

CURRICULUM VITAE



School: School of Physical Science

Department: Chemistry

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Dr. Goutam Kumar Patra

Professor, Dept. of Chemistry

Head Department of Chemistry

Guru Ghasidas Vishwavidyalaya (A Central University, established on Jan, 2009)

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➤ **PAST POSITIONS:**

- Head, Dept. of Chemistry, GGV, Bilaspur (Dec 2011-Feb 2017)
- Dean, School of Physical Sciences, GGV, Bilaspur (Dec 2012-Nov 2015)
- Dean, School of Physical Sciences, GGV, Bilaspur (Dec 2018-Nov 2021)
- Professor (**31/03/2012 to till date**)
- Associate Prof., Dept. of Chemistry, GGV, Bilaspur, (Oct 2011- Mar 2012)
- Asst. Prof., Dept. of Chemistry, Vijoygarh Jyotish Ray College, Calcutta University, Kolkata 32 (**24/122003 – 13/10/2011**)

➤ **ACADEMICS:**

- Postdoctoral researcher, Dept. of Chemistry, Max Planck Institute for Bioinorganic Chemistry, Mulheim An Der Ruhr, GERMANY (under the supervision of Prof. Karl Wieghardt, Director of Max Planck Institute for Bioinorganic Chemistry) 2006-2007
- Post-doctoral Fellow, Carnegie Mellon University, Pittsburgh, Pennsylvania, PA 15213, USA (under the supervision of Prof. Catalina Achim) Nov.2003- Dec.-2004
- Post-doctoral Fellow, Tel-Aviv University, ISRAEL (under Prof. Israel Goldberg) Sept. 2000 – Oct. 2002.
- Ph.D., Dept. of Inorganic Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Kolkata 32 (under the supervision of Prof. Dipankar Datta) 1996-2000. Title of Ph.D. Thesis, "Studies on some metal complexes of several new aza macrocycles and related ligands"
- M.Sc., Inorganic Chemistry as special paper, Visva-Bharati University, 1995. (Stood second)
- B.Sc. (Chemistry Honours), Burdwan University, 1991.
- Higher Secondary, WBCHSE, 1988
- Madhyamik, WBBSE, 1986 (Stood First in Block level)

➤ **AWARDS/SCHOLARSHIP/FELLOWSHIP:**

- GATE (Conducted by IIT Kharagpur)1994
- UGC-CSIR 1997(CSIR Fellowship, All India rank 66)
- IACS Institute Fellowship
- Israel- America Bi-national Fellowship
- NSF Fellowship of USA
- BOYSCAST Fellowship, Department of Science of Technology, Govt. of India
- Summer Fellowship of Indian Academy of Sciences (Worked at Indian Institute of Science, Bangalore, May-July, 2009)
- Visiting Research Fellowship of Jawaharlal Neheru Centre for Advanced Scientific Research, Bangalore, 2010-11.
- INSA Award (2012) From Indian Academy of Science, Govt. of India
- National Scholarship, 1986

➤ **AREAS OF RESEARCH INTEREST:**

- Photophysics and Redox activity of coordination complexes
- Aza macrocyclic Chemistry
- Crystal Engineering
- Porphyrin and Supramolecular Chemistry
- Peptide Nucleic Acid (PNA) synthesis and incorporation of transition metal ions in PNA
- Free radical chemistry
- Antibacterial/ anti leshmanian activity of coordination complexes
- Metal Organic Frameworks
- Fluorescent Colorimetric Chemosensors

➤ **UG/PG TEACHING EXPERIENCE:**

- Taught UG Chemistry in VJR College, Calcutta University (2003-2011)
- Taught Post-graduate Chemistry in Jadavpur University evening section (2009-2011)
- Taught Post-graduate Chemistry in A.P.C. College, West Bengal State University, Barasat (2008-2011)
- Taught Post-graduate Chemistry in Sri Chaitanya College, West Bengal State University, Barasat (2008-2011)
- Teaching UG and Post-graduate Chemistry in GGV, Bilaspur (2011- till date)

➤ **RESEARCH PUBLICATION:**

- International Journal: **115**
- Presented in International Conferences: **18**
- Presented in National Conferences: **37**

➤ **BOOK CHAPTER: 08** (Pan Stanford Publishing, Studium Press India Pvt. Ltd., Nova, and Bentham)

➤ **RESEARCH GUIDANCE:**

- Masters level : **39**
Doctoral level : **03**, Degree Awarded (From Calcutta University)
05, Degree Awarded (From Guru Ghasidas University)

01, Registered

➤ **PROJECT COMPLETED : 03 (IN GGV)**

1. DST SR/FST/CSI-264/2015(C) Amount **69 lacs**
2. DST EMR/2017/001789 Amount **29 lacs**
3. DST PDF/2017/001365 Amount **19 lacs**

➤ **PROJECT COMPLETED: 04 (VJR College, Calcutta University)**

Sl. No.	Title of the project	Sanction No.	Total cost	Agency	Present status	Role
1.	Photoluminescent Helicates Tailored By imino-pyridyl ligands and d10 metal ions	PSW-076/05-06	Rs. 87,500/-	UGC	Completed	PI
2.	Supramolecular design of hybrid Organic-inorganic coordination polymer Tailored by polydentate imine ligands	SR/FTP/CS-14/2006	Rs. 15,90,000	DST	Completed	PI
3.	Mononuclear Octheral (cis CyclamFe(III) Complexes of bidentate dithiolone and Mercartophenol Ligands	SR/BY/CS-16/05	Rs. 14,60,000	DST	Completed	PI
4.	Coordination compounds as Anti leishmanial agents	BT/PR13754/MED/29/181/2010	Rs. 45,00,000/-	DBT	Completed	PI

➤ **TRAINING COURSES ATTENDED:**

- Orientation Programme : **01** (At Calcutta University)
- Refresher Course : **01** (At Jadavpur University)
- Summer Research : **01** (At Indian Institute of Science, Bangalore)
- Winter School: **01** (At JNCASR, Bangalore)

➤ **PROFESSIONAL ACTIVITIES:**

Reviewer of International Journals:

1. ACS Journals
2. Royal Society of Chemistry Journals
3. Elsevier Journals
4. Springer Journals
5. Bentham Journals
6. Wiley Journals
7. Indian Journal of Chemistry

Expert Committee Member:

- *Chairman for evaluation of UGC Minor Research project (CRO, Bhopal) and Proposals for organizing National Seminars in 2015-16.*
- *Member of CGCOST for the evaluation of Mini Research project Proposals in 2015-16.*
- *Member for evaluation of DST Extra Mural Research project Proposals in 2016.*
- *Member of selection committee of CFRI, Bilaspur (CSIR Institute) (2014 and 2016) for the selection of Project Assistants Level I,II and III*

- *Member of selection committee of IGNTU Amarkantak, 2014 for selection of faculty members*
- *Member of selection committee of Pt. R.S. Shukla University, Raipur (2015 and 2016) for the selection of Project Scholars.*
- *Member of selection committee of CSVTU Bhilai, 2017 for selection of faculty members*
- *Member of selection committee Public Service Commission, Chhattisgarh*

Evaluation of Ph.D. Thesis:

- Conducted Ph.D. Viva as external expert: **02** at Tripura University (2014 and 2016); **01** at APS University Rewa (2015), and another **03** at Calcutta University, **02** at IEST, Shibpur, **03** (Pandit Ravishankar Shukla University Raipur).
- Examined Ph.D. Thesis: **04** (Calcutta University), **05** (Jadavpur University), **02** (Tripura University), **03** (Utkal University), **02** (APS University), **03** (L.N. Mithila University), **02** (Visva-Bharati University), **02** (Vidyasagar University), **02** (Kalyani University) **04** (Pandit Ravishankar Shukla University Raipur), **02** (Central University Gujrat), **02** (North Eastern Hill University, Shillong)

Question Paper Setter: Paper-setter of Pandit Ravishankar Shukla University Raipur, Biilaspur University, Burdwan University, Calcutta University and Indira Gandhi National Tribal University, Madhya Pradesh Public Service Commission.

Co-coordinator in National Seminars/Workshop:

- *National Seminar on "Recent Trends in Chemical research: Challenges Ahead", March 30-31, 2012*
- *Science Academies National level Lecture Workshop on "Supramolecular Chemistry, Synthesis and Application", August 22-23, 2015*
- *National Seminar on "Science sensitization", 27-28 March, 2015, Served as a chairperson of one Scientific Session*
- *Convenor of National Science Day Celebration 2019, 28th Feb. GGV Bilaspur*
- *Chairperson of Scientific Session National Seminar on Plant and Microbiology Product 2018, GGV Bilasur*
- *Chairperson of Scientific Session National Seminar on Plant and Microbiology Product 2018, GGV Bilasur*
- *Chairperson of Scientific Session National Seminar on Trends in Drug Discovery Development and delivery 2018, GGV Bilasur*
- *Chairperson of Scientific Session National Seminar on Traditional Medicine and modern drug research for better heah 2019, GGV Bilaspur*

Co-coordinator in Refresher Course/Short term Course:

- Refresher Course on "Chemistry and Chemical Technology", during 01/05/2015-21/05/2015
- Short Term Course on "Green Chemistry and Nano-Technology" during 23/11/2015-28/11/2015
- Refresher Course on "Research Methodology" during 18/11/2015-09/12/2015
- Refresher Course on Chemistry during 23rd August 2021 to 4th September 2021.

Attended the Annual/Mid Year Meeting of Indian Academy of Sciences:

- Invited and attended the 77th Annual Meeting of Indian Academy of Sciences (November 2011) at Physics Research Laboratory, Ahmedabad
- Invited and attended the 26th Mid Year Meeting of Indian Academy of Sciences (July 2015) at Raman Research Institute, Bangalore.
- Invited to attend 82th Annual Meeting of Indian Academy of Sciences (November 2016) at IISER, Bhopal.

Statutory/Administrative Positions held/holding at GGV:

- Served as the Head of Department, Chemistry (2012-2016)
- Served as the Dean, School of Physical Sciences (2012-15)
- Served as the Observer for the various examinations of external Colleges (2012-13)
- Served as the Observer for the various practical examinations of the University (2012-16)
- Served as the Chairman, BOS, Dept. of Chemistry (2012-2016)
- Served as the Chairman of DRC in Chemistry (2012-2016)
- Served as a member of Central Purchase Committee (2012-14)
- Served as Chairman, Anti ragging cell, School of Physical Sciences (2012-15)
- Served as a member of Academic Council (2012-2016)
- Served as a member of Standing Committee of the Academic Council (2012-2015)
- Served as a member of Library Committee (2012-2016)
- Served as a member of Scrutiny Committee of interview for faculty position in Pharmacy Dept (2013-14)
- Served as a Chairman of Scrutiny Committee of interview for faculty position in Physics and Chemistry (2013-14)
- Served as a Chairman of Scrutiny Committee of interview for faculty position in Forestry Dept (2013-14)
- Served as a member of various selection committees for faculty/ staff members (2013-14)
- Served as the member of selection Committee for the selection of Project Scholars in Physics, Pharmacy and Forestry Dept (2012-16)

- Served as a *Coordinator of VET Examination at Kolkata Centre (2013-16)*
- Serving as *the member of PPC of Pharmacy Dept*
- Serving as *the member of Technical Committee for purchasing furniture*

➤ **MEMBERSHIP OF VARIOUS PROFESSIONAL SOCIETIES/ BODIES:**

- *Life member of The Indian Association for the Cultivation of Science*
- *Life member of Indian Chemical Society*
- *Life member of Indian Science Association Congress*
- *Life member of Chemical Research Society of India*
- *Member, board of studies in Chemistry, Sarguja University*
- *Member, board of studies in Chemistry, Pandit Sundarlal Sharma University*
- *Member, board of studies in Chemistry, Govt. Naagarjuna Science College, Raipur*
- *Member Board of Studies Pt. Ravishankar Shukla University, Raipur.*

- **National Education Policy 2020:** *Attended several workshops and Seminars on National Education Policy 2020*

➤ **LIST OF PUBLICATION:**

- (1) V.Sharma, M. Sahu, A.K. Manna, D. De, **G.K. Patra**, A quinazolin-based Schiff-base chemosensor for colorimetric detection of Ni²⁺ and Zn²⁺ ions and 'turn-on' fluorometric detection of Zn²⁺ ion, *RSC Advances*, **2022**, 12, 34226-34235.
- (2) **G.K. Patra** and D De, Synthesis, crystal structure, DFT studies, and Hirshfeld surface analysis of 2, 2'-(((methylene-bis (4, 1-phenylene)) bis (azanylylidene)) bis (methanylylidene)) diphenol, *Eur J. Chem.*, **2022**, 13, 49-55.
- (3) **G.K. Patra**, synthesis, characterization, crystal structure, and theoretical studies of a mixed-ligand copper(i) iodide complex of an asymmetric schiff base ligand 2-((pyridin-4-yl)methelenamino)- 3-aminomaleonitrile and triphenylphosphine co-ligand, *J Struct. Chem.*, **2022**, 63, 544–555.
- (4) **G.K. Patra**, A.K.Manna and D.De, Hydrogen bonded molecular rectangle of N, NĊ-bis (3-quinolyl-methylene) diphenylethanedionedihydrazone, *Ind. J.Chem.*, **2022**, 61, 416-419.
- (5) M. Sahu, A.K. Manna, **G.K. Patra**, A fluorescent colorimetric vanillin di-Schiff base chemosensor for detection of Cu (II) and isolation of trinuclear Cu (II)–dihydrazide, *Materials Advances*, **2022**, 3, 2495-2504
- (6) M.K. Goshisht, **G.K. Patra**, N. Tripathi, Fluorescent Schiff base sensors as a versatile tool for metal ion detection: strategies, mechanistic insights, and applications, *Materials Advances*, **2022**, 3, 2612-2669
- (7) M. Sahu, A.K. Manna, **G.K. Patra**, A dihydrazone based conjugated bis Schiff base chromogenic chemosensor for selectively detecting copper ion, *Inorganica Chimica Acta*, **2021**, 517, 120199
- (8) A.K. Manna, M. Sahu, K. Rout, U.K. Das, **G.K. Patra**, A highly selective novel multiple amide based Schiff base optical chemosensor for rapid detection of Cu²⁺ and its

- applications in real sample analysis, molecular logic gate and smart phone, *Microchemical Journal*, **2020**, 104860.
- (9) M. Sahu, A. K. Manna, K. Raut, J. Mondal and **G.K Patra**, A highly selective thiosemicarbazone based Schiff base chemosensor for colorimetric detection of Cu²⁺ and Ag⁺ ions and turn-on fluorometric detection of Ag⁺ ions, *Inorg. Chim. Acta*, **508**, **2020**, 119633.
- (10) M. Sahu, A.K. Manna, S. Chowdhury, G.K. **Patra**, A novel dihydro phenylquinazolinone-based two-in-one colourimetric chemosensor for nickel (ii), copper (ii) and its copper complex for the fluorescent colourimetric nanomolar detection of the cyanide anion, *RSC Advances*, **2020**, **10**, 44860-44875
- (11) AK Manna, S Chowdhury, **GK Patra**, "Hydrazide based novel selective and sensitive optical chemosensor for the detection of Ni²⁺: Applications in living cell imaging, molecular logic gate and smart phone", *Dalton Trans.*, (Royal Society Chemistry, **Impact Factor = 4.1**), **2019**, in press.
- (12) R. Chandra, A. Dutta, A. K. Manna, K. Rout, J. Mondal and **G. K. Patra**, "Halide bridged novel ternary Copper(I) complexes with bis imino- quinolinylligand and triphenyl phosphine: Synthesis, Structure, Luminescence, Electrochemistry and theoretical studies", *Inorg. Chimica Acta*, (Elsevier, **I. F. = 2.40**), **2019**, in press.
- (13) AK Manna, K Rout, S Chowdhury, **GK Patra**, "A dual-mode highly selective and sensitive Schiff base chemosensor for fluorescent colorimetric detection of Ni²⁺ and colorimetric detection of Cu²⁺", *Photochemical & Photobiological Sciences*, (Royal Society Chemistry, **Impact Factor = 2.5**) **2019**, **18**, 1512-1525.
- (14) K Rout, AK Manna, M Sahu, **GK Patra**, "A guanidine based bis Schiff base chemosensor for colorimetric detection of Hg (II) and fluorescent detection of Zn (II) ions", *Inorg. Chimica Acta*, (Elsevier, **I. F. = 2.40**), **2019**, 486, 733-741
- (15) J Mondal, AK Manna, K Rout, SK Singh, JP Naskar, **GK Patra**, "A simple Schiff base as selective and sensitive fluorescent-colorimetric hydrazine chemosensor" *International journal of environmental analytical chemistry* (Elsevier, **I. F. = 1.70**), **2018**, **98**, 1160-1174
- (16) AK Manna, J Mondal, K Rout, **GK Patra**, "A new ICT based Schiff-base chemosensor for colorimetric selective detection of copper and its copper complex for both colorimetric and fluorometric detection of Cysteine", *Journal of Photochemistry and Photobiology A: Chemistry* (Elsevier, **I. F. = 2.90**), **2018**, 367, 74-82
- (17) AK Manna, J Mondal, K Rout, **GK Patra**, "A new ICT based Schiff-base chemosensor for colorimetric selective detection of copper and its copper complex for both colorimetric and fluorometric detection of Cysteine", *Journal of Photochemistry and Photobiology A: Chemistry* (Elsevier, **I. F. = 2.90**), **2018**, 367, 74-82
- (18) AK Manna, J Mondal, K Rout, **GK Patra**, "A benzohydrazide based two-in-one Ni²⁺/Cu²⁺ fluorescent colorimetric chemosensor and its applications in real sample analysis and molecular logic gate", *Sens. Actuator B. Chemical* (Elsevier, **I. F. = 5.70**), **2018**, 275, 350-358
- (19) J Mondal, AK Manna, **GK Patra**, "Highly selective hydrazone based reversible colorimetric chemosensors for expeditious detection of CN⁻ in aqueous media", *Inorg. Chimica Acta*, (Elsevier, **I. F. = 2.20**), **2018**, 474, 22-29

- (20) AK Manna, J Mondal, R Chandra, K Rout, **GK Patra**, "A thio-urea based chromogenic and fluorogenic chemosensor for expeditious detection of Cu²⁺, Hg²⁺ and Ag⁺ ions in aqueous medium", *Journal of Photochemistry and Photobiology A: Chemistry* (Elsevier, **I. F. = 2.90**), **2018**, 356, 477-488.
- (21) AK Manna, J Mondal, R Chandra, K Rout, **GK Patra**, "A fluorescent colorimetric azo dye based chemosensor for detection of S²⁻ in perfect aqueous solution and its application in real sample analysis and building a molecular logic gate," *Analytical Methods* (Royal Society Chemistry, **I. F. = 3.20**), **2018**, 10, 2317-2326.
- (22) R Chandra, AK Manna, K Rout, J Mondal, **GK Patra**, "A dipodal molecular probe for naked eye detection of trivalent cations (Al³⁺, Fe³⁺ and Cr³⁺) in aqueous medium and its applications in real sample analysis and molecular logic gates", *RSC Advances* (Royal Society Chemistry, **I. F. = 2.20**), **2018**, 8, 35946-35958.
- (23) A Ghorai, J Mondal, AK Manna, S Chowdhury, **GK Patra**, "A novel pyrene based highly selective reversible fluorescent-colorimetric sensor for the rapid detection of Cu²⁺ ions: application in bio-imaging", *Analytical Methods* (Royal Society Chemistry, **I. F. = 2.20**), **2018**, 10, 1063-1073.
- (14) R. Chandra. A. Ghorai and **G.K. Patra**, "A simple benzildihydrazone derived colorimetric and fluorescent 'on-off-on' sensor for sequential detection of copper(II) and cyanide ions in aqueous solution", *Sens. Actuator B. Chemical* (Elsevier, **I. F. = 5.70**), **2018**, 255,701-711
- (15) J. Mondal, A. Mukherjee and **G.K. Patra**, "CuX (X= I, Br and Cl) based coordination polymers of azino-pyridyl ligand and PPh₃: Structural, spectral, electro-chemical, and DFT studies", *Inorg. Chimica Acta*, (Elsevier, **I. F. = 2.10**), **2017**, 463, 44-53.
- (16) J. Mondal, P.K. Pal, A. Mukherjee and **G.K. Patra**, "Synthesis, structural variation, photophysical, electrochemical and DFT studies of CuX (X= I, Br and Cl) mixed ligand complexes of an azino-pyridyl ligand and tripe.", *Inorg. Chimica Acta*, (Elsevier, **I. F. = 2.10**), **2017**, 466, 274-284.
- (17) **G. K. Patra**, R. Chandra, A. Ghorai and K. K. Shrivastava, "A highly selective benzildihydrazone based Schiff base chromogenic chemosensor for rapid detection of Cu²⁺ in aqueous solution", *Inorg. Chimica Acta*, (Elsevier, **I. F. = 2.10**), **2017**, 462, 315-322.
- (18) R. Chandra, A. Datta, A. Manna, R. Saha and **G. K. Patra**, "In situ reduction of Cu(II) forming a double stranded dinuclear copper(I) helicate of a bis azino-pyridyl ligand", *Inorg. Chimica Acta*, **2017**, 455, 235-240 (Elsevier, **I. F. = 2.10**).
- (19) A. Ghorai, S. S. Thakur and **G. K. Patra**, "The maiden report of a fluorescent-colorimetric sensor for expeditious detection of bifluoride ion in aqueous media", *RSC Advances*, **2016**, 6, 108717-108725 (Royal Society Chemistry, **I. F. = 3.85**).
- (20) A. Ghorai, J. Mondal, S. Chowdhury and **G.K. Patra**, "Solvent-dependent fluorescent-colorimetric probe for dual monitoring of Al³⁺ and Cu²⁺ in aqueous solution: An application to bio-imaging", *J. Chem. Soc. Dalton Trans.*, **2016**, 45, 11540-11553 (Royal Society Chemistry, **I. F. = 4.20**).
- (21) J. Mondal, A. Dutta, P.K. Pal, R. Saha, P. Maji and **G.K. Patra**, "Synthesis, structure, photo-physical properties and catalytic activities of Zn (II), Cd (II) and Hg (II) complexes of an azinopyridyl ligand", *Inorg. Chimica Acta*, **2016**, 448, 70-77 (Elsevier, **I. F. = 2.10**).

- (22) **G.K Patra**, P. K.Pal, J. Mondal, A. Ghorai, A. Mukherjee, R. Saha and H.K. Fun, "Pre-designed Synthesis of Dinuclear to Unusual Hexanuclear to 1D Coordination Polymer of Cu(I)- halides and Their and Photophysical Properties", *Inorg. Chimica Acta*, **2016**, 447, 77-86 (Elsevier, **I. F. = 2.10**).
- (23) K. Shrivastava, S. Sahu, **G. K. Patra**, N. K. Jaiswal and R. Shankar, "Localized surface plasmon resonance of silver nanoparticles for sensitive colorimetric detection of chromium in surface water, industrial waste water and vegetable sample", *Anal. Methods*, **2016**, 8, 2088-2096 (Royal Society Chemistry, **I. F. = 2.00**).
- (24) A. Ghorai, J. Mondal, S. Bhattacharya, R. Saha and **G. K. Patra**, "A highly sensitive reversible fluorescent-colorimetric azino bis-Schiff base sensor for rapid detection of Pb²⁺ in aqueous media", *Anal. Methods*, **2016**, 8, 2032-2040 (Royal Society Chemistry, **I. F. = 2.00**). (Top ten article of the year)
- (25) A. Ghorai, J. Mondal, S.K. Singh, R. Saha and **G. K. Patra**, "Synthesis Structure, Photophysical and Catalytic Properties of CuI-Iodide Complexes of di-imine ligands" *J. Mol. Str.*, **2016**, 108, 315-324, (Elsevier, **I. F. = 1.80**).
- (26) A. Ghorai, J. Mondal and **G.K. Patra**, "A new Schiff base and its metal complex as colorimetric and fluorescent-colorimetric sensors for rapid detection of arginine", *New. J. Chem. Soc.*, **2016**, 40, 7821-7830 (Royal Society Chemistry, **I.F. 3.40**).
- (27) A. Ghorai, J. Mondal, R. Chandra and **G. K. Patra**, "A reversible fluorescent-colorimetric chemosensor based on a novel Schiff base for visual detection of CO₃²⁻ in aqueous solution", *RSC Advances*, **2016**, 6, 72185-72192 (Royal Society Chemistry, **I. F. = 3.85**).
- (28) A. Ghorai, J. Mondal, S. Bhattacharya and **G. K. Patra**, "A 'chromogenic' and 'fluorogenic' bis-Schiff base sensor for rapid detection of hydrazine both in solution and vapour phases", *Anal. Methods*, **2015**, 7, 10385-10393 (Royal Society Chemistry, **I. F. = 2.00**).
- (29) A. Ghorai, J. Mondal, R. Chandra and **G. K Patra**, "Exploitation of a simple Schiff base as a ratiometric and colorimetric chemosensor for glutamic acid", *Anal. Methods*, **2015**, 7, 8146-8151 (Royal Society Chemistry, **I. F. = 2.00**).
- (30) A. Ghorai, J. Mondal, R. Chandra and **G K Patra**, "A reversible fluorescent-colorimetric imino-pyridyl bis-Schiff base sensor for expeditious detection of Al³⁺ and HSO₃⁻ in aqueous media", *J. Chem. Soc. Dalton Trans.*, **2015**, 44, 13261-13271 (Royal Society Chemistry, **I. F. = 4.20**).
- (31) A. Ghorai, J. Mondal and **G. K. Patra**, "Photoluminescent mixed ligand complexes of CuX (X = Cl, Br, I) with PPh₃ and a polydentate imino-pyridyl ligand – Syntheses, Structural variations and catalytic property", *J. Mol. Str.*, **2015**, 1097, 52-60 (Elsevier, **I. F. = 1.80**).
- (32) P. K. Pal, A. Banerjee, R. Bhadra, A. D. Jana and **G. K. Patra**, "Synthesis, characterization, structural investigation and antimicrobial studies of mononuclear Zn(II), Cd(II) and Ag(I) complexes of a novel tetradentate N₃O Schiff base ligand", *J Coord. Chem.*, **2014**, 67, 3107-3120 (Elsevier, **I. F. = 2.00**).
- (33) P. K. Pal, A. Mukherjee, A. Ghosh and **G K. Patra**, "A photoluminescent interpenetrating metal-organic framework based on Cu₄I₄ and novel azino-quinoline ligand", *J. Mol. Str.*, **2014**, 1059, 332-337 (Elsevier, **I. F. = 1.80**).
- (34) **G.K.Patra**, A.Mukherjee and A. D. Jana, "Coordination assemblies of Cu(I)/Ag(I) and novel azino-pyridine ligands: syntheses, crystal structures, thermal studies and

- photophysical properties”, *Inorg. Chimica Acta*, **2013**, *404*, 131-143 (Elsevier, I. F. = **2.10**).
- (35) P.K.Pal, S. Mohapatra, A. Jana and **G. K. Patra**, “Substitution dependent dimensionality of Cadmium(II) Coordination polymers of Imino pyridyl ligands”, *J. Mol. Str.*, **2012**, *1015*, 156-161 (Elsevier I. F. = **1.80**).
- (36) H. K. Fun, W.S.Loh, **G.K.Patra** and A. Mukherjee, “Catena-Poly[[triphenylphosphane)copper(I)]-di-I-iodido-[(triphenylphosphane)copper(I)]-I-[N,N-bis[1-(pyridin-4-yl)ethylidene]hydrazine]]”, *Acta Cryst*, **2011**, E67, m1389 (Wiley, I. F. = **0.50**).
- (37) **G.K.Patra**, A. Mukherjee P. Mitra and N. M. Adersh, “Structural diversity in Silver(I) azine complexes – effect of substituents and counter Anions”, *J. Mol. Str.*, **2011**, *1000*, 29 – 34 (Elsevier, I. F. = **1.80**).
- (38) A. Mukherjee, R. Chakraborty and **G.K. Patra**, “The syntheses, characterization, x-ray crystal structures and properties of Cu(I) complexes of Bi-dentate Schiff base ligand”, *Inorg. Chim. Acta*, **2010**, *363*, 1707-1712 (Elsevier, I. F. = **2.1**).
- (39) C. Milsman, **G.K. Patra**, E. Bill, T. Weyhermuller and K. Wieghardt, “Octahedral monodithiolone complexes of Iron: Characterization of S,S' Coordinated Dithiolate (1-) π radical monoanions. A spectroscopic and density functional theoretical investigation”, *Inorg. Chem.*, **2009**, *48*, 7430-7445 (American Chemical Society I. F. = **4.90**).
- (40) K.S. Banu, T. Chattopadhyay, S. Bhattacharya, **G. K. Patra**, Ennio Zangrando and D. Das, “Mono- and dinuclear manganese(III) complexes showing efficient catechol oxidase activity: Synthesis, characterization and spectroscopic studies”, *J. Chem. Soc. Dalton Trans.*, **2009**, 8755-8764 (Royal Society Chemistry, I.F. = **4.20**).
- (41) A. Mukherjee, R. Chakraborty and **G.K. Patra**, “Syntheses and Crystal Structures of 3-D interpenetrating Cu(I) coordination polymers of Polypyridyl ligands”, *Inorg. Chem. Commun.*, **2009**, *12*, 1227-1230 (Elsevier, I. F. = **1.90**).
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➤ **ORAL PRESENTATION:**

1. Coordination Polymers of copper(I), silver(I) and zinc(II) assembled by 4,4'-bipyridyl type Bridging Ligands, The Annual Meeting of the Israeli Crystallographic Association, June 25th, 2001
2. Modified peptide nucleic acids as scaffold for transition metal ions, 226th ACS Meeting, NY, USA, Sept 7-11, 2003
3. Towards Polynuclear Iron(II) Complexes with spin transition, 235th ACS Central Regional Meeting, Pittsburgh, USA, October 19-22, 2003
4. Co-ordination Polymers of Cu(I) tailored by polydentate imine ligands, International Conference, MACRO 2015, January 23-25 at IACS, Kolkata

➤ **INVITED LECTURES/RESOURCE PERSON:**

- (1) Delivered invited lecture on "Coordination Compounds as Anti leishmanial agents" in UGC Sponsored *National Workshop*, held in Dept. of Zoology, Calcutta University, (Nov. 17, 2015).
- (2) Delivered invited talk on "An overview of Schiff Base Chemosensor" in the International Conference of *Modern Trends in Inorganic Chemistry – XVI*, Dec. 3-5 at Jadavpur University.
- (3) Delivered lecture on "Chemical aspects of Environment" as a resource person at the *Refresher Course on Environment, Forest and Disaster Management* on Feb. 2016 at GGV, Bilaspur.
- (4) Delivered two lectures on "Supramolecular Chemistry" and "Fluorogenic and Chromogenic Chemosensors" as a resource person at the *Refresher Course on Chemistry*, August, 2016 at Pt. R.S. Shukla University, Raipur.
- (5) Delivered invited talk on "Drug delivery by Supramolecules" in the UGC sponsored *National Seminar*, August 2016, at GNA PG College, Bhattapara.
- (6) Delivered invited talk on "Schiff base Chemosensors for Biological and Environmental monitoring", in the UGC sponsored National Seminar, November, 2016 at Prasanta Chandra Mahalanabis College, Calcutta University.
- (7) Delivered invited on "Pearson's Hard and Soft Acid Bases", December, 2016 in Govt. College Masturi.
- (8) Delivered invited on "Solvent Dependence and Biological relevance of Schiff base Chemosensors" in the International Conference on Biological Inorganic Chemistry, January, 2017 in IACS, Kolkata.
- (9) Delivered scientific invited talk on "Cyclic Voltammetry, Basic Instrumentation and Application" in the Skill Development Programme of School of Physical Sciences, GGV, Bilaspur, Feb. 16-17, 2017.
- (10) Delivered a scientific presentation on "Science in Nation Building" on 1st March, 2017 at the NSS camp of School of Physical Sciences at Tendubhata.
- (11) Delivered invited Lecture at St. Thomas College, Bhilai, C.G. on 27th April, 2017 in the topic, "Electrochemistry as an important tool for modern research".
- (12) Presented recent research results in 22nd CRSI National Symposium at P.R.S.U, Raipur during 2-4th February, 2018
- (13) Delivered invited lecture in National Seminar on Recent Developments in Chemical Sciences, in IGNTU, Amarkantak, during 23-24 February, 2018 in the topic "Benzohydrazides as fluorocent-colorometric chemosensor".
- (14) Delivered two invited lectures on "Metal Organic Framework" and "Optical sensors" as a resource person at the *Refresher Course on Chemistry*, September 18, 2018 at GGV, at Pt. R.S. Shukla University, Raipur.
- (15) Delivered invited lecture on "Biological and environmental aspects of Chemosensors" in the XX National Seminar on Ferroelectric and Dielectric during 14-16 December, 2018 at Dept. of Pure and Applied Physics, GGV Bilaspur
- (16) Delivered scientific invited talk on "Chemical Safety Management: Handling of hazardous chemicals" in the Skill Development Programme of School of Physical Sciences, GGV, Bilaspur, Feb. 16-17, 2019.
- (17) Delivered scientific talk in the 1st International Conference on "Crystal Engineering: From Molecule to Crystal during 30-31 March, 2019 in the topic Copper(I) Halide

Based Mixed Ligand Coordination Architectures : Predesigned Synthesis of Dimer to 1D Polymer to 2D Polymer to Unusual Hexamer in NIT Raipur.

- (18) Delivered invited talk at Human Resource Development Centre, GGV Bilaspur in the Refresher Course on Recent Advances in Emerging Areas of Engineering, Technical Education and Research on 06/07/2019 in the topic, "Chemical Practices towards Sustainable Development".
- (19) "Acharya Prafulla Chandra Ray- The father of Indian Chemisty" and "Chemosensors –an emerging area of modern reasearch" as a resource person at the *Refresher Course on Chemistry*, September 24, 2020 at GGV, at Pt. R.S. Shukla University, Raipur.
- (20) Delivered key-note lecture on Chemical practices towards sustainable Development in the International Seminar "Innovation & Research in Science and Technology for Sustainable Development" organised by School of Science, OP Jindal University, Raigarh on 28 May, 2022
- (21) Acted as resource person in the Refresher Course In Chemistry held at UGC-HRDC, Pt. Ravishankar Shukla University, Raipur on 22nd July, 2022.
- (22) Acted as resource person in the Gurudakshata (Faculty Induction Program) held at UGC-HRDC, Pt. Ravishankar Shukla University, Raipur on 26th July, 2022.
- (23) Delivered invited lecture at the DST-STUTI Program organised by Dept. of Pure and Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur on 3rd November, 2022.
- (24) Acted as resource person in the Refresher Course In Chemistry held at UGC-HRDC, North Eastern Hill University, Shillong on 5th November, 2022.
- (25) Delivered keynote lecture in National Conference on Recent Trends in Material Science 2022 organized by Department of Chemistry, Kirodimal Govt. Arts & Science College Raigarh (C.G.) on 6th November, 2022.
- (26) Delivered invited lecture in National Conference on Advances in Chemical & Environmental Sciences organized by School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur on 10th December, 2022.
- (27) Delivered invited lecture at the DST-STUTI Program organised by Dept. of Chemistry, Govt. V.Y.T. PG Autonomous College, Durg on 17th December, 2022.



Place: Bilaspur

Date: 10th December, 2022

Signature

(Prof. G. K. Patra)