




Faculty Proforma

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|---|---|--------------------------------|----------------------|-----------------------|-------------|---|
| Title | Professor | First Name | Rajeev | Last Name | Gupta |  |
| Designation | Professor | | | | | |
| Address | Office: Department of Chemistry, University of Delhi, North Campus, Mall Road, Delhi – 110 007 Residence: Provost's Lodge, International Students House (ISH), University of Delhi, Mall Road, Delhi – 110 007 | | | | | |
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| Educational Qualifications | | | | | | |
| Degree | Institution | | | | Year | |
| Ph.D. | Indian Institute of Technology – Kanpur | | | | 2000 | |
| M.Sc. | Kanpur University, Kanpur | | | | 1994 | |
| B.Sc. | Kanpur University, Kanpur | | | | 1992 | |
| Career Profile | | | | | | |
| 1. | University of Delhi | Professor | May 2009 – Onwards | Teaching and Research | | |
| 2. | University of Delhi | Associate Professor | May 2006 – May 2009 | Teaching and Research | | |
| 3. | University of Delhi | Reader | May 2003 – May 2006 | Teaching and Research | | |
| 4. | University of Kansas (USA) | Post–doct. Associate | June 2000 – May 2003 | Research | | |
| 5. | I.I.T. – Kanpur | Research Associate | July 1999 – May 2000 | Research | | |
| Administrative & Academic Assignments | | | | | | |
| Administrative Experiences and Assignments: | | | | | | |
| 1. Chairman , Non-Collegiate Women Education Board, University of Delhi since April 2018 | | | | | | |
| 2. Provost in the <i>International Students House, University of Delhi</i> since March 2016 | | | | | | |
| 3. Member – Governing Body, School of Open Learning, University of Delhi since July 2017 | | | | | | |
| 4. Member – Governing Body, Gargi College, University of Delhi since October 2016 | | | | | | |
| 5. Member – Centralized Recruitment Committee, University of Delhi since November 2016 | | | | | | |
| 6. Member – Garden Committee, University of Delhi since November 2011 | | | | | | |
| 7. Chief Election Officer , DUSU – Executive Council Elections (2017 – 2018) | | | | | | |
| 8. Chief Returning Officer , DUSU Elections (2017 – 2018) | | | | | | |
| 9. Warden in the <i>International Students House, University of Delhi</i> during May 2005 – April 2016 | | | | | | |
| 10. Member – Procurement Committee for the procurement of Equipment/ Consumables/Chemicals, University of Delhi during 2013 – 2014 | | | | | | |
| 11. Member – Board of Research Studies (Sciences), University of Delhi during 2013 – 2015 | | | | | | |
| 12. Member – Faculty of Science during 2014 – 2015 | | | | | | |
| 13. Member – Examination Disciplinary Committee, University of Delhi for the year 2013 – 2014 | | | | | | |
| 14. Member – Examination Disciplinary Committee, University of Delhi for the year 2014 – 2015 | | | | | | |
| 15. Member – Examination Disciplinary Committee, South Campus, University of Delhi since 2015 | | | | | | |
| 16. Convener – Single Crystal X-Ray Diffraction Facility, USIC, University of Delhi since 2008 | | | | | | |
| 17. Secretary – Department Research Committee (DRC), Department of Chemistry, University of Delhi between 2009 – 2012 | | | | | | |
| 18. Convener – Inorganic Section of the Department (2009 – 2010) | | | | | | |
| 19. Convener/Member – Faculty of Science for the visit of constituent college of the University of Delhi for the recognition of sole supervisors | | | | | | |
| 20. Deputy Superintendent of Examinations for the M.Sc. Practical Examinations of Department of Chemistry, University of Delhi | | | | | | |

21. **Deputy Superintendent of Examinations** for the M.Sc. Theory Examinations of Department of Chemistry, University of Delhi
22. **Superintendent of Examinations** for the PhD Course Work Examinations of Department of Chemistry, University of Delhi
23. **Coordinator** for the **Centralized Evaluation Center** for the M.Sc. (Chemistry) and M. Tech. (CSPT) Examinations of Department of Chemistry, University of Delhi (2014)
24. **Superintendent of Examinations** for the Rector Prize Examination of the University of Delhi (2013)
25. **Member/Convener** for various Departmental committees

Academic Experiences and Assignments:

1. **Member** – Food Analyst Examination Board, Food Safety & Standards Authority of India (Ministry of Health & Family Welfare, Govt. of India), New Delhi since August 2013
2. **Member** – Central Pollution Control Board (Ministry of Environment, Forest & Climate Change, Govt. of India), New Delhi since September 2016
3. **Coordinator / Content Writer** for Inorganic Chemistry Course(s) for UGC's Project on *e – PG Pathshala* under the NMEICT (MHRD), Govt. of India
4. **Chair** – Department Research Committee (DRC), Board of Studies and **Member** – Expert External Committee; Central University of Haryana, Mahendragarh (Haryana)
5. **Member** – Board of Studies, Banaras Hindu University, Varanasi (U.P.)
6. **Member** – Board of Studies, Ch. Bansi Lal University, Bhiwani (Haryana)
7. **Member** – Board of Studies, Maharshi Dayanand University, Rohtak (Haryana)
8. **Member** – Board of Studies, Kurukshetra University (Haryana)
9. **Member** – Board of Studies, NCCE Technical University, Panipat (Haryana)
10. **Member** – Board of Studies, Amity School of Applied Science, Amity University, Manesar Campus (Haryana)
11. **Member** – Board of Studies, The IIS University, Jaipur (Rajasthan)
12. **Member** – Board of Studies, Amity School of Applied Science, Amity University, Noida Campus, UP
13. **Member** – Board of Studies, YMCA University of Science and Technology, Faridabad (Haryana)
14. Resource Person in the CPDHE Refresher Courses at the University of Delhi
15. Delivered Lectures for the Refresher Courses at several universities: (i) University of Kashmir, Srinagar (J&K), (ii) Guru Nanak Dev University, Amritsar; (iii) Himachal Pradesh University, Shimla; (iv) Kumaun University, Nainital; (v) Dr. B. A. Marathwada University, Aungangabad; (vi) Jamia Milia Islamia University, Delhi; (vii) Jawaharlal Nehru University, New Delhi.
16. Delivered Motivational Lectures under the INSPIRE or similar academic programs at several colleges (Deshbandhu College, Hindu College, St. Stephens College, and DDU College) under the University of Delhi as well as other institutions (SRM University, Sonapat, Haryana; Amity University, Noida Campus, UP)
17. **Mentor** for the University Innovation Project at the Dyal Singh College, University of Delhi (**DS – 103**)
18. **Jury Member** for the INSPIRE Scheme of Department of Science & Technology (DST)
19. **Judge** for the "Centre for Science Education and Communication" Programs (University of Delhi)
20. **Judge** for the Inter-College Project Presentations at the St. Stephens College (University of Delhi)
21. **Convener** to organize One – Day Symposium on "*Frontiers in Chemical Sciences*" at the Department of Chemistry, Indian Institute of Technology – Kanpur on September 7, 2013
22. **Member – Executive Committee, National Organizing Committee, National Advisory Committee** for the organization of various National and International Conferences and Symposia

Examination and Paper Setting Assignments:

1. Served in the Question Paper Setting Committee for the "Kishore Vaigyanik Protsahan Yojana" (**KVPY**), Department of Science & Technology (**DST**)
2. Served in the Paper Setting Committee (Chemical Sciences) for the "CSIR-JRF Examination" of Council of Scientific & Industrial Research (**CSIR**)
3. Served in the Paper Setting Committee (Chemical Sciences) for the JEE examination of Central Board of Secondary Education (**CBSE**)
4. Served in the Evaluation Committee for the Union Public Service Commission (**UPSC**) Examinations
5. Served in the Question Paper Setting/Evaluation Committee for the Utrakhand Public Service Commission (**UKPSC**)
6. Served in the Question Paper Setting/Evaluation Committee for the Himachal Pradesh Public Service Commission (**HPPSC**) Examinations
7. Served in the Question Bank Committee (Chemical Sciences) for the UPSC Entrance Examinations
8. Served in the Paper Setting for M.Sc. Chemistry, M. Tech., Ph.D. Entrance Examinations of our University
9. Served in the Paper Setting for several Competitive Medical and Engineering Entrance Examinations of our University
10. Served in the Paper Setting Committee for Entrance and other Competitive Examinations (Medical, Engineering, etc.) for other universities

Reviewing Assignments:

1. Acting as the **Reviewer/Referee** for various International Journals published from the ACS, RSC, Wiley, Nature Publishing Group, Wiley-VCH, Elsevier, Springer, Taylor & Francis societies
2. Acting as the **Reviewer/Referee** for various National Journals such as J. Chem. Sci., Ind. J. Chem. Sec-A, Pro. Nat. Acad. Sci. India, Sec-A: Physical Sciences, Indian J. Chem. Tech., etc.
3. Acting as the **Reviewer/Referee** for a few Popular Science Journals such as Resonance
4. Acting as the **Reviewer** for National Funding Agencies such as Department of Science & Technology (**DST**), Science and Engineering Research Board (**SERB**), Council of Scientific & Industrial Research (**CSIR**), University Grant Commission (UGC), Board of Research in Nuclear Sciences (**BRNS**).

Areas of Interest / Specialization

Specialization: Inorganic and Coordination Chemistry

Research Interests: Coordination Chemistry, Supramolecular Chemistry, Bio-inorganic Chemistry, Catalysis, Sensing, Energy-Transfer, and Medicinal Inorganic Chemistry

Subjects Taught**M.Sc. Courses Taught:**

- (i) Chemistry of *d* and *f* Block Elements
- (ii) Supramolecular Chemistry
- (iii) Photo-inorganic Chemistry
- (iv) Solid State Chemistry
- (v) Nuclear and Radiation Chemistry
- (vi) Bioinorganic Chemistry

M.Tech. (CSPT), M.Phil. and Ph.D. Courses Taught:

- (i) Industrially Important Solids
- (ii) Chemistry of Trace Elements in Human Body
- (ii) Synthetic Chemical Modeling of Metalloenzymes and Metalloproteins

Research Guidance**1. Supervision of Awarded Doctoral Thesis: Thirteen**

- (i) Mishra, Anurag. **2008**. Synthesis and Characterization of Novel Heterometallic Complexes Utilizing Coordination Complexes as the Building Block. University of Delhi.
- (ii) Singh, Jyoti. **2009**. Studies on Coordination Complexes with Synthetically Designed Tetradentate Amide – Based Ligands. University of Delhi.
- (iii) Kumari, Savita. **2009**. Effect of Ligand Architecture on the Structure and Properties of Nickel Complexes with Amide – Based Macrocyclic Ligands. University of Delhi.
- (iv) Singh, Amit Pratap. **2010**. Development of Coordination Complexes as Building Blocks for the Generation of Novel Heterobimetallic Complexes. University of Delhi.
- (v) Munjal, Megha. **2011**. Synthesis and Characterization of Nickel and Copper Complexes with Amide-based Ligands. University of Delhi.
- (vi) Ali, Afsar. **2012**. Coordination Complexes with Appended Functional Groups: Hydrogen Bonded Networks and Heterobimetallic Complexes. University of Delhi.
- (vii) Kumar, Girijesh. **2013**. Coordination Complexes Appended with Pyridine or Arylcarboxylic acid Groups: Extended Ensembles and Functional Materials. University of Delhi.
- (viii) Kumar, Sushil. **2013**. Studies on selected transition metal complexes of amide-based ligands: Evaluating the role of e^- -withdrawing and e^- -donating substituents on ligand. University of Delhi.
- (ix) Srivastava, Sumit. **2017**. Metalloligands Appended with Pyridine or Arylcarboxylic Acid Groups: Discrete Complexes, Hydrogen Bonded Assemblies and Coordination Networks. University of Delhi.
- (x) Bansal, Deepak. **2017**. Coordination Chemistry with Amide-based Ligands Containing Additional Thiazole, Thiazoline, Bezothazole and Benimidazole Donors. University of Delhi.
- (xi) Mr. Sunil Yadav. **2017**. Coordination Complexes of Amide-based Ligands: Synthesis, Characterization, Catalysis and Mechanistic Investigation (PhD Thesis submitted in **December 2017**)

- (xii) Mr. Saurabh Pandey. **2018**. Synthesis and Characterization of Bimetallic Complexes and Coordination Polymers Based on Metalloligands (PhD Thesis submitted in **March 2018**)
- (xiii) Mr. Gulshan Kumar. **2018**. Coordination Polymers Based on Metalloligands: Synthesis, Characterization and Their Catalytic Applications (PhD Thesis submitted in **May 2018**)

2. Supervision of Doctoral Thesis, under progress: Eight

- (i) Mr. Vijay Kumar, Date of Registration: **29.01.2015**
- (ii) Ms. Divya Prabha, Date of Registration: **29.12.2015**
- (iii) Ms. Sanya Pachisia, Date of Registration: **25.11.2016**
- (iv) Mr. Devender Singh, Date of Registration: **28.10.2017**
- (v) Ms. Samanta Yadav, Date of Registration: **22.05.2018**
- (vi) Ms. Hina Goel, Date of Registration: **22.05.2018**
- (vii) Ms. Ruchika Gupta, Date of Registration: **22.05.2018**
- (viii) Mr. Deepak, Date of Registration: **22.05.2018**

3. Supervision of Awarded M.Phil Dissertations: Three

- (i) Singh, Amit Pratap. **2005**. Synthesis and Characterization of Copper(II) Complexes of Amide – Amine – based Ligands with Potential of HIV – 1 Protease Inhibition Activity. University of Delhi.
- (ii) Mishra, Anupama. **2006**. Synthesis and Characterization of Copper(II) Complexes of Amide – Amine based Tri – aza Macrocyclic Ligands having Potential of Synthetic Rotamase Activity. University of Delhi.
- (iii) Pandey, Divya. **2007**. Synthesis and Characterization of Cobalt(II) Complexes of Amide – based Macrocyclic Ligands. University of Delhi.

4. Supervision of M.Phil dissertations, under progress: None

Publications Profile

Research papers published in Refereed/Peer Reviewed Journals (Last Five Years Only):

1. S. Kumar, R. Kishan, P. Kumar, S. Pachisia, Rajeev Gupta* **2018**. Size-Selective Detection of Picric Acid by Florescent Palladium Macrocycles, *Inorganic Chemistry*, 57, 1693 – 1697. (**Communication**)
2. A. Pal, B. Arora, D. Rani, S. Srivastava, Rajeev Gupta, S. Sapra* **2018**. Fluorescence Quenching of CdTe Quantum Dots with Co(III) Complexes via Electrostatic Assembly Formation, *Zeitschrift für Physikalische Chemie*, 0000 [DOI: 10.1515/zpch-2018-1138].
3. S. Pandey, D. Bansal, Rajeev Gupta* **2018**. A metalloligand appended with benzimidazole rings: Tetranuclear [CoZn₃] and [CoCd₃] complexes and their catalytic applications, *New Journal of Chemistry*, 42, 0000 [DOI: 10.1039/C8NJ00734A].
4. G. Kumar, Rajeev Gupta* **2018**. Coordination Driven Architectures Based on Metalloligands Offering Appended Carboxylic Acid Groups, *Journal of Chemical Sciences*, 46, 0000 [DOI: 10.1007/s/12039-018-1491-7]. (**Invited Article** for the Special Issue on **MTIC – XVII**).
5. G. Kumar, F. Hussain, Rajeev Gupta* **2017**. Carbon-sulphur cross coupling reactions catalyzed by nickel-based coordination polymers based on metalloligands, *Dalton Transactions*, 46, 15023 – 15031.
6. S. Kumar, Rajeev Gupta* **2017**. Cobalt Complexes Catalyze Reduction of Nitro Compounds: Mechanistic Studies, *Chemistry Select*, 2, 8197–8206.
7. P. Kumar, V. Kumar, Rajeev Gupta* **2017**. Detection of the anticoagulant drug warfarin by palladium complexes, *Dalton Transactions*, 46, 10205 – 10209. (**Communication**)

8. S. Srivastava, B. K. Gupta, Rajeev Gupta* **2017**. Lanthanide-Based Coordination Polymers for the Size-Selective Detection of Nitroaromatics, *Crystal Growth & Design*, *17*, 3907 – 3916.
9. D. Bansal, Rajeev Gupta* **2017**. Hydroxide-bridged Dicopper Complexes: The Influence of Secondary Coordination Sphere on Structure and Catecholase Activity, *Dalton Transactions*, *46*, 4617 – 4627.
10. V. Kumar, P. Kumar, Rajeev Gupta* **2017**. Fluorescent Detection of Multiple Ions by Two Related Chemosensors: Structural Elucidations and Logic Gate Applications, *RSC Advances*, *7*, 23127 – 23135.
11. S. Yadav, S. Kumar, Rajeev Gupta* **2017**. Cobalt Complexes of Pyrrolicarboxamide Ligands as Catalysts in Nitro Reduction Reactions: Influence of Electronic Substituents on Catalysis and Mechanistic Insights, *Inorganic Chemistry Frontiers*, *4*, 324 – 335.
12. P. Kumar, V. Kumar, Rajeev Gupta* **2017**. Selective Fluorescent Turn-off Sensing of Pd²⁺ Ion: Applications as Paper Strips, Polystyrene Films, and in Cell Imaging, *RSC Advances*, *7*, 7734 – 7741.
13. S. Srivastava, Rajeev Gupta* **2016**. Metalloligands to Material: Design Strategies and Network Topologies, *CrystEngComm*, *18*, 9185 – 9208. [**Invited Article**]
14. Pramod Kumar, Rajeev Gupta* **2016**. The wonderful World of Pyridine-2,6-dicarboxamide Based Scaffolds, *Dalton Transactions*, *45*, 18769 – 18783.
15. S. Srivastava, Rajeev Gupta* **2016**. Cobalt Complexes Offering Aryldicarboxylic Acid Groups: Hydrogen Bonding Assemblies and the Resultant Topologies, *Chemistry Select*, *1*, 6167–6178.
16. S. Srivastava, V. Kumar, Rajeev Gupta* **2016**. A Carboxylate-Rich Metalloligand and Its Heterometallic Coordination Networks: Syntheses, Structures, Topologies and Heterogeneous Catalysis, *Crystal Growth & Design*, *16*, 2874 – 2886.
17. D. Bansal, Rajeev Gupta* **2016**. Chemosensors Containing Appended Benzothiazole group(s): Selective Binding of Cu²⁺ and Zn²⁺ Ions by Two Related Receptors, *Dalton Transactions*, *45*, 502 – 507. (**Communication**)
18. G. Kumar, G. Kumar, Rajeev Gupta* **2016**. Lanthanide-based coordination polymers as the promising heterogeneous catalysts for ring-opening reactions, *RSC Advances*, *6*, 21352 – 21361.
19. D. Bansal, Rajeev Gupta* **2015**. Nickel and copper complexes of a pyridyl-appended tetra-amide ligand: Syntheses and characterization, *Journal of Indian Chemical Society*, *92*, 1823 – 1832.
[**Invited Article**: Special Issue in honor of Professor Animesh Chkravorty on the occasion of his 80th birthday].
20. S. Srivastava, H. Aggarwal, Rajeev Gupta* **2015**. Three-dimensional Heterometallic Coordination Networks: Syntheses, Crystal Structures, Topologies and Heterogeneous Catalysis, *Crystal Growth & Design*, *15*, 4110 – 4122.
21. G. Kumar, G. Kumar, Rajeev Gupta* **2015**. Manganese and Cobalt Based Coordination Networks as the Promising Heterogeneous Catalysts for Olefin Epoxidation Reactions, *Inorganic Chemistry*, *54*, 2603 – 2615.
22. S. Srivastava, M. S. Dagur, A. Ali, Rajeev Gupta* **2015**. Trinuclear {Co²⁺-M³⁺-Co²⁺} Complexes Catalyze Reduction of Nitro Compounds, *Dalton Transactions*, *44*, 17453 – 17461. (**Communication**)
23. P. Kumar, V. Kumar, Rajeev Gupta* **2015**. Arene-based Fluorescent Probes for the Selective Detection of Iron *RSC Advances*, *5*, 97874 – 97882.
24. A. Pal, S. Srivastava, P. Saini, S. Raina, P. P. Ingole, Rajeev Gupta, S. Sapat* **2015**. Probing the Mechanism of Fluorescence Quenching of QDs by Co(III)-Complexes: Size of QD and Nature of the Complex Both Dictate Energy and Electron Transfer Processes, *Journal of Physical Chemistry – C*, *119*, 22690 – 22699.
25. D. Bansal, S. Pandey, G. Hundal, Rajeev Gupta* **2015**. Heterometallic Coordination Polymers: Syntheses,

Structures and Heterogeneous Catalytic Applications, *New Journal of Chemistry*, 39, 9772 – 9781.

26. S. Yadav, S. Kumar, [Rajeev Gupta*](#) **2015**. Manganese Complexes of Pyrrole- and Indolecarboxamide Ligands: Synthesis, Structure, Electrochemistry, and Applications in Oxidative and Lewis-Acid-Assisted Catalysis, *European Journal of Inorganic Chemistry*, 5534 – 5544.

27. S. Kumar, R. R. Jha, S. Yadav, [Rajeev Gupta*](#) **2015**. Pd(II) Complexes with Amide-based Macrocycles: Syntheses, Properties and Applications in Cross-coupling Reactions, *New Journal of Chemistry*, 39, 2042 – 2051.

28. D. Bansal, G. Hundal, [Rajeev Gupta*](#) **2015**. A Metalloligand Appended with Thiazole Rings: $\{Co^{3+}-Zn^{2+}\}$ and $\{Co^{3+}-Cd^{2+}\}$ Heterometallic Complexes and Their Heterogeneous Catalytic Applications, *European Journal of Inorganic Chemistry*, 1022 – 1032.

29. G. Kumar, G. Kumar, [Rajeev Gupta*](#) **2015**. Asymmetrical Metalloligands Based $\{Co^{3+}-Cd^{2+}\}$ and $\{Co^{3+}-Ag^{+}\}$ Coordination Polymers: Syntheses and Characterization, *Inorganica Chimica Acta*, 425, 260 – 268.

30. S. Kumar, [Rajeev Gupta*](#) **2014**. Endogenous and Exogenous Ligand Dependent Formation of a Superoxide-bridged Dicobalt(III) Complex and Few Mononuclear Co(III) Complexes with Amide-Based Macrocyclic Ligands *European Journal of Inorganic Chemistry*, 5567–5576.

31. S. Kumar, M. Munjal, J. Singh, [Rajeev Gupta*](#) **2014**. Nickel and Copper Complexes of Pyrrolecarboxamide Ligands: Stabilization of M^{3+} Species and Isolation of Ni^{3+} Complexes, *European Journal of Inorganic Chemistry*, 4957 – 4965.

32. D. Bansal, G. Kumar, G. Hundal, [Rajeev Gupta*](#) **2014**. Mononuclear Complexes of Amide-based Ligands Containing Appended Functional Groups: Role of Secondary Coordination Sphere on Catalysis, *Dalton Transactions*, 43, 14865 – 14875.

33. S. Srivastava, M. S. Dagur, [Rajeev Gupta*](#) **2014**. Two-dimensional $\{Co^{3+}-Co^{2+}\}$ and $\{Fe^{3+}-Co^{2+}\}$ networks and their heterogeneous catalytic activities, *European Journal of Inorganic Chemistry*, 4966 – 4974.

34. S. Srivastava, A. Ali, A. Tyagi, [Rajeev Gupta*](#) **2014**. $\{Cu^{2+}-Co^{3+}-Cu^{2+}\}$ and $\{Cu^{2+}-Fe^{3+}-Cu^{2+}\}$ Heterobimetallic Complexes and Their Catalytic Properties, *European Journal of Inorganic Chemistry*, 2113 – 2123.

35. A. Mishra, [Rajeev Gupta*](#) **2014**. Supramolecular Architectures with Pyridine-amide Based Ligands: Discrete Molecular Assemblies and Their Applications, *Dalton Transactions*, 43, 7668 – 7682.

36. A. Ali, D. Bansal, [Rajeev Gupta*](#) **2014**. Synthesis, Characterization and Self-Assembly of Co^{3+} Complexes Appended with Phenol and Catechol Groups, *Journal of Chemical Sciences*, 126, 1535 – 1546. (**Invited Article:** For the Special Issue on “Chemical Crystallography” on the occasion of International Year of Crystallography).

37. A. Ali, D. Bansal, N. K. Kaushik, N. Kaushik, E. Ha Choi, [Rajeev Gupta*](#) **2014**. Syntheses, characterization, and anticancer activities of pyridine-amide based compounds containing appended phenol or catechol groups, *Journal of Chemical Sciences*, 126, 1091 – 1105.

38. G. Kumar, [Rajeev Gupta*](#) **2013**. Molecularly Designed Architectures – The Metalloligand Way, *Chemical Society Reviews*, 42, 9403 – 9453.

39. A. Pal, S. Srivastava, [Rajeev Gupta](#), S. Sapra **2013**. Electron transfer from CdSe/ZnS core shell quantum dots to Cobalt(III) complexes, *Physical Chemistry Chemical Physics*, 15, 15888 – 15895.

40. G. Kumar, H. Aggarwal, [Rajeev Gupta*](#) **2013**. Cobalt Complexes Appended with para- and meta-Arylcarboxylic Acids: Influence of Cation, Solvent, and Symmetry on Hydrogen-Bonded Assemblies, *Crystal Growth & Design*, 13, 74 – 90.

Patents:

1. Indian Patent Application No. 201611008186; Single step method for individual synthesis of ortho-, meta- and para-diphenylphosphinoanilines (March, 2016).

Books / Book Chapters:

1. Pramod Kumar, Sandeep Kaur, Rajeev Gupta and Kristin Bowman-James (2018) Pincers Based on Dicarboxamide and Dithiocarboxamide Functional Groups; Chapter – 14; Ed. David Morales-Morales; Elsevier. **e-Book ISBN: 9780128129326; Paperback ISBN: 9780128129319.**

2. Rajeev Gupta, A. P. Singh, A. Mishra (2012) Coordination Compounds as Building Blocks: Complexes & Networks (ISBN: 978-3-8433-5840-8); LAP LAMBERT Academic Publishing GmbH & Co. Saarbrücken, Germany.

Conference Organization/ Presentations (Last Five Years)

Participation as the Invited Speaker (Last Five Years): (A) Invited Talks:

1. Many facets of Coordination Chemistry: History and Journey to Future, Rajeev Gupta, Teachers' Training Workshop, Delhi Public School – Ghaziabad, May 21, 2018.
2. Coordination Polymers and Molecular Assemblies Decorated with Hydrogen Bonds, Rajeev Gupta, 255th ACS National Meeting, New Orleans, LA, United States, Abstracts of Papers, **INOR 1036**, American Chemical Society, March 18 – 22, 2018.
3. Coordination Polymers and Molecular Assemblies Decorated with Hydrogen Bonds, Rajeev Gupta, Symposium on "Modern Trends in Inorganic Chemistry" (**MTIC-XVII**); NCL – Pune & IISER – Pune, India, December 11 - 14, 2018.
4. Molecularly Designed Architectures: Design Aspects and Applications, Rajeev Gupta, Department of Chemistry, University of Hyderabad, October 31, 2017.
5. Designer Functional Materials: A Chemist's View, 21st International Conference of Indian Academy of Physical Sciences (CONIAPS – XXI), Guru Jambheshwar University of Science and Technology, Hisar, Haryana, October 28 – 30, 2017.
6. Coordination Chemistry: History and Journey to Future, Rajeev Gupta, Science Academies Lecture Workshop, Department of Chemistry, University of Kashmir, Srinagar, July 19 – 20, 2017.
7. Supramolecular Chemistry: Intriguing Examples, Rajeev Gupta, Science Academies Lecture Workshop, Department of Chemistry, University of Kashmir, Srinagar, July 19 – 20, 2017.
8. Designer Materials: A Chemist's View, Rajeev Gupta, 10th National Conference on 'Solid State Chemistry and Allied Areas (ISCAS – 2017), Delhi Technological University, July 1 – 3, 2017.
9. Molecularly Designed Architectures: Design Aspects and Applications, Rajeev Gupta, National Seminar on "Recent Advances in Chemistry 2017", Department of Chemistry, Jamia Millia Islamia University, March 28, 2017.
10. Metal Complexes with Secondary Coordination Sphere: Influence on Recognition and Activation of Substrates, Rajeev Gupta, National Conference on "Recent Advances in Chemical Sciences", Department of Chemistry, Aligarh Muslim University, March 25 – 26, 2017.
11. Molecularly Designed Architectures: Applications in Catalysis, Sensing, and Energy-Transfer, Rajeev Gupta, National Conference on "Latest Advancements in Physical Sciences and Life Sciences", Department of Chemistry, Meerut College, Meerut, March 18, 2017.
12. Designer Architectures: Design Aspects & Sustainable Catalysis, Rajeev Gupta, School of Chemistry & Biochemistry, Thapar University, Patiala, Punjab, February 21, 2017.
13. Green & Sustainable Catalysis via Designer Architectures, Rajeev Gupta, National Conference on "Clean & Green Energy: The Chemical & Environmental Aspects", Department of Chemistry, Bhaskaracharya College of

Applied Sciences, February 16 – 17, 2017.

14. Metal Complexes with Secondary Coordination Sphere: Recognition, Binding, and Activation of Substrates, Rajeev Gupta, *5th International Symposium on Advanced Biological Inorganic Chemistry*, The Stadel, Salt Lake Stadium, Kolkata, January 7 – 11, 2017 jointly organized by the TIFR – Mumbai and IACS – Kolkata.
15. Molecularly Designed Architectures: Selective Binding of Anions, Rajeev Gupta, *19th CRSI National Symposium in Chemistry*, Department of Chemistry, North Bengal University, Darjeeling, July 14 – 16, 2016.
16. Designer Architectures: Applications in Catalysis, Anion Recognition, and Energy-Transfer, Rajeev Gupta, *44th National Seminar on Crystallography*, Jointly Organized by NCCS, CSIR-NCL, IISER, SP Pune University, Department of Chemistry, IISER – Pune, July 10 – 13, 2016.
17. Molecularly Designed Architectures: Selective Binding of Cations and Anions, Rajeev Gupta, *42nd International Conference on Coordination Chemistry (ICCC)*, Brest, France, July 3 – 8, 2016.
18. Molecularly Designed Architectures, Rajeev Gupta, *Symposium on “Frontiers in Inorganics and Organometallics”*, Department of Chemistry, I.I.T. Indore, Simrol, Indore, April 14 – 15, 2016.
19. Molecularly Designed Supramolecular Architectures: A Chemist’s Journey, Rajeev Gupta, *2nd National Seminar on “Recent Advances in Chemical Sciences - Supramolecular Developments”*, Department of Chemistry, Khalsa College, Guru Nanak Dev University, Amritsar, April 2, 2016.
20. Molecularly Designed Architectures: Design Aspects, Recognition Studies and Catalysis, Rajeev Gupta, *Symposium on “Recent Advances in Chemical Sciences”*, Department of Chemistry, Aligarh Muslim University, March 29 – 30, 2016.
21. Metal Complexes with Substrate–Specific Cavities: Recognition and Binding of Biologically Relevant Substrates, Rajeev Gupta, *Departmental Seminar*; Department of Inorganic Chemistry, Indian Association for the Cultivation of Science – Kolkata, March 21, 2016.
22. Inaugural Lecture, *KHRUSOS – The Chemical Society*, Department of Chemistry, Kirori Mal College, University of Delhi, March 16, 2016.
23. Supramolecular Chemistry: Fundamentals and Intriguing Examples, Rajeev Gupta, *Science Academies’ Workshop on Modern Chemistry and Its Applications*, Department of Chemistry, Guru Nanak Dev University, Amritsar, March 3 – 5, 2016.
24. Molecularly Designed Architectures: Lessons Learnt from Supramolecular Chemistry, Rajeev Gupta, *Science Academies’ Workshop on Modern Chemistry and Its Applications*, Department of Chemistry, Guru Nanak Dev University, Amritsar, March 3 – 5, 2016.
25. Coordination Complexes with Substrate–Specific Cavities: Recognition and Binding of Biologically Relevant Substrates, Rajeev Gupta, *Emerging Trends in Chemical Sciences*, Department of Chemistry, Gauhati University, November 5 – 6, 2015.
26. Designed Architectures: Supramolecular Chemistry & Catalysis, *Indian National Conference On Development In Inorganic Applications*, Rajeev Gupta, Department of Chemistry, Periyar University, Salem, October 15 – 16, 2015.
27. Molecularly Designed Architectures: Supramolecular Chemistry & Catalysis, *5th International Science Conference*, Rajeev Gupta, PG MIR – Dr. Ram Manohar Lohia Hospital, New Delhi, October 10 – 12, 2015.
28. Designer Materials: Supramolecular Chemistry and Catalysis, Rajeev Gupta, *Departmental Seminar*; Department of Chemistry, Himachal Pradesh University, Summer Hills, Shimla, March 21, 2015.
29. Metal Complexes with Substrate–Specific Cavities: Recognition and Binding of Biologically Relevant Substrates, Rajeev Gupta, *Departmental Seminar*; Department of Chemistry, Himachal Pradesh University, Summer Hills, Shimla, March 21, 2015.
30. Molecularly Designed Architectures: Supramolecular Chemistry and Catalysis, Rajeev Gupta, *4th National Conference on “Recent Advances in Chemical & Environmental Sciences”*, Arya PG Science College, Panipat (Kurukshetra University), February 27 – 28, 2015.
31. Designed Architectures: Supramolecular Ensembles and Functional Materials, Rajeev Gupta, *National*

Conference on Sustainable Chemistry: Frontiers and Challenges, Brijlal Biyani Science College, Department of Chemistry, SGB Amravati University, Amravati, January 30 – 31, 2015.

32. Molecularly Designed Architectures, Rajeev Gupta, *Workshop on Emerging Advanced Materials and Applications*, National Physical Laboratory, CSIR, January 29th 2015.

33. Coordination Complexes with Substrate–Specific Cavities: Binding and Catalysis of Biologically Relevant Substrates, Rajeev Gupta, *51st Annual Convention of Chemists*, Indian Chemical Society, Department of Chemistry, Kurukshetra University, December 9 – 12, 2014.

34. Molecular Building Blocks: Designed Architectures and Functional Materials, Rajeev Gupta, *International Conference on Chemistry of Molecules and Materials (SCOMM-2014)*, Center for Research in Nanoscience and Nanotechnology, University of Calcutta, November 30 – December 2, 2014.

35. Hydroxide-Bridged Metal Complexes in Hydrogen Bond Surroundings: Substrate Binding and Catalysis, Rajeev Gupta, *41st International Conference on Coordination Chemistry (ICCC)*, Suntec Singapore Convention & Exhibition Center, Singapore, July 21 – 25, 2014.

36. signed Architectures: Supramolecular Ensembles and Functional Materials, Rajeev Gupta, National Conference on “*Advanced Scientific Development in Chemical Sciences – (ASDCS-14)*”, Department of Chemistry, Deenbandhu Chhotu Ram University of Science and Technology, Murthal (Sonapat), March 14, 2014.

37. Organic Transformations by Designed Inorganic Catalysts, Rajeev Gupta, *20th ISCB International Conference (ISCB-2014) on Chemistry and Medicinal Plants in Translational Medicine for Healthcare*, Department of Chemistry, University of Delhi, Delhi, India, March 1 – 4, 2014.

38. Hydroxide-bridged Metal Complexes in Hydrogen Bond Surroundings, *IVth National Symposium on “Advances in Chemical Sciences”*, Department of Chemistry, Guru Nanak Dev University, Amritsar, February 27 – 28, 2014.

39. Metallosupramolecular Chemistry: Designed Architectures and Functional Materials, Rajeev Gupta, “*Department Day of Department of Chemical Sciences*”, Indian Institute of Science Education and Research – Kolkata, December 11, 2013.

40. Supramolecular and Metallo-supramolecular Chemistry: Intriguing Examples, Rajeev Gupta, “*National Symposium on Chemistry and Environment*”, Deen Dayal Upadhyaya College, University of Delhi, Delhi, March 22 – 23, 2013.

41. Supramolecular Chemistry: Intriguing Examples, Rajeev Gupta, “*Chemistry Meet*”, St. Stephens College, University of Delhi, Delhi, February 15 – 16, 2013.

42. Playing with Coordination Complexes: Ordered Structures and Functional Materials, Rajeev Gupta, *15th Chemical Research Society of India (CRSI) National Symposium in Chemistry*, Banaras Hindu University, Varanasi, February 1 – 3, 2013.]

(B) Session Chairman:

1. Chaired the session ‘F. A. Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Prof. Andrew S. Borovik’ during the *255th ACS National Meeting*, New Orleans, LA, United States, American Chemical Society, March 18 – 22, 2018.

2. Chaired a session during the *21st International Conference of Indian Academy of Physical Sciences (CONIAPS – XXI)*, Guru Jambheshwar University of Science and Technology, Hisar, Haryana, October 28 – 30, 2017.

3. Chaired a session during the National Conference on “*Latest Advancements in Physical Sciences and Life Sciences*”, Department of Chemistry, Meerut College, Meerut, March 18, 2017.

4. Chaired a session during the Symposium on “*Recent Advances in Chemical Sciences*”, Department of Chemistry, Aligarh Muslim University, March 29 – 30, 2016.

5. Chaired a session during the Symposium on “*Modern Trends in Inorganic Chemistry*” (**MTIC-XVI**), Department of Chemistry, Jadavpur University, December 3 – 5, 2015.

6. Chaired a session during the 4th National Conference on “Recent Advances in Chemical & Environmental Sciences”, Arya PG Science College, Panipat (Kurukshetra University), February 27 – 28, 2015.
7. Chaired a session during the Symposium on “Modern Trends in Inorganic Chemistry” (**MTIC-XV**), Department of Chemistry, Indian Institute of Technology – Roorkee, December 13 – 16, 2013.
8. Chaired a session during the National Seminar on “Confluence of Supramolecular Chemistry and Nanoscience”, Department of Chemistry, Gujarat University, Ahmedabad, January 22 – 23, 2010.
9. Chaired a session during the Indo – German Seminar on “Supramolecular Chemistry” Department of Chemistry, University of Delhi, Delhi, India, March 3rd 2009.
10. Chaired a session during the Indo – Italian Seminar on “Green Chemistry and Natural Products” Department of Chemistry, University of Delhi, Delhi, India, December 5 – 6, 2008.
11. Chaired a session during the 1st DU – SDU Seminar on “Emerging Trends in Interfacial Areas of Chemical, Biological and Environmental Sciences” Department of Chemistry, University of Delhi, Delhi, India, March 17 – 18 2008.
12. Chaired a session during the 3rd Indo – Italian Workshop on “Chemistry and Biology of Antioxidants”, Department of Chemistry, University of Delhi, Delhi, India, November 28 – 30, 2007.

Research Projects (Major Grants/Research Collaboration)

- (1) Molecular Assemblies and Coordination Polymers Decorated with Hydrogen Bonds: Recognition, Binding, and Activation of Analytes/Substrates
Funded by the Science & Engineering Research Board (**SERB**)
Project Duration: December 2016 – December 2019
Reference: EMR/2016/000888
Budget: Rs. 49,35,040
- (2) Metal Complexes with Secondary Coordination Sphere: Recognition and Binding of Analytes and Activation of Substrates
Funded by the Council of Scientific & Industrial Research (**CSIR**)
Project Duration: June 2016 – May 2019
Reference: 01(2841)/16/EMR-II
Budget: Rs. 6,00,000
- (3) Coordination Complexes as the Building Blocks: Supramolecular Organization and Catalysis
Funded by the Department of Science & Technology (**SERB/DST**)
Project Duration: April 2012 – December 2015 (Completed)
Reference: SR/S1/IC-43/2011
Budget: Rs. 49,62,000
- (4) Studies on Coordination Complexes of Macrocyclic Ligands and their Open-Chain Analogues: Coordination and Bioinorganic Chemistry Perspectives
Funded by the Council of Scientific & Industrial Research (**CSIR**)
Project Duration: February 2012 – February 2015 (Completed)
Reference: 01(2515)/11/EMR-II
Budget: Rs. 23,92,000
- (5) Development of indicators for anthropogenic, environmental and chemical stress on urban ecosystem: A study of aquatic and terrestrial ecosystems of Yamuna river catchment from National Capital Region (Delhi)
Funded by the University of Delhi under the **DST-PURSE** Program
Project Duration: January 2010 – December 2012 (Completed)
Reference: DU-DST-PURSE
Budget: Rs. 2,00,00,000 (Joint project between Botany, Chemistry, Geology, Microbiology, Physics & Zoology)

(6) Development of Coordination Complexes as Building Blocks to Generate Novel Heterometallic Complexes
Funded by the Department of Science & Technology (DST)
Project Duration: September 2008 – August 2011 (Completed)
Reference: SR/S1/IC – 04/2008
Budget: Rs. 37,07,000

(7) Coordination and Oxidation Chemistry with Synthetically Designed Mono-functionalized Macrocyclic Ligands
FAST–TRACK Project for Young Scientists
Funded by the Department of Science & Technology (DST)
Project Duration: December 2004 – December 2007 (Completed)
Reference: SR/FTP/CS-27/2004
Budget: Rs. 11,50,000

(8) Synthesis and Characterization of Iron Complexes with Synthetically Designed Nitrogen Donor Ligands:
Emphasis to the Development of Biomimetic Oxidation Catalysts
Funded by the University Grant Commission (UGC)
Project Duration: May 2006 – April 2009 (Completed)
Reference: F.No.31-103/2005(SR)
Budget: Rs. 7,91,600

Awards and Distinctions

1. Bronze Medal for the year 2016 from the Chemical Research Society of India (CRSI) for Contribution to Research in Chemistry
2. Co-opted Member, Young Scientist Expert Committee, Chemical Sciences, Science and Engineering Research Board (SERB), Govt. of India (2015 – 2018)
3. Member – Expert Committee, INSPIRE Fellowship Program, Department of Science & Technology (DST)
4. Member – Editorial Board, *Journal of Chemical Sciences*, Published by the Indian Academy of Sciences, Bangalore & Springer (2017 – 2020)
5. Membership Award from the American Chemical Society (ACS) in Recognition of Engagement with ACS's Mission of Service to the Global Community of Chemists (2015 – 2018)
6. Science Flame Award (2015) from the World Science Congress
7. Indo – US Research Fellowship awarded by the Department of Science & Technology (DST) and Indo – US Science & Technology Forum (2009)
8. Young Scientist Project (2004) from the Department of Science & Technology (DST)
9. CSIR – JRF from the Council of Scientific & Industrial Research (1994)
10. Leelavati N. Modi Scholarship in B.Sc., Christ Church College, Kanpur University, Kanpur (1992)

Association With Professional Bodies

Memberships:

- (1) Life Member of Chemical Research Society of India (CRSI)
- (2) Member of American Chemical Society (ACS) from 2000 – 2003
- (3) Member of American Chemical Society (ACS) from 2015 – 2018 (awarded by the American Chemical Society)
- (4) e-Member of Royal Society of Chemistry (RSC)

Other Activities: None