and R. Mukherjee, "New Piano-Stool Ruthenium(II) Complexes of  $\eta^6$ -C<sub>6</sub>H<sub>6</sub> and Bidentate/Tridentate Nitrogen Donor Ligands: Synthesis, Characterization and Reactivity", Winter School-Cum-Workshop on Organometallic Chemistry, Department of Chemistry, Indian Institute of Technology, New Delhi, Book of Abstracts, PP-13 (December 6-8, 1993) (Poster Presentation by Z. Shirin)
- (6) S. Mahapatra, T. K. Lal, and R. Mukherjee, "A Novel  $[Mn^{III}(\mu\text{-O})(\mu\text{-OH})(\mu\text{-OAc})Mn^{III}]2+$  Core. Synthesis, Characterisation and Proton-Coupled Electron Transfer Properties", Symposium on Modern Trends in Inorganic Chemistry, Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore, Book of Abstracts, P-51 (August 11-13, 1993) (Poster Presentation by R. N. Mukherjee)
- (5) M. Ray and R. Mukherjee, "Chemistry of Transition Metal Complexes Using Pyridinecarboxamide Ligands: An Overview", "Chemistry at the Turn of the Century", Symposium to Commemorate the 150 Years of The Royal Society of Chemistry, The Royal Society of Chemistry Eastern India Section, Calcutta, Book of Abstracts, IL-4 (December 5-7, 1991)
- (Oral Presentation by R. N. Mukherjee)
- (4) R. Mukherjee and S. Mahapatra, "Tuning of Electronic/Steric Effect on Metal Coordination Chemistry", Symposium on Modern Trends in Inorganic Chemistry, Central Salt & Marine Chemicals Research Institute, Bhavnagar, Book of Abstracts (October 21-23, 1991) (Oral Presentation by R. N. Mukherjee)

- (3) R. Mukherjee and K. Ramesh, "Trends in the Spectral and Redox Potential Data of Mononuclear High-Spin Ferric Complexes: Spectroelectrochemical Correlation and Ligand Electrochemical Series", Workshop on Bioinorganic Chemistry, Indian Institute of Technology, Chennai, Book of Abstracts, P-38 (December 9-15, 1990) (Poster Presentation by R. N. Mukherjee)
- (2) R. Mukherjee, "M<sub>2</sub>O(O<sub>2</sub>CR)<sub>2</sub> Core (M = Fe(III) and Ru(III)) Formation Using Tridentate N3 as Capping Ligands: Synthesis and Properties", Workshop on Bioinorganic Chemistry, Indian Institute of Technology, Chennai, Book of Abstracts, L-24 (December 9-15, 1990) (Oral Presentation)
- (1) M. Ray and R. Mukherjee, "Iron Complexes of the Bis-Amide Tetradentate Ligand. Preparation, Properties and Reactivity", *Proc. Indian Acad. Sci. (Chem. Sci.)* **1990**, *102*, 442, Symposium on Modern Trends in Inorganic Chemistry", Tata Institute of Fundamental Research, Mumbai (November 20 22, 1989) (Poster Presentation by R. N. Mukherjee)

#### Abroad

- (14) A. Sengupta and R. Mukherjee, "Aerial C-H bond activation and aromatic ring hydroxylation in Cu<sup>II</sup> and Co<sup>III</sup> complexes of Schiff base containing phenol-carboxamide ligand", Asian Coordination Chemistry Conference (ACCC-6, RACI 2017 Centenary Congress), (Melbourne, Australia), (July 23-28, 2017) (Poster Presentation by A. Sengupta)
- (13) A. Ali, S. K. Barman, and R. Mukherjee, "Ligand Radical-Cordinated Palladium(II) Complexes and their Reactivity", Asian Coordination Chemistry Conference (ACCC-5), (University of Hong Kong), (July 12-15, 2015) (Poster Presentation by A. Ali)
- (12) A. Rajput, S. K. Barman, and R. Mukherjee, "Coordination Chemistry with Metal-Coordinated Radical Species", Asian Coordination Chemistry Conference (ACCC-4), (Jeju, South Korea), (November 4-7, 2013)
  (Poster Presentation by A. Rajput) (**Best Poster Award**)
- (11) S. K. Barman, S. Mandal, H. Arora, and R. Mukherjee, "Transesterification of 2-Hydroxypropyl-*p*-nitrophenylphosphate using Phenoxo-bridged Dinuclear Co<sup>II</sup>, Ni<sup>II</sup>, and Zn<sup>II</sup> Complexes", Asian Coordination Chemistry Conference (ACCC-2), Nanjing, China Book of Abstracts (p-293), (November 1-4, 2009) (Poster Presentation by S. K. Barman).
- (10) A. K. Sharma, F. Lloret, and R. Mukherjee, "Homo- and Hetero- Face-Shared Trioctahedral Linear Complexes: Syntheses, Structure and Magnetism", Asian Coordination Chemistry Conference (ACCC-1), Okazaki, Japan, Book of Abstracts (p-xxx), (July 29 –August 2, 2007)

(Poster Presentation by A. K. Sharma) (**Best Poster Award**).

- (9) S. Mandal, J. Mukherjee, and R. Mukherjee, "Modeling of Tyrisinase and Catechol Oxidase Activity Using Designed Ligands: Some Recent Results", XIII International Conference on Biological Inorganic Chemistry, Vienna, Austria, Book of Abstracts (p-292), (July 15-20, 2007) (Poster Presentation by S. Mandal)
- (8) H. Mishra and R. Mukherjee, "Half-Sandwich  $\square$  6Benzene and  $\eta^5$ -Cyclohexadienyl Ruthenium(II) Complexes: Molecular Structures and Noncovalent Interactions" XXII International Conference on Organometallic Chemistry, Zaragoza, Spain, Book of Abstracts (p-329), (July 23-28, 2006) (Poster Presentation by H. Mishra)
- (7) A. K. Singh and R. Mukherjee, "Bivalent and Trivalent Iron Complexes of varying Nuclearity with Pyridine Amide Ligands. Inorganic and Bioinorganic Perspectives", 2th International Conference on Bio-Inorganic Chemistry, Ann Arbor, Michigan, USA (July 31 August 5, 2005)
  (Poster Presentation by A. K. Singh)
- (6) B. C. Karthik and R. Mukherjee, "Hydrolysis of phosphodiesters by Non-heme Bimetallic Complexes: Relevance to the Purple Acid Phosphatases", 227th American Chemical Society National Meeting, "Non-heme Iron Chemistry in Biology", Anaheim, California, USA (March 28 April 1, 2004) (Oral Presentation by R. Mukherjee)
- (5) R. Mukherjee, "Spin State Properties of Iron(III) Complexes of Deprotonated Ligands", Book of Abstracts (p.142), "Singapore International Chemical Conference II: Frontiers in Chemical Design and Synthesis", Singapore (December 18-20, 2002) (Oral Presentation)
- (4) R. Mukherjee, R. Gupta, D. Ghosh and S. Mukhopadhyay "Effect of Reduced Coordination on Dicopper Complexes of *m*-Xylyl-Based Ligands: Relevance to Tyrosinase-like Activity", Book of Abstracts (p. 295), "XXXIII International Conference on Coordination Chemistry "The Chemistry of Metal Ions in Everyday Life", Florence, Italy (August 30-September 4, 1998) (Poster Presentation by R. Mukherjee)
- (3) R. Mukherjee, R. Gupta and S. Mukhopadhyay, "Dimanganese Systems of Relevance to Photosystem II and Catalase-like Activity", 216th American Chemical Society National Meeting, "Multinuclear Enzymes in Oxygen Metabolism", Boston, Massachusetts, USA (August 23-27, 1998)
  (Oral Presentation by R. Mukherjee)
- (2) R. Mukherjee, "Oxo-/Hydroxo-/Acetato-Bridged Dimanganese Complexes: Syntheses, Properties, and Reactivity", 205th American Chemical Society National Meeting: Minisymposium: Advances in Bioinorganic-II, Denver, Colorado, USA (March 28-April 2, 1993) (Oral Presentation by R. Mukherjee)

(1) R. H. Holm, M. J. Carney, J. A. Kovacs, R. Mukherjee and T. D. P. Stack, "Recent Results on Biologically Relevant Iron-Sulfur Clusters", 194th American Chemical Society National Meeting, Symposium on Metal Clusters in Proteins. Metal-Sulfur Clusters, American Chemical Society Meeting, New Orleans, USA (August 30 – September 04, 1987) (Oral Presentation by R. H. Holm)

#### **Invited Lecture:**

#### In India

### (i) College/University/Institute:

National Level Seminar on Design, Synthesis, Characterization, Reactivity, Theoretical Study and Applications of Different Advanced Functional Materials, Department of Chemistry, University of Burdwan (December 22, 2017)

Institute Colloquium, IISER Thiruvananthapuram (September 8, 2017)

Center for Advanced Functional Materials – IISER Kolkata (August 23, 2016)

Indian Association for the Cultivation of Science, Jadavpur, Kolkata – Institute Colloquium (August 16, 2016)

Chemical Sciences – Recent Trends (CSRT 2016), West Bengal State University, Barasat, West Bengal (March 30, 2016)

Delivered a lecture on New Knowledge: Promoting Research and Innovation; Guest-in-Chief, Annual Prize Distribution Ceremony Ramakrishna Mission Vivekananda Centenary College, Rahara – 700 118 (February 3, 2016);

Department of Chemical Sciences, IISER Kolkata (August 12, 2015)

Inorganic & Physical Chemistry Department, Indian Institute of Science Bangalore (March 12, 2015)

Centre for Theoretical Studies (CTS), Indian Institute of Technology Kharagpur, Kharagpur (June 24, 2014)

To commemorate the 150th birth anniversary of Sir P. C. Ray, Indian Chemical Society (August 2-3, 2012), Department of Chemistry, University of Calcutta (August 3, 2012)

Department of Chemistry, Indian Institute of Technology Kharagpur, Kharagpur (December 15, 2010)

"University Golden Jubilee National Seminar on Chemistry Today (UGJ- NSCT)" March18-20, 2010, Department of Chemistry, University of Burdwan, Burdwan (March 19, 2010)

School of Chemistry, University of Hyderabad, Hyderabad (July 24, 2009) Department of Chemistry, Jadavpur University, Kolkata (June 11, 2009)

Department of Chemistry, Indian Institute of Technology Guwahati, Guwahati (November 28, 2008)

Department of Chemistry, Indian Institute of Technology Bombay, Mumbai (October 23, 2008)

Department of Chemistry, Guru Nanak Dev University, Amritsar (September 5, 2008) 35

National Institute of Technology, Durgapur, West Bengal (February 28, 2008)

Regional Research Laboratory, Trivandrum (September 6, 2002)

R. Mukherjee, "Chemistry of Dinuclear Metal Complexes from Bioinorganic Perspectives" National Seminar on 'Emerging Trends in Chemistry in New Millennium' Department of Chemistry, University of North Bengal, Darjeeling (September 6-7, 2001)

Offered a Series of Lectures on Bioinorganic Chemistry, Guru Nanak Dev University, Amritsar (April 2-7, 2001)

Department of Chemistry, Pondicherry University, Pondicherry (February 2000)

School of Chemistry, University of Hyderabad, Hyderabad (January 17, 2000)

Department of Chemistry, University of Pune, Pune (June 22, 1999)

Department of Chemistry, Banaras Hindu University, Varanasi (March 19, 1996)

Regional Research Laboratory, Trivandrum (December 5, 1994)

Department of Chemistry, Presidency College, Calcutta now Kolkata (December 21, 1990)

School of Chemistry, University of Hyderabad (September 3, 1988)

# (ii) Special Lectures:

'Research Scholar's Day', Department of Chemistry, IIT Kharagpur, Kharagpur (Keynote Address as Chief Guest) on (September 16, 2017)

GIAN-2017, IISER Kolkata (May 8, 2017)

VIJYOSHI-2016, IISER Kolkata (December 5, 2016)

'Science Day', IISER Kolkata (February 28, 2016)

"5th Research Scholars' Day-Celebration", Indian Institute of Technology Patna (February 28, 2016)

73rd CSIR Foundation Day Lecture, CSIR-CECRI, Karaikudi (September 26, 2015)

'Research Scholar's Day (RSD 2015), Department of Chemistry, IIT Kharagpur (August 2, 2015)

'Science Day Lecture' Organized by Indian National Academy of Engineering (INAE), Kolkata Chapter and the Centre for Soft-Computing Research, Indian Statistical Institute (March 2, 2015)

Prof. S. K. Siddhanta Memorial Lecture: National Seminar on Advanced Spectroscopy, Theoretical Chemistry, Synthesis, Reactivity and Structural Evaluation" February 19-21, 2015 (February 20, 2015)

Department Day, Department of Chemical Sciences, Indian Institute of Science Education and Research Kolkata (December 11, 2013)

Sixth Science Conclave 2013 (December 8-14, 2014), IIIT Allahabad (December 8, 2013)

National Seminar on "Chemistry in Interdisciplinary Applications", Hans Raj College, University of Delhi (March 19, 2013)

Science Day Celebration – Indian Institute of Technology Roorkee, Roorkee (February 28, 2013)

State Level "Chemistry Olympiad" Prof. P. K. Sarma Memorial Lecture, The Society for Chemical Education Assam (SCEA), Department of Chemistry, Gauhati University (February 9, 2013)

# (iii) University Grants Commission-Sponsored Seminars/Refresher Courses:

Advances in Chemistry through Teaching and Research, UGC-sponsored Refresher Course in Chemistry organized by the Academic Staff College and Department of Chemistry, Jadavpur University January 2-22, 2015, Chemistry Auditorium, Analytical Chemistry Building (January 2, 2015)

Two-day Seminar on "Frontier Areas of Chemistry – A Modern Perspective", Department of Chemistry, Ramakrishna Mission Vidyamandir, Belur Math, Howrah (February 25, 2010)

Refresher Course in Chemistry, UGC-Academic Staff College, School of

Chemistry, University of Hyderabad, Hyderabad (July 25, 2009)

"8th Refresher Course in Chemistry", UGC-Academic Staff College, Banaras Hindu University, Varanasi (January 22, 2008)

Refresher Courses on "Instrumental and Analytical Techniques in Chemistry", Department of Chemistry, University of Allahabad, Allahabad (December 17, 2004)

Refresher Courses on "Organometallic Chemistry" for University and College Teachers, Department of Chemistry and the Academic Staff College, Lucknow University, Lucknow (July 23-24, 1996)

Refresher Courses on "Advances in Inorganic Chemistry" for University and College Teachers, Department of Chemistry and the Academic Staff College, Bharathidasan University, Tiruchirapalli (December 1-2, 1994)

# (iv) University Grants Commission-Sponsored DSA/DRS (SAP) Program:

Department of Chemistry, Burdwan University, Burdwan (February 16, 2000)

National Seminar on Coordination Chemistry, Department of Chemistry, Utkal University, Bhubaneswar (March 30-31, 1998) 37

# (v) Indian Academy of Sciences, Bangalore/Indian National Science Academy, New Delhi/National Academy of Sciences, Allahabad/Jawaharlal Nehru for Advanced Scientific Research, Bangalore-Sponsored:

Science Academies' Lecture Workshop for Teachers and Students, Physics and Chemistry Departments of Dinabandhu Mahavidyalaya, Bongaon, West Bengal (March 17, 2016)

Science Academies Lecture Workshop, Recent Developments on the Theoretical and Experimental Aspects of Advanced Materials (September 18-19, 2015), Department of Chemistry, University of North Bengal, Siliguri (September 19, 2015)

Science Academies' Lecture Workshop on "Recent Advances in Chemistry", AS College, Deoghar, Jharkhand (March 16-17, 2013) (March 17, 2013)

Guru Nanak Dev University, Amritsar (24-26 October 2007)

Government Model Science College, Jabalpur (September 15-16, 2006)

Guru Nanak Dev University, Amritsar (October 29-30, 2001)

Miranda House, University of Delhi (November 3, 2000)

St. Stephens College, University of Delhi (February 3-5, 2000)

# (vi) INSPIRE Internship Program-Sponsored by DST:

INSPIRE (Innovation in Science Pursuit for Inspired Research) Science Camp (6-11 July 2012), UGC-Academic Staff College, Burdwan University (July 10, 2012)

Valedictory Lecture: INSPIRE (Innovation in Science Pursuit for Inspired Research) Science Camp (26-30 June 2012), National Institute of Technology – Durgapur (June 30, 2012)

Internship Science Camp under the INSPIRE (Innovation in Science Pursuit for Inspired Research) Scheme (June 11-16, 2012), Tezpur University, Assam (June 13, 2012)

Pandit Ravishankar Shukla University, Raipur (December 4, 2010)

# Abroad

# (i) University/Institute

Department of Chemistry, University of California Irvine, USA (April 7, 2017)

Institut für Anorganische Chemie, Universität zu Köln, Köln, Germany (June 29, 2011)

Institute of Inorganic and Analytical Chemistry, Johann Wolfgang Goethe Universität, Frankfurt am Main, Germany (June 28, 2011)

Lehrstuhl für Anorganische Chemie I, Fakultät für Chemie, Universität Bielefeld, Bielefeld, Germany (June 21, 2011)

Technische Universität Kaiserslautern, Institut für Chemi, Kaiserslautern, Germany (June 14, 2011)

Institut für Anorganische Chemie, Georg-August-Universität, Göttingen (June 9, 2011)

Institut für Anorganische Chemie Universität Stuttgart, Stuttgart, Germany (June 6, 2011)

Institute of Inorganic and Analytical Chemistry, Johann Wolfgang Goethe Universität, Frankfurt am Main, Germany (July 8, 2010)

Chemical Center, Lund University, Sweden (July 1 and July 2, 2010)

Université J. Fourier Grenoble, France (May 27, 2008)

Technische Universität-Kaiserslautern, Fachbereich Chemie, Germany (July 13, 2007)

Technische Universität-Berlin, Institut für Chemie, Germany (July 12, 2007)

Technische Universität-Braunschweig, Institut für Anorganische und Analytische Chemie, Germany (July 11, 2007)

Georg-August-Universität Göttingen, Institut für Anorganische Chemie, Germany (July 10, 2007)

Universität Paderborn, Department Chemie, Anorganische und Analytische Chemie, Germany (July 9, 2007)

Freie Universität-Berlin, Institut für Chemie und Biochemie, (July 5, 2007)

Philipps-Universität Marburg, Anorganische Chemie, Germany (July 4, 2007)

Justus-Liebig-Universität Gieβen, Institut für Anorganische und Analytische Chemie, Germany (July 3, 2007)

Max-Planck Institute für Bioanorganische Chemie, Mülheim an der Ruhr, Germany (July 2, 2007)

Chemical Center, Lund University, Sweden (April 16, 2007)

Department of Chemistry, Stanford University, USA (April 18, 2006)

Departmenta de Química, Universitat de Barcelona, Spain (September 27, 2004)

Departmenta de Química, Universitat de Girona, Spain (September 17, 2004)

Anorganisch-chemisches Institut der Universität Heidelberg, Germany (June 14, 2002)

Anorganische und Analytische Chemie der Johannes Gutenberg – Universität Mainz, Germany (May 27, 2002)

Organisch-Chemischen Institut der Westfälischen Wilhelms-Universität Münster, Germany (May 16, 2002)

Institut für Anorganische Chemie, Universität Erlangen Nürnberg, Germany (May 7, 2002)

Laboratoire de Chimie Inorganique, Institut de Chimie Moléculaire d'Orsay, Université Paris-Sud, Orsay, France (June 29, 2001)

Laboratoire de Magnétisme et d'Optique, Université de Versailles Saint-Quentinen-velines, Versailles Cedex, France (June 27, 2001)

Unilever Research Center, Vlaardingen, The Netherlands (June 26, 2001)

Gorlaeus Laboratories, Leiden University, Leiden, The Netherlands (June 25, 2001)

Institut für Anorganische Chemie, Universität Erlangen Nürnberg, Germany (June 18, 2001)

Max-Planck Institut für Strahlenchemie, Mülheim, Germany (June 15, 2001)

Department of Chemistry, University of Manchester, UK (May 31, 2001)

Department of Chemistry, University College London, UK (May 25, 2001)

Department of Chemistry, Heriot-Watt University, Scotland (UK) (May 23, 2001)

Department of Chemistry, University of Bristol, UK (May 16, 2001)

Department of Chemistry, University of Durham, UK (May 9, 2001)

In the group of Prof. R. H. Holm, Department of Chemistry, Harvard University (August 28, 1998)

In the group of Prof. R. H. Holm, Department of Chemistry, Harvard University (April 7, 1993)

Department of Chemistry, University of North Carolina at Chapel Hill (April 6, 1993)

Department of Chemistry, Yale University (April 2, 1993)

# Invited Lectures in Conference/Symposium/Workshop/Summer School/Winter School:

### Abroad

"International Conference on Coordination Chemistry (ICCC42)", Brest, France (July 3-8, 2016)

3rd EUCheMS Inorganic Chemistry Conferenc (EICC-3), Wrocław, Poland (June 28 – July 1, 2015)

"International Conference on Coordination Chemistry (ICCC41)", Singapore (July 21-25, 2014)

"ZiNG Conference on Bioinorganic Chemistry", Lanzarote, Spain (February 19-22, 2013)

"International Conference on Coordination Chemistry (ICCC40)", Valencia, Spain (September 9-13, 2012)

"International Conference on Coordination Chemistry (ICCC39)", Adelaide, Australia (July 25-30, 2010)

"European Biological Inorganic Chemistry (EUROBIC10)" Conference, Thessaloniki, Greece (June 22-26, 2010) "The 4th Asian Biological Inorganic Chemistry Conference (AsBIC-IV)", Jeju, Korea (November 10-13, 2008)

"International Conference on Coordination Chemistry (ICCC38)", Jerusalem, Israel (July 20-25, 2008)

"International Conference on Biological Inorganic Chemistry (ICBIC 13)", Vienna, Austria (July 15-20, 2007)

"The 3rd Asian Biological Inorganic Chemistry Conference (AsBIC-III)", Nanjing, China (October 31-November 3, 2006)

"International Conference on Coordination Chemistry (ICCC37)", Cape Town, South Africa (August 13-18, 2006)

"Crystal Engineering Discussion 2004: New Trends in Crystal Engineering", University of Nottingham, UK; Invited to prepare a paper for publication in *CrystEngComm* (September 8-10, 2004)

"International Conference on Coordination Chemistry (ICCC36), Merida, Mexico (July 18-23, 2004)

227th American Chemical Society National Meeting in Anaheim, CA, as part of the Symposium on 'Non-Heme Iron Chemistry in Biology" (March 28-April 1, 2004)

Singapore International Chemical Conference II: Frontiers in Chemical Design and Synthesis", Singapore (December 18-20, 2002)

216th American Chemical Society National Meeting in Boston, Massachusetts, as part of the Symposium on "Multinuclear Enzymes in Oxygen Metabolism" (August 23-27, 1998)

Member of the Official Indian delegation of the Indo-Russian Symposium on Structural Inorganic Chemistry and Organometallic Chemistry, Moscow – Nizhny Novgorod, Russia (September 24-October 5, 1993)

205th American Chemical Society National Meeting in Denver, Colorado, as part of the Minisymposium: Advances in Bioinorganic-II (March 28-April 2, 1993)

#### In India

One Day Symposium on 'Recent Developments in Chemical Sciences' (70<sup>th</sup> Birthday of Prof. A. S. Brar), Guru Nanak Dev University, Amritsar (January 27, 2017)

CRSI-ACS Joint Meeting, IISER Bhopal (January 23, 2017)

5th Symposium on Advanced Biological Inorganic Chemistry, The Stadel, Salt Lake, Kolkata – 700 098 (January 7-11, 2017) (**Plenary Lecture**)

Recent Trends in Inorganic and Supramolecular Chemistry, Department of Chemistry, Indian Institute of Technology Kanpur (October 26, 2016)

19th CRSI National Symposium in Chemistry (CRSI NSC-19), Department of Chemistry, University of North Bengal, Darjeeling – 734 013 (July 14-16, 2016)

5th Inter-IISER Chemistry Meet 2015, IISER Thiruvananthapuram, December 11-13, 2015

National Symposium on Modern Trends in Inorganic Chemistry—XVI (MTIC-XVI)
Department of Chemistry, Jadavpur University (December 3-5, 2015) (**Inaugural Lecture**)

XVII NOST-Organic Chemistry Conference (NOST-OCC), Jaipur (October 27-30, 2015 (October 28, 2015)

One-day CRSI-NBU Local Chapter Meeting, 'In Commemoration of the 153rd Birth Anniversary of Acharya Prafulla Chandra Ray', Department of Chemistry, North Bengal University (August 28, 2015)

JSPS-DST Asian Academic Seminar and School 2015 (6–10 March 2015), "Spectroscopy, Theoretical Chemistry and Chemistry of Materials", Organized by IACS, IISER Kolkata and IMS (Japan) Commemorating the 30th Anniversary of India-Japan S & T Collaboration (March 6, 2015)

REACH-2015, An International Symposium on Recent Advances in Chemistry (March 3-5, 2015), UGC Centre for Advanced Studies in Chemistry, Department of Chemistry, North Eastern Hill University, Shillong – 793 022 (March 3, 2015)

4th International Conference - World Science Congress (December 16-18, 2014), Gandhi Bhavan, Jadavpur University, Kolkata – 700 032 (December 16, 2014)

XXXIII Annual Conference of Indian Council of Chemists (15-17 December 15-17, 2014), Department of Applied Chemistry, Indian School of Mines – Dhanbad 826 004 (December 15, 2014)

International Conference on Structural and Inorganic Chemistry, December 4-5, 2014, National Chemical Laboratory (December 4, 2014)

One-day National Seminar entitled 'Popularising Chemistry-Series-II' Department of Chemistry, St. Xavier's College (Autonomous), Kolkata (September 26, 2014)

National Conference on Biodiversity (January 16-18, 2014), West Bengal Biodiversity Board, TEQIP Hall - Jadavpur University (January 17, 2014)

International Conference on Recent Trends in Science & Technology (ICRTST 2013), College of Engineering and Management, Kolkaghat, West Bengal December 27-29, 2013)

Summer School on 'Genetics & Epidemiology', Valedictory Lecture, National Institute of Biomedical Genomics, Kalyani, West Bengal (March 5, 2013) 43

International Conference on "Molecular Organization and Complexity: A Chemical Perspective", Department of Chemistry, Calcutta University (February 6-8, 2013), Saha Institute of Nuclear Physics, Kolkata (February 8, 2013)

RSC India Roadshow, Organized by the Royal Society of Chemistry (RSC) and Indian Association for the Cultivation of Science (IACS) Kolkata (February 5, 2013)

Symposium on Inorganic Chemistry at Interface, Department of Chemistry, Indian Institute of Technology Kharagpur, Kharagpur (October 14, 2012)

CHM 2012: Chemical Frontiers (Goa), Indian Institute of Technology Bombay, Mumbai and International Centre for Materials Science JNCASR, Bangalore (August 14-16, 2012)

National Symposium: Chemistry in 21st Century, Department of Chemistry, Guru Nanak Dev University, Amritsar (December 23-24, 2011) (also Chaired a session)

International Symposium on Chemistry & Complexity, Indian Association for the Cultivation of Science, Kolkata (December 6-8, 2011) (December 8, 2011) (also Chaired a session)

Annual Convention of Chemists of the Indian Chemical Society: Professor Priyadaranjan Ray Memorial Award 2010, Department of Chemistry, University of Allahabad (December 3-7, 2011) (December 6, 2011)

Celebration of Chemistry@IITK: International Year of Chemistry-2011, Department of Chemistry, Indian Institute of Technology Kanpur (December 3-5, 2011) (Organized along with Drs. Pratik Sen, J. K. Bera, and M. L. N. Rao) (also Chaired a session)

Exploration of Biological Processes through Chemical Sciences, UGC Sponsored National Level Seminar, Department of Chemistry and Department of Zoology, Narasinha Dutt College, Howrah (December 7-8, 2011) (December 8, 2011)

National Symposium on "New Horizons in Chemistry" (International Year of Chemistry – 2011)

Department of Chemistry, Indian Institute of Technology Bombay, Mumbai (October 3, 2011)

National Seminar (International Year of Chemistry: Chemistry in our lives) under the thrust area "Design, Synthesis, Interaction, Chemical and Biochemical Activities of Different Functional Molecules" on the occasion of the 150th Birth Anniversary of Acharya Prafulla Chandra Ray, Department of Chemistry, The University of Burdwan (March 15-17, 2011) (March 15, 2011)

Celebration of the 150th Birth Anniversary of Acharya Prafulla Chandra Ray and the International Year of Chemistry, "Frontiers in Synthetic and Bioorganic Chemistry 2011, Indian Institute of Science Education and Research (IISER) Kolkata, Mohanpur, West Bengal (March 13, 2011)

One-Day Seminar, Department of Chemistry, University of Delhi, Delhi (March 5, 2011)

"Emerging Trends in Chemical Sciences (ECTS-2011)" Department of Chemistry, Faculty of Science, Banaras Hindu University (February 19, 2011)

13th CRSI National Symposium in Chemistry and 5th CRSI-RSC Symposium in Chemistry, National Institute of Science Education and Research (NISER), Bhubaneswar (February 4-6, 2011); also chaired a session

Workshop on "Frontiers in Bioinorganic Chemistry", Centre for Bioinorganic Chemistry, School of Chemistry, Bharathidasan University, Tiruchirapalli, (February 25-27, 2010) (February 26, 2010)

National Seminar on "Contemporary Research in Material Science and Chemical Biology" (January 31-February 2, 2010), Department of Chemistry, University of Allahabad, (February 1, 2010)

Workshop for 'College Chemistry Students and Teachers', Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore and Foundation for Capacity Building in Science (FCBS), Trivandrum (October 29-31, 2009)

Symposium – VII on 'Current Trends of Chemical Research', Chemical Research Society of India (Kolkata Chapter), Narendrapur Ramakrishna Mission, Kolkata (August 8, 2009)

Discussion Meeting on 'Crystal Engineering and Noncovalent Interactions: Contemporary Themes and Futuristic Developments' Orange County, Coorg (February 22-25, 2009)

National Symposium on Modern Trends in Inorganic Chemistry (MTIC-XII), Indian Institute of Technology Madras, Madras (December 6-8, 2007)

Department of Science & Technology (DST) – Sponsored Winter School in Bioinorganic Chemistry, Department of Chemistry, Indian Institute of Technology Bombay, Mumbai (November 26, 2007)

National Convention of Chemistry Teachers and National Conference on *Chemistry Vision 2020*, Department of Chemistry, Hislop College, Nagpur (October 28, 2007)

Third Symposium on Advances in Bioinorganic Chemistry (SABIC-2004) in Conjunction with Second Asian Biological Inorganic Chemistry Conference (AsBIC-II), Goa; organized by Tata Institute of Fundamental Research, Mumbai (December 5-10, 2004)

Indo-French Seminar on Structure and Function of Metalloenzymes, Goa; organized by Indo French Centre for the Promotion of Advances Research, New Delhi (IFCPAR), Centre Franco-Indien Pour La Promotion de La Recherche Avanchee (CEFIPRA) and Tata Institute of Fundamental Research,

Mumbai (December 3-5, 2004)

One Day Colloquium on Inorganic Chemistry, Department of Inorganic Chemistry, Indian Association for the Cultivation of Science, Kolkata (November 4, 2003)

Mid-Year Meeting of Indian Academy of Sciences, Bangalore (July 5-6, 2002)

National Seminar on "Teaching Chemistry", Department of Chemistry, Presidency College, Kolkata (December 14, 2002)

UGC Sponsored Seminar on "Emerging Trends in Chemistry in the New Millennium", Department of Chemistry, University of North Bengal (September 6-7, 2001)

3rd National Symposium in Chemistry, Panjab University, Chandigarh (February 2-4, 2001)

Indo-French Workshop on Current Trends in Molecular Magnetism, Jawaharlal Nehru Centre for Advanced Scientific Research, Indian Institute of Science, Bangalore (December 4-8, 2000)

International Symposium on Advances in Bioinorganic Chemistry, Tata Institute of Fundamental Research, Mumbai (November 20-24, 2000)

One Day Symposium in Chemistry, Department of Chemistry, Indian Institute of Technology Kharagpur (August 11, 2000)

Fifth IUPAC International Symposium on Bioorganic Chemistry, National Chemical Laboratory, Pune (January 30 - February 4, 2000)

National Symposium on Modern Trends in Inorganic Chemistry, Indian Institute of Science, Bangalore (January 18-20, 2000)

National Symposium in Chemistry, Chemical Research Society of India, Indian Institute of Science, Bangalore (January 27-30, 1999)

Symposium on Advances in Bioinorganic Chemistry, Tata Institute of Fundamental Research, Mumbai (October 7-11, 1996)

National Symposium on Perspectives of Inorganic Chemistry, Indian Association for the Cultivation of Science, Calcutta (December 21-22, 1995)

National Symposium on Modern Trends in Inorganic Chemistry, School of Chemistry, University of Hyderabad, Hyderabad (August 17-19, 1995)

Fifth National Symposium on Bioorganic Chemistry, Shivaji University, Kolhapur and Indian Society of Bio-organic Chemists (February 24-25, 1995)

Symposium to Commemorate the 150th Years of the Royal Society of Chemistry (East India Section) "Chemistry at the Turn of the Century", Indian Association for the Cultivation of Science, Calcutta (December 5-7, 1991)

National Symposium on Modern Trends in Inorganic Chemistry, Central Salt & Marine Chemicals Research Institute, Bhavnagar (October 21-23, 1991)

Department of Science & Technology (DST) – Sponsored Workshop on Bioinorganic Chemistry, Indian Institute of Technology Madras, Madras (December 9-15, 1990)

National Symposium on Modern Trends in Inorganic Chemistry, Indian Institute of Technology Madras, Madras (January 4-6, 1988)

# Conferences/Symposia/ Workshops Attended:

#### In India

Chaired a special session on 'Prof. S. K. Siddhanta Memorial Lectures', National Level Seminar on Design, Synthesis, Characterization, Reactivity, Theoretical Study and Applications of Different Advanced Functional Materials, Department of Chemistry, University of Burdwan (December 22, 2017)

Modern Trends in Inorganic Chemistry 2017, National Chemical Laboratory, Indian Institute of Science Education and Research (IISER) Pune and Pune University, Pune (December 11-14, 2017) (Chaired a session)

'New Dimensions of Chemistry 2017', Institute of Nano Science and Technology, Mohali, Venue: Aahana Resort, Corbett National Park, Uttarakhand (May 3-5, 2017) (Chaired a session)

Chaired a session 'Chemical Frontiers-2015', Organized by IIT Bombay and JNCASR Bangalore, Goa (August 15-18, 2015)

International Conference on Structural Chemistry of Molecules and Materials (SCOMM-2014), (November 30 – December 2, 2014), Kolkata (December 2, 2014)

Visited Department of Chemistry, North Bengal University with Department of Chemical Sciences faculty

-Made a presentation on IISERs in general and IISER Kolkata in particular (April 4, 2014)

International Meeting on Chemical Biology – 2013 (26-28 May 2013), IISER Pune, Pune (May 26, 2013)

International Symposium on Molecular organization and Complexity: A Chemical Perspective, Department of Chemistry, University of Calcutta (February 6–8, 2013)

- Attended and made a brief speech

14th Chemical Research Society of India National Symposium in Chemistry (NSC-14), CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram & Indian Institute of Science Education and Research, Thiruvananthapuram (IISER-TVM), February 03-05, 2012) (Chaired a Session)

J-NOST Conference, Indian Institute of Science Education and Research (IISER) Mohali (December 15-18, 2011) (December 15, 2011) (Chaired a Session)

3rd Asian Coordination Chemistry Conference (ACCC-3), India Habitat Centre, New Delhi (October 17-20, 2011) (Delivered Inaugural Lecture and Chaired a Session)

12th Chemical Research Society of India National Symposium in Chemistry (NSC-12): Indian Institute of Chemical Technology, Hyderabad (February 5-7, 2010)

International Symposium on Frontiers in Inorganic Chemistry (FIC-2010), Indian Association for the Cultivation of Science, Kolkata (December 11-13, 2010)

Modern Trends in Inorganic Chemistry, Indian Institute of Science, Bangalore (December 5-7, 2009)

11th Chemical Research Society of India National Symposium in Chemistry (NSC-11), National Chemical Laboratory, Pune (February 5-7, 2009)

Singapore-India Collaborative and Co-operative Chemistry Symposium – III, Department of Chemistry, Indian Institute of Technology Kanpur, Kanpur (December 16-17, 2004)

Symposium on Recent Trends in Photochemical Sciences, Regional Research Laboratory, Trivandrum (January 8-10, 2001) (Chaired a session)

Discussion Meeting: From Homogeneous to Heterogeneous Catalysis, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore (January 27-29, 1992).

#### Abroad

Editorial Advisory Board Meeting of *Inorganic Chemistry*, ACS Meeting, New Orleans (March 18, 2018)

Editorial Advisory Board Meeting of *Inorganic Chemistry*, ACS Meeting, San Francisco (April 2, 2017)

"International Conference on Biological Inorganic Chemistry-12", University of Michigan, Ann Arbor, USA (July 31 – August 5, 2005)

# e. Administrative Experience-2

# **Special Meetings in India/Special Visits Abroad:**

#### In India:

In response to the invitation by the Director of IISER Mohali, Directors of Pune, Kolkata, Bhopal and founder Director of Thiruvananthapuram attended a meeting on 'Institute Building: the story of IISERs (February 25, 2017); IISER Kolkata: Realization of Campus and Activities (2012-17) will be published in 2018 by Indian Academy of Sciences, Bangalore

Attended Visitor's Conference – 2016 at Rashtrapati Bhavan (November 16–18, 2016)

Attended Visitor's Conference – 2015 at Rashtrapati Bhavan (November 4–6, 2015) 48

Made a presentation in the presence of the Hon'ble President of India, Rashtrapati Bhavan (April 3, 2014)

Made a presentation during a Meeting with Hon'ble HRM (Shri Prakash Javarekar), IISER Mohali (September 23, 2016)

First IISER Council Meeting – presided over by the Hon'ble HRM (Smt. Smriti Zubin Irani), MHRD, New Delhi (June 23, 2016)

NITSER 'Council Meeting' – presided over by the Hon'ble HRM (Smt. Smriti Zubin Irani), NIT Warangal (October 1, 2015)

Guest Speaker at the Convocation Ceremony-2016 of Rishi Bankim Chandra College, affiliated to the West Bengal State University (September 10, 2016)

"Internationalisation Strategies in Higher Education: Role of Trans National Education (TNE)" at the British Council, 16 Camac Street, Kolkata 700017 (March 11, 2016)
-Attended and made remarks on this issue.

Guest-in-Chief, Annual Prize Distribution Ceremony, Ramakrishna Mission Vivekananda Centenary College, Rahara 700 118 (February 3, 2016)

A Meeting with the delegates from RSC, UK (November 26, 2015)

- Made a presentation on IISERs in General and IISER Kolkata Chemistry in particular
- 'VIDYARTHI VIKASH', Ramakrishna Mission Institute of Culture, Golpark, Kolkata (November 8, 2015)
- 'National Education Policy-Role of Basic Science and Research', Organized by MHRD IISER Pune (July 22-23, 2015)
- Made a presentation

Attended – National Policy Dialogue on University Rankings, Research Evaluation and Research Funding – Planning Commission/MHRD/British Council/Times Higher Education and Thomas Reuters, Hotel Le Meridien, New Delhi (May 23, 2013)

German House for Research and Innovation (DWIH), New Delhi – A Roadshow "DWIH New Delhi – Excellence on Tour" (March 22-28, 2014)

- Keynote speaker: Made a presentation on IISERs in General and IISER Kolkata in particular, focusing internationalization of science and on opportunities for research collaboration between India and Germany (March 22, 2014)

Attended 'SERB Meeting on Policy Decisions', Hotel Novotel, Hyderabad Airport (January 24, 2014) 49

RSC India Roadshow, Organized by the Royal Society of Chemistry (RSC) and Indian Association for the Cultivation of Science (IACS) Kolkata (February 5, 2013)

- Made a scientific presentation

Made a presentation in a Meeting at Planning Commission

- on the additional space requirement of IISER Kolkata (October 12, 2012)

AICTE-CII University-Industry Congress 2012, Eastern Region Conclave - Special address to showcase IISER Kolkata, Indian Association for the Cultivation of Science, Kolkata (July 31, 2012)

- Made a presentation on IISERs in General and IISER Kolkata in particular

Business Economics (June 25, 2012)

- Wrote a message on IISERs in General and IISER Kolkata in particular

ACS Editor's Meeting, IACS, Kolkata (June 21, 2012)

- Made a presentation on IISERs in General and IISER Kolkata in particular

1st Meeting of DST-Ramanujan Fellows, Indian Institute of Science Education and Research Pune (IISER Pune), Meriott Hotel and Convention Centre, Pune (May 4–6, 2012)

Foundation Day: CSIR – Indian Institute of Chemical Biology, Kolkata (Speech as Guest-in-Chief) (April 2, 2012)

One-day Brain Storming workshop on Fostering Innovation in an Academic Environment – initiative of MHRD/UGC, Indian Institute of Technology Bombay (March 1, 2012)

Education Round Table in Delhi – State Government of Victoria Australia (February 12, 2012) 'Showcasing 16 Indian Universities/Institutions on Doordarshan (DD1)' – 2012. TALIEM International Liasion Centre for Universities, Colleges & Schools,

- Made a CD: Highlighted IISERs in General and IISER Kolkata in particular

#### Abroad:

In response to the invitation by Dr. Philippe Arhets Counsellor for Science & Technology, French Embassy in India – New Delhi to set up a scientific and academic cooperation network between the French "Ecoles normales supérieures" (ENS) and the "Indian Institutes of Science Education and Research" (IISERs). The final outcome will be the signing of Memorandum of Understanding agreement between all involved establishments. All five Directors of IISERs at Pune, Kolkata, Mohali, Bhopal and Thiruvananthapuram visited Lyon, Rennes, Ulm and Saclay (June 26-30, 2017)

In response to the invitations by the JSPS and Indian Embassy in Japan all five Directors of IISERs at Pune, Kolkata, Mohali, Bhopal and Thiruvananthapuram visited Seven Imperial Universities at Tokyo, Hokkaido, Tohoku, Nagoya, Kyushu, Osaka, and Kyoto for collaboration on exchange of students and scientists, joint workshops with JSPS (February 28 – March 7, 2015)

In response to the invitation by the Max Planck Society, Germany all five Directors of IISERs at Pune, Kolkata, Mohali, Bhopal and Thiruvananthapuram visited Max Planck Institutes (MPIs) at Münich, Göttingen and Berlin for collaboration on exchange of students and scientists, joint workshops and Max Planck partner groups between the IISERs and the Max Planck Society (November 25–31, 2012)

In response to the invitation, attended – Celebration of 275th Anniversary of Georg-August-Universität Göttingen, Göttingen, Germany (May 29–31, 2012)