

Partha Sarathi Mukherjee

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Present position: Professor, Inorganic & Physical Chemistry Dept., Indian Institute of Science, Bangalore

Research fields: Supramolecular materials, Organic nanomaterials, Molecular sensors, Catalysis in nanocages.

Summary:

- 19 years inorganic chemistry research in academia
- 14 years teaching experience in chemistry at honours/PG level
- Co-author of 154 publications in peer-reviewed journals

Educational Qualifications:

- * **09/1998–01/2002** Doctor of Philosophy (Chemistry), Indian Association for the Cultivation of Science, Kolkata, India. *Thesis title:* “*Synthesis, crystal structure and low temperature magnetic behaviour of Cu(II) polynuclear complexes of amines and their derivatives using different bridging ligands*”. Supervisor: **Prof. Nirmalendu Ray Chaudhuri**
- * **1996-1998** Master of Science with specialization in **Inorganic Chemistry** (class 1), Jadavpur University, Kolkata, India.
- * **1992-1995** Bachelor of Science (Honours in Chemistry, class 1), The University of Burdwan, India.

Awards and Fellowships:

- *2016 Selected for *Shanti Swarup Bhatnagar* Prize in Chemical Sciences for the year 2016
- *2016 Editorial Advisory Board Member of “*Inorganic Chemistry Frontiers*”, a journal published by the Royal Society of Chemistry (U. K.)
- *2016 Associate Editor, *Inorganic Chemistry* (ACS-Journal) with effect from July, 2016
- *2015 Member of Editorial Advisory Board of “*Inorganic Chemistry*” (a journal published by the American Chemical Society)
- *2016 Chemical Research Society of India Bronze Medal
- *2014 Fellow, Royal Society of Chemistry (FRSC)
- *2014 Member of the Editorial board of *Scientific Reports*, a journal of the Nature publishing group
- *2014 JSPS visiting scientist, University of Kyoto (October-November, 2014)
- *2014 AvH visiting scientist at the University of Heidelberg (May-July 2014)
- *2012 Swarnajayanti Fellowship in Chemical Sciences from the Govt. of India
- *2012 NASI-SCOPUS Young Scientist Award-2011 in Chemistry
- *2011 Young Affiliate Fellowship of the World Academy of Science (TWAS), Trieste
- *2010 Visiting Professorship from Ulsan University, Korea for two months
- *2009 IUPAC Young Scientist award
- *2008 Microsoft Research (MSR) India Outstanding Young Faculty Award
- * 2008 Indian National Science Academy Medal for the Young Scientists
- * 2007 Young Associate of the Indian Academy of Sciences, Bangalore

- * **2004** Alexander von Humboldt Fellowship, Bonn, Germany.
- * **2004** Marie-Curie International Fellowship (selected).
- * **1997** National Merit Scholarship for the performance at undergraduate level.

Poster awards by group members:

- 1) A poster on “functional discrete supramolecules” by S. Shanmugamraju and P. S. Mukherjee was selected for poster award in 13th CRSI annual meeting held in Bhuvanewar, Feb 2011.
- 2) A poster by A. K. Bar and P. S. Mukherjee on “Self-sorting in coordination self-assembly” was selected for poster award in an international conference “Frontiers in inorganic chemistry” held in Kolkata, Dec 2010.
- 3) A poster by A. K. Bar and P. S. Mukherjee on “Porphyrin functionalized molecular barrels” was selected for best poster award in the annual meeting of CRSI, India, in Feb 2009.
- 4) A poster by K. C. Mondal and P. S. Mukherjee on “Mn₉ single molecule magnets” was selected for best poster award in “Modern Trends in Inorganic Chemistry conference” held in Dec 2007 at IIT-Chennai.
- 5) A poster on “Covalent marriage of two interlocked molecular cages and their easy separation” was selected for best prize in an international conference on Molecules and materials held in Calcutta, December 2014.

Work Experience:

- * **3/2016-present:** Professor, Inorganic &Physical Chemistry Dept., Indian Institute of Science, Bangalore-560012.
- ***3/2010-2/2016:** Associate Professor, Inorganic &Physical Chemistry Dept., Indian Institute of Science, Bangalore-560012.
- * **7/2005-2/2010:** Assistant Professor, Inorganic &Physical Chemistry Dept., Indian Institute of Science, Bangalore-560012.

- * **2004-2005:** **Alexander von Humboldt Fellow** at the Institute of Inorganic Chemistry, University of Goettingen, Germany. (**Host: Prof. Herbert W. Roesky**). Main group chemistry.
- * **2003-/2004:** Post-doctoral Fellow, Department of Chemistry, University of Utah, USA. Supervisor: **Prof. Peter J. Stang**. Supramolecular chemistry and crystal engineering.
- * **09/1998-12/2002:** Research student, Department of Inorganic Chemistry, Indian Association for the Cultivation of Science, Kolkata, India (Supervisor: **Prof. N. Ray Chaudhuri**).

Teaching: Taught Inorganic Chemistry-1 during 2005-08 and Inorganic Chemistry Lab course during 2009-12 for Int. PhD students. Teaching inorganic chemistry for 4-yr BS (UG) students since 2013.

Students mentored: Eleven students have completed Ph.D. thesis and nine students are working currently for Ph.D. Mentored 12 postdocs. Four students have received MS degree from IISc working with me. Supervised seven external M.Sc. students and a M.Phil student for their M.Sc and M.Phil theses, respectively. Nine Ph.D. students and five postdoctoral fellows are working under my direct guidance. Supervised 40 short-term students/teachers in last few years.

Complete list of publications

(120 Papers from the top are from Indian Institute of Science, Bangalore)

Citation Data: Total Citations: 7,079; Average Citations per paper: 47.83;
Average Citations per Year: 416.43

h-index: 49

(Publications from IISc.: Total number = 120, *h-index* = 38, Citations: 5084)

Summary of publications:

- A) American Chemical Society's journals: Total publications: 53 (IC-29, JOC-5, JACS-8, Orgmet-7, Chem. Rev. 1, Acc. Chem. Res. 1, Cryst Growth & Des. 2)
- B) Royal Society's journals: Total publications: 50 (Chem. Sci. 1, ChemComm: 17, Dalton Trans: 24, NJC: 3, J. Mater. Chem: 1, RSC Adv.: 2, Cryst Engg Com. 1, OBC: 1)
- C) Elsevier's journals: Total Publications: 18 (ICActa: 10, IC Comm: 3, Tet. Lett: 1, Polyhedron: 3, J. Orgmet. Chem: 1)
- D) Willey's journals: Total Publications: 24 (Angew Chem: 2, Chem. Eur. J: 18, Eur J IC: 3, ChemPlusChem: 1)
- E) Indian Journals: Total Publications: 05 (Ind. J. Chem: 03, J. Chem. Sci. 1, PNAS India: 1)
- F) Other journals: Total publications: 04

154. Catalytic intramolecular cycloaddition reaction using a discrete molecular architecture
B. Roy, A. Devraj, R. Saha, S. Jharimune, K. W. Chi, **P. S. Mukherjee**
Chem. Eur. J. **2017**, *23*, under revision
153. Reversible Multistimuli Switching of a Spiropyran Functionalized Organic Cage in Solid and Solution
B. Mondal, A. K. Ghosh, **P. S. Mukherjee**
J. Org. Chem. **2017**, *82*, 10.1021/acs.joc.7b00722
152. A Self-assembled trigonal molecular prismatic molecular vessel for catalytic dehydration reactions
P. Das, A. Kumar, P. Howlader, P. S. Mukherjee
Chem. Eur. J. **2017**, *23*, DOI: 10.1002/chem.201702263.
151. Stepwise construction of self-assembled heterometallic cages showing high proton conductivity
R. Saha, D. Samanta, A. J. Bhattacharyya, **P. S. Mukherjee**

Chem. Eur. J. **2017**, *23*, 8980.

150. Water-soluble Pd₈L₄ self-assembled molecular barrel as an aqueous carrier for hydrophobic curcumin
I. A. Bhat, R. Jain, M. Siddiqui, D. K. Saini, **P. S. Mukherjee**
Inorg. Chem. **2017**, *56*, 5352.
149. Building block dependent morphology modulation of cage nanoparticles and detection of nitroaromatics
K. Acharyya, A. Chowdhury, B. Mondal, S. Chakraborty, **P. S. Mukherjee**
Chem. Eur. J. **2017**, *23*, 8482.
148. Versatility of diimidazole building blocks in coordination self-assembly
B. Roy, R. Saha, A. K. Ghosh, Y. Patil, **P. S. Mukherjee**
Inorg. Chem. **2017**, *56*, 3579.
147. Carboxylatopillar[n]arenes: A versatile class of water soluble synthetic receptors
S. Dasgupta and P. S. Mukherjee
Org. Biomol. Chem. **2017**, *15*, 762.
146. Self-assembly of discrete Ru₈ molecular cages and their in-vitro anticancer study
A. A. Ademeyo, A. Shettar, I. A. Bhat, P. Kondaiah, **P. S. Mukherjee**
Inorg. Chem. **2017**, *56*, 608.
145. Vinylanthracene based compounds as electron rich sensors for explosives recognition
A. Chowdhury and **P. S. Mukherjee**
ChemPlusChem, **2016**, *82*, 1360.
144. Face and edge directed self-assembly Pd₁₂ tetrahedral nanocages and their self-sorting
P. Howlader and P. S. Mukherjee
Chem. Sci. **2016**, *7*, 5893.
143. Aggregation induced emission of Pt(II) metallacycles and their nitroaromatics detection
A. Chowdhury, P. Howlader, **P. S. Mukherjee**
Chem. Eur. J. **2016**, *22*, 7486 (HOT PAPER).
142. Self-assembly of a redox active water soluble Pd₆ “Molecular Dice”
B. Roy, E. Zangrando, **P. S. Mukherjee**
Chem. Commun. **2016**, *52*, 4489.

141. High loading of Pd nanoparticles by interior functionalization of molecular pockets for heterogeneous
B. Gole, U. Sanyal, R. Banerjee, **P. S. Mukherjee**
Inorg. Chem. **2016**, *55*, 2345.
140. Urea functionalized self-assembled molecular prism for heterogeneous catalysis in water
P. Howlader, P. Das, E. Zangrando, **P. S. Mukherjee**
J. Am. Chem. Soc. **2016**, *138*, 1668.
139. Covalent Post-Assembly Modification and Water-Adsorption of Pd₃ Self-Assembled Trinuclear Barrels
D. Samanta, A. Chowdhury, **P. S. Mukherjee**
Inorg. Chem. **2016**, *55*, 1562.
138. Molecular cage impregnated Pd nanoparticles: Efficient additive-free heterogeneous catalysts for cyanation of aryl halides
B. Mondal, K. Acharyya, P. Howlader, **P. S. Mukherjee**
J. Am. Chem. Soc. **2016**, *138*, 1709.
137. Crystallization induced emission enhancement of mechano-fluorochromic Pt(II) luminogen and its application for cysteine detection
A. Chowdhury, P. Howlader, **P. S. Mukherjee**
Chem. Eur. J. **2016**, *22*, 1424 (HOT PAPER).
136. Conformation-selective coordination-driven self-assembly of a ditopic donor with Pd^{II} acceptors
P. Howlader, S. Mukherjee, R. Saha, **P. S. Mukherjee**
Dalton Trans. **2015**, 20493.
135. Template-free coordination-driven self-assembly of discrete hexanuclear prismatic cages employing half-sandwich octahedral Ru^{II}₂ acceptors and triimidazole donors
A. Adeyemo, S. Shanmugaraju, D. Samanta, **P. S. Mukherjee**
Inorg. Chim. Acta. **2016**, *440*, 62.
134. π -electron rich small molecule sensors for the recognition of nitroaromatics
S. Shanmugaraju and P. S. Mukherjee
Chem. Commun. **2015**, 51, 16014.
133. Binding of carboxylatopillar[5]arene with alkyl and aryl ammonium salts in aqueous medium
S. Dasgupta, A. Chowdhury and P. S. Mukherjee
RSC Adv., **2015**, 85791.

132. Self-assembly of Metallamacrocycles Employing a New Benzil Based Organometallic Bisplatinum (II) Acceptor
B. Roy, S. Shanmugaraju, R. Saha and **P. S. Mukherjee**
CHIMIA, **2015**, 69, 541. (Invited article for a special issue on self-assembly)
131. A Pd₈ Tetrafacial Molecular Barrel as Carrier for Water Insoluble Fluorophore
B. Roy, A. K. Ghosh, S. Srivastava, P. D'Silva and **P. S. Mukherjee**
J. Am. Chem. Soc. **2015**, 137, 11916.
130. A Pd₂₄ Pregnant Molecular Nanoball: Self-Templated Stellation by Precise Mapping of Coordination Sites
I. Bhat, D. Samanta and **P. S. Mukherjee**
J. Am. Chem. Soc. **2015**, 137, 9497.
129. Electron rich triphenylamine based sensors for picric acid detection
A. Chowdhury and **P. S. Mukherjee**
J. Org. Chem. **2015**, 80, 4064.
128. Post-synthetic exterior decoration of an organic cage by copper(I) catalysed A³-coupling and detection of nitroaromatics
K. Acharyya and **P. S. Mukherjee**
Chem. Eur. J. **2015**, 21, 6823.
127. A smart approach to achieve exceptionally high loading of metal nanoparticles supported by functionalized extended frameworks for efficient catalysis
B. Gole, U. Sanyal and **P. S. Mukherjee**
Chem. Commun. **2015**, 51, 4872.
126. Shape and size directed self-selection in organic cage formation
K. Acharyya and **P. S. Mukherjee**
Chem. Commun. **2015**, 51, 4241.
125. Self-assembling discrete molecules for sensing nitroaromatics
S. Shanmugaraju and **P. S. Mukherjee**
Chem. Eur. J. **2015**, 21, 6656.
124. Sunlight induced molecular covalent marriage of two triply interlocked Pd₆ cages and their facile thermal separation
D. Samanta and **P. S. Mukherjee**
J. Am. Chem. Soc. **2014**, 136, 17006.
123. A fluorescent organic cage for picric acid detection
K. Acharyya and **P. S. Mukherjee**
Chem. Commun. **2014**, 50, 15788.

122. Cu^{II}-Azide polynuclear complexes of three different building clusters with the same Schiff-base co-ligand: magnetic behavior and DFT studies
S. Mukherjee and **P. S. Mukherjee**
Cryst. Growth & Des. **2014**, *14*, 4177.
121. Multicomponent assembly of fluorescent tag functionalized ligands in coordination frameworks for explosive sensing
B. Gole, A. K. Bar and **P. S. Mukherjee**
Chem. Eur. J. **2014**, *20*, 13321.
120. Component selection in self-assembly of Pd(II) nanocages and cage-to-cage transformation
D. Samanta and **P. S. Mukherjee**
Chem. Eur. J. **2014**, *20*, 12483.
119. Explosive sensing using electron rich supramolecular polymers: Role of intermolecular H-bonding in significant enhancement of sensitivity
B. Gole, W. Song, M. Lackinger and **P. S. Mukherjee**
Chem. Eur. J. **2014**, *20*, 13662.
118. Self-assembly of chloro-bridged arene-ruthenium based rectangle: Synthesis, structural characterization and Sensing study
S. Shanmugaraju, H. Jadhav and **P. S. Mukherjee**
Proc. Ind. Nat. Sc. Acad. **2014**, *84*, 197 (invited article)
117. Tuning nuclearity of clusters by positional change of functional group: Synthesis of polynuclear clusters, crystal structures and magnetic properties
B. Gole, K. C. Mondal, and **P. S. Mukherjee**
Inorg. Chim. Acta. **2014**, *415*, 151.
116. Self-assembled multicomponent Pd₆ aggregates showing low-humidity proton conduction
D. Samanta and **P. S. Mukherjee**
Chem. Commun. **2014**, *50*, 1595.
115. Template free multicomponent self-assembly of Pd/Pt molecular cages
S. Mukherjee and **P. S. Mukherjee**
Chem. Commun. **2014**, *50*, 2239.
114. Structural diversity in multinuclear Pd(II)-assemblies: Potential materials for low-humidity proton conduction
D. Samanta and **P. S. Mukherjee**
Chem. Eur. J. **2014**, *20*, 5649.

113. Modification of Extended Open Frameworks with Fluorescent Tags for Sensing Explosives: Competition Between Size Selectivity and Electron Deficiency
B. Gole, A. K. Bar and **P. S. Mukherjee**
Chem. Eur. J. **2014**, *20*, 2276.
112. H-bond driven controlled molecular marriage in covalent cages
K. Acharyya and **P. S. Mukherjee**
Chem. Eur. J. **2014**, *20*, 1646.
111. Self-assembly of discrete metallamacrocycles employing half sandwich octahedral diruthenium building units and imidazole based ligands
D. Samanta, S. Shanmugaraju, A. Adeyemo, and **P. S. Mukherjee**
J. Orgmet. Chem. **2014**, 703. (Invited article for a special issue)
110. A Series of 3d Metal Complexes with Isomeric Phenylenediacetates and 1,3,5-tris(1-imidazolyl)benzene ligand: Synthesis, Structures, Magnetic and Luminescence Properties
S. Mukherjee, D. Samanta and **P. S. Mukherjee**
Cryst. Growth & Des. **2013**, 5335.
109. Pt^{II}₆ Nanoscopic molecular cages with organometallic backbone as sensors for picric acid
D. Samanta and **P. S. Mukherjee**
Dalton Trans. **2013**, *42*, 16784.
108. Role of dicarboxylate linkers in Mn(III)-salicylaldoximate based extended molecular magnets
S. Mukherjee and **P. S. Mukherjee**
Chem. Eur. J. **2013**, *19*, 17064.
107. Sr²⁺ and Cd²⁺ Coordination polymers: Effect of different coordinating behaviour of a newly designed tricarboxylic acid
B. Roy, S. Mukherjee and **P. S. Mukherjee**
Cryst. Engg. Comm. **2013**, 9596. (Invited article)
106. Naphthalene carbohydrazone based dizinc(II) chemosensor for pyrophosphate ion and its DNA assessment application in PCR products
S. Anbu, S. Kamalraj, C. Jayabhaskaran and **P. S. Mukherjee**
Inorg. Chem. **2013**, *52*, 8294.
105. Solvent-Templated Supramolecular Isomerism in 2D Coordination Polymer Constructed by Ni^{II}₂Co^{II} Node and Dicyanamido Spacer: Drastic Change in Magnetic Behaviors
S. Ghosh, S. Mukherjee, P. Seth, A. Ghosh and **P. S. Mukherjee**
Dalton Trans. **2013**, *42*, 13554.

104. Electron rich porous extended framework as heterogeneous catalyst for Diels-Alder reaction
B. Gole, A. K. Bar, A. Mallick, R. Banerjee and **P. S. Mukherjee**
Chem. Commun. **2013**, 49, 7439.
103. Versatility of azide in serendipitous assembly of Cu(II) magnetic polyclusters
S. Mukherjee and **P. S. Mukherjee**
Acc. Chem. Res. **2013**, 46, 2556.
102. Electron rich supramolecular polymers as fluorescent sensors for nitroaromatics
S. Shanmugaraju, H. Jadhav, R. Karthik, and **P. S. Mukherjee**
RSC. Advances, **2013**, 3, 4940.
101. Fluorescent tris-imidazolium sensors for picric acid explosives
B. Roy, A. K. Bar, B. Gole and **P. S. Mukherjee**
J. Org. Chem. **2013**, 78, 1306.
100. Molecular marriage through partner preferences in covalent cage formation and cage-to-cage transformation
K. Acharyya, S. Mukherjee and **P. S. Mukherjee**
J. Am. Chem. Soc. **2013**, 135, 554.
99. Multicomponent self-sorting of a Pd₇ boat and its use in catalytic Knoevenagel condensation
D. Samanta and **P. S. Mukherjee**
Chem. Commun. **2013**, 4307.
(Invited contribution for the special “Emerging investigators’ issue 2013”)
98. Cu(II)-Azide polynuclear complexes of Cu₄ building clusters with Schiff base co-ligands: synthesis, structures, magnetic and DFT studies
S. Mukherjee and **P. S. Mukherjee**
Dalton Trans. **2013**, 42, 4019.
97. Coordination assembly of Pt₄ macrocycles with organometallic backbone for sensing of acyclic dicarboxylic acids
S. Shanmugaraju, Arun K. Bar, D. Moon, **P. S. Mukherjee**
Dalton Trans., **2013**, 2998.
96. Self-assembly of an octanuclear Pt(II) tetragonal prism from a new Pt₄ organometallic building unit and its nitroaromatic explosives sensing
S. Shanmugaraju, H. Jadhav, Y. Patil, **P. S. Mukherjee**
Inorg. Chem. **2012**, 51, 13072.

95. Naphthylhydrazone based selective and sensitive chemosensors for Cu(II)
S. Anbu, S. Shanmugaraju, R. Ravishankaran, A. Karanda, **P. S. Mukherjee**
Dalton Trans. **2012**, 41, 13330.
94. A phenanthrene based highly selective fluorogenic and visual sensor for Cu(II)
with nanomolar detection limit
S. Anbu, S. Shanmugaraju, R. Ravishankaran, A. Karanda, **P. S. Mukherjee**
Inorg. Chem. Comm. **2012**, 25, 26.
93. Self-assembled Pd₆ cage with triimidazole walls and use of its confined
nanospace for catalytic Knoevenagel and Diels-Alder reactions in aqueous
medium
D. Samanta, S. Mukherjee, Y. Patil, **P. S. Mukherjee**
Chem. Eur. J. **2012**, 18, 12322.
92. A series of Pd₆ trifacial molecular barrels with porphyrin walls
A. K. Bar, S. Mohapatra, **P. S. Mukherjee**
Chem. Eur. J. **2012**, 18, 9571.
91. Novel heterometallic chains featuring Mn(III) and Na(I) ions in trigonal
prismatic geometries alternately linked to Mn(IV) octahedral ions: Synthesis,
structures and detail magnetic study
S. Mukherjee, Y. Patil, **P. S. Mukherjee**
Inorg. Chem. **2012**, 51, 4888.
90. Coordination driven self-assembly of 2D metallacycles from a new carbazole
based 90° dipyriddy donor: Synthesis, characterization, and C₆₀ binding
S. Shanmugaraju, V. Vajpayee, K. Chi, P. J. Stang, **P. S. Mukherjee**
Inorg. Chem. **2012**, 51, 4817.
89. Self-assembly of Ru₄ and Ru₈ assemblies using Ru₂ organometallic precursors:
Synthesis, characterization and properties
S. Shanmugaraju, D. amanta, **P. S. Mukherjee**
Beilstein J. Org. Chem. **2012**, 8, 313.
88. Pillar height dependent unprecedented Pd₈ molecular swing and Pd₆ molecular
boat via multicomponent and C₆₀ binding
D. Samanta, S. Shanmugaraju, Y. Patil, M. Nethaji, **P. S. Mukherjee**
Chem. Commun. **2012**, 48, 2298.
87. Cu-Azido polymers with various molar equivalents of blocking amines:
Synthesis, structures and magnetic properties with DFT
S. Mukherjee, Y. P. Patil, **P. S. Mukherjee**
Dalton Trans. **2012**, 54.

86. Three-component self-assembly of a series of interlocked Pd₁₂ prisms and their non-interlocked analogues
Arun K. Bar, S. Raghothama, D. Moon and **P. S. Mukherjee**
Chem. Eur. J. **2012**, *18*, 3199.
85. Metal-organic framework for sensing of nitroaromatics
B. Gole, A. K. Bar, **P. S. Mukherjee**
Chem. Commun. **2011**, *47*, 12137.
84. Two new chains of Ni₂Na₂ heterometallic double half-cubane building units: synthesis, structures and magnetic behavior
K. C. Mondal, B. Gole, Y. Song, D. Turner, **P. S. Mukherjee**
J. Chem. Sci. **2011**, 807.
83. Self-assembly using a new new dinuclear organometallic acceptor: synthesis, characterization and sensing study
S. Shanmugamraju, S. A. Joshi, **P. S. Mukherjee**
Inorg. Chem. **2011**, *50*, 11736.
82. Coordination-driven self-assembly of 2D-metallamacrocycles using a shape-selective Pt^{II}₂-organometallic 90° acceptor: design, synthesis and nitroaromatic sensing
S. Shanmugamraju, S. A. Joshi, D. Samanta and **P. S. Mukherjee**
Dalton Trans. **2011**, *40*, 12333.
(Invited Article for a special issue on Molecular Self-Assembly)
81. Supramolecular coordination: Self-assembly of finite 2D and 3D ensembles
R. Chakrabarty, **P. S. Mukherjee**, P. J. Stang
Chem. Rev. **2011**, *111*, 6810.
80. Supramolecular polymer for explosives sensing: role of H-bonding in enhancement of sensitivity in solid state
B. Gole, S. Shanmugaraju, A. K. Bar and **P. S. Mukherjee**
Chem. Commun. **2011**, *47*, 10046.
79. Fluorescence and visual sensing of nitroaromatic explosives using electron rich discrete fluorophores
S. Shanmugamraju, S. A. Joshi and **P. S. Mukherjee**
J. Mater. Chem. **2011**, 9130.
78. Synthesis, structures and magnetic behavior of a series of Cu^{II}-azide polymers of Cu₄ building clusters and isolation of a new hemiaminal ether as metal complex
S. Mukherjee, B. Gole, Y. Song and **P. S. Mukherjee**
Inorg. Chem. **2011**, *50*, 3621.

77. Self-assembly of molecular squares using metal based acceptor: synthesis and application in sensing of nitroaromatics
V. Vajpayee, H. Kim, A. Mishra, **P. S. Mukherjee**, P. J. Stang, M. H. Lee, K. W. Chi
Dalton Trans. **2011**, *40*, 3112.
76. Coordination driven self-assembly of metallamacrocycles using ambidentate linkers and self-selection of single linkage isomer
A. K. Bar, R. Chakrabarty and **P. S. Mukherjee**
Inorg. Chim. Acta. **2011**, *372*, 313. (Invited article for a special issue).
75. Constructions of 2D-Metallamacrocycles Using Half-Sandwich Ru^{II} Precursors: Synthesis, Molecular Structures and Self-Selection for a Single Linkage Isomer
S. Shanmugamraju, A. K. Bar, S. Joshi, J. Patil and **P. S. Mukherjee**
Organometallics, **2011**, *30*, 1951.
74. Self-assembly of Pd(II) neutral and cationic rectangles: syntheses, characterizations and nitroaromatics sensing
A. K. Bar, S. Shanmugamraju, K. Chi and **P. S. Mukherjee**
Dalton Trans. **2011**, *40*, 2257. (Invited article for a themed issue: **New Talent from Asia**).
73. Coordination driven self-assembly of M₃L₂ trigonal cages from preorganized metalloligands containing octahedral metal centers and fluorescent detection of nitroaromatics
W. Ming, V. Vajpayee, S. Shanmugamraju, **P. S. Mukherjee**, K. Chi, and P. J. Stang
Inorg. Chem. **2011**, *50*, 1506.
72. Ru-O bond directed self-assembly of a Ru₈ incomplete prism: Synthesis, structure and shape selective molecular recognition study
S. Shanmugamraju, A. K. Bar and **P. S. Mukherjee**
Inorg. Chem. **2010**, *49*, 10235.
71. A series of Cu-azido polymers of Cu₆ building units and the role of chelating diamine in controlling their dimensionality: Synthesis, structures and magnetic behavior
S. Mukherjee and **P. S. Mukherjee**
Inorg. Chem. **2010**, *49*, 10658.
70. Synthesis, crystal structures and magnetic behavior of two 3D coordination polymers using *N*-(4/3-carboxyphenyl)iminodiacetic acids as bridging ligands
O. Sengupta, B. Gole and **P. S. Mukherjee**
Polyhedron, **2010**, *29*, 2945.

69. A Pd₆ Molecular cage via multicomponent self-assembly incorporating both neutral and anionic linkers
A. K. Bar, G. Mostafa, and **P. S. Mukherjee**
Inorg. Chem. **2010**, *49*, 7647.
68. Tetrazole bridged multiferroic coordination polymers: Synthesis, structures and magnetic behavior
O. Sengupta, and **P. S. Mukherjee**
Inorg. Chem. **2010**, *49*, 8583.
67. Coordination driven self-assembly of metallamacrocycles via a new organometallic building block with 90° geometry and optical sensing of anions
S. Shanmugamraju, A. K. Bar, K-W. Chi and **P. S. Mukherjee**
Organometallics, **2010**, *29*, 2971.
66. Use of 2-pyrimidineamidooxime to generate polynuclear homo-/heteronuclear assemblies: synthesis, structure and magnetism
B. Gole, S. Mukherjee, Y. Song, and **P. S. Mukherjee**
Dalton Trans. **2010**, 9766.
65. A series of transition metal-azido extended complexes with various anionic and neutral co-ligands
O. Sengupta, B. Gole and **P. S. Mukherjee**
Dalton Trans. **2010**, 7451.
64. Synthesis, crystal structures and magnetic behavior of two 3D coordination polymers using N-(4/3-carboxyphenyl)iminodiacetic acids as bridging ligands
O. Sengupta, B. Gole, and **P. S. Mukherjee**
Inorg. Chim. Acta, **2010**, 3093.
63. Cu(II)-azido polymers of Cu₃ and Cu₆ building units: synthesis, structures and magnetic exchange mechanism
S. Mukherjee, B. Gole, R. Chakrabarty, and **P. S. Mukherjee**
Inorg. Chem. **2009**, *48*, 11325.
62. Co(II) and Cr(III) complexes of formate-formamide mixed ligands: synthesis, structures, single crystal-to-single crystal transformation and magnetic behaviour
O. Sengupta, Y. Song, and **P. S. Mukherjee**
Dalton Trans. **2009**, 10343.
61. Self-assembly of a Pd₆ Molecular Double-Square and a Cu₃-TBP cage via a New Tripodal Flexible Ligand
A. K. Bar, R. Chakrabarty, and **P. S. Mukherjee**
Inorg. Chem. **2009**, *48*, 10880.

60. Three-component assembly of a metal-inorganic 3D coordination polymer of Co(II) containing bridging hydrazine: observation of spin-canting behavior
O. Sengupta and **P. S. Mukherjee**
Dalton Trans. **2009**, 7599.
59. Design and synthesis of fluorescent molecular prism via Pt₃ organometallic acceptors and a Pt₂ clip
S. Ghosh, B. Gole, A. K. Bar, and **P. S. Mukherjee**
Organometallics, **2009**, 28, 4288.
58. Self-assembly of a Pd(II) neutral molecular rectangle via a new organometallic Pd₂ molecular clip
A. K. Bar, B. Gole, S. Ghosh, and **P. S. Mukherjee**
Dalton Trans. **2009**, 6701.
57. A rare homoacetylate bridged Cu₄ half-cubane antiferromagnetic cluster
K. C. Mondal, O. Sengupta, and **P. S. Mukherjee**
Inorg. Chem. Comm. **2009**, 12, 682.
56. Synthesis and characterization of heterometallic molecular triangles using ambidentate linker: Self-selection of a single linkage isomer
A. K. Bar, R. Chakrabarty, K-W. Chi, S. R. Batten and **P. S. Mukherjee**
Dalton Trans. **2009**, 3222.
55. Self-Assembled Pd(II) Metallocycles Using an Ambidentate Donor and the Study of Square-Triangle Equilibria
S. Ghosh and **P. S. Mukherjee**
Inorg. Chem. **2009**, 48, 2605.
54. Design, Synthesis and Characterizations of a Series of Pt₄ Macrocycles and Fluorescent Sensing of Cu²⁺/Ni²⁺ Through Metal Coordination
S. Ghosh, R. Chakrabarty, and **P. S. Mukherjee**
Inorg. Chem. **2009**, 48, 549.
53. Self-assembly of a nanoscopic Fe₁₂Pt₁₂ open hexagonal barrel containing six porphyrin walls
A. K. Bar, R. Chakrabarty, G. Mostafa and **P. S. Mukherjee**
Angew. Chem. Int. Ed. **2008**, 47, 8455. (This work was featured in a daily newspaper *The Telegraph* and was highlighted in a Nature publishing group journal "Asia Materials" by the Editor of Nature Chemistry)
52. 3d-4f heterometallic hybrid 3D polymers: synthesis, structure and magnetism
K. C. Mondal, O. Sengupta, P. Dutta, S. K. Nayak and **P. S. Mukherjee**
Inorg. Chim. Acta. **2009**, 392, 1913.
51. Unusual hydrogenation of fumarate anion followed by metal-carbon bond formation: Synthesis and characterizations of two metallochelates
A. K. Bar, R. Chakrabarty, and **P. S. Mukherjee**
Organometallics, **2008**, 27, 3806.

50. Three new Cu-azido polymers and their systematic inter conversion: Role of the amount of the blocking amine on the structural diversity and magnetic behavior
K. C. Mondal and **P. S. Mukherjee**
Inorg. Chem. **2008**, *47*, 4215.
49. Self-assembly of a trigonal trism via a new organometallic Pt₃ linker and its fluorescent detection of nitroaromatics
S. Ghosh and **P. S. Mukherjee**
Organometallics, **2008**, *27*, 316. [(a) This work was highlighted in a daily newspaper *The Telegraph* on 20th Oct. 2008; (b) This paper was selected as one of the most accessed articles in the first quarter of 2008]
48. Assembling metals with pyridylcarboxylates to for polynuclear extended materials
K. C. Mondal, O. Sengupta, M. Nethaji, and **P. S. Mukherjee**
Dalton Trans. **2008**, 767.
47. Self-assembly of four new Pd(II) molecular boats using imidazole donor linker
S. Ghosh, R. Chakrabarty, and **P. S. Mukherjee**
Dalton Trans. **2008**, 1850.
46. Self-assembly of a series of metallamacrocycles via a rigid phosphorus donor linker
S. Ghosh and **P. S. Mukherjee**
Organometallics, **2007**, *26*, 3362.
45. Self-assembly of a nanoscopic Pt(II) double square
S. Ghosh, S. R. Batten and **P. S. Mukherjee**
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44. A Mn₉ mixed valent single molecule magnet
K. C. Mondal, Y. Song, and **P. S. Mukherjee**
Inorg. Chem. **2007**, *46*, 9736.
43. Synthesis of a Mn₆ cluster and its self-assembly of an azido bridged chain
K. C. Mondal and **P. S. Mukherjee**
Inorg. Chem. **2007**, *46*, 5625.
42. Self-assembly of metal-organic hybrid rectangles
S. Ghosh and **P. S. Mukherjee**
Dalton Trans. **2007**, 2542.
41. Design and synthesis of a heterometallic triangle and self-selection for a single isomer
S. Ghosh, S. R. Batten and **P. S. Mukherjee**
Dalton Trans. **2007**, 1869.

40. Single-crystal to single-crystals phase transition of bis(*N*-phenylisonicotinamide)silver(I) nitrate reveal cooperativity in porous materials
P. S. Mukherjee, N. Lopez, F. C. Lee, J. C. Noveron
Chem. Commun. **2007**, 1433.
39. Mn(II) azido chain using a new amide ligand: synthesis, crystal structure and variable temperature magnetic behavior
K. C. Mondal and **P. S. Mukherjee**
Synthesis and reactivity of Inorganic, Metal-Organic, and Nano-metal Chemistry, **2007**, 39,735 (Invited article in honor of Prof. H. W. Roesky).
38. Self-assembly of molecular nanoballs: Design, synthesis and characterization
S. Ghosh and **P. S. Mukherjee**
J. Org. Chem. **2006**, 71, 8412.
37. The first Pt(II) TBP cage with ester functionality
S. Ghosh and **P. S. Mukherjee**
Tetrahedron Lett. **2006**, 47, 9297.
36. Dual role of azido in the construction of a 3D Mn(II) polymer using bridging 5-pyrimidine carboxylate
O. Sengupta, R. Chakrabarty and **P. S. Mukherjee**
Dalton Trans. **2007**, 4514.
35. Ni(II) dicyanamide 2D extended networks: synthesis, crystal structure and low temperature magnetic studies
Sanjit Konar, **P. S. Mukherjee**, Ennio Zangrando, Talal Mallah, N. Ray Chaudhuri
Inorg. Chim. Acta. **2005**, 358, 957.
34. A porous 2D copper (II) polymer of trimesic acid
Sanjit Konar, **P. S. Mukherjee**, E. Zangrando, T. Mallah, N. Ray Chaudhuri*
Inorg. Chim. Acta. **2005**, 358, 29.
33. Self-assembly of nanoscopic 3D cages using a flexible tripodal amide containing linker
P. S. Mukherjee, Neeladri Das, and Peter J. Stang
J. Org. Chem. **2004**, 69, 3526.
32. Design, Synthesis and Crystallographic Studies of Neutral Platinum Based macrocycles formed via self-assembly
P. S. Mukherjee, Neeladri Das, Y. Kryeschenko, Atta M. Arif, Peter J. Stang
J. Am. Chem. Soc. **2004**, 126, 2464.
31. Use of two different dicarboxylates towards the design of two new 3D and 2D networks
P. S. Mukherjee, D. Ghoshal, E. Zangrando, T. Mallah and N. Ray Chaudhuri
Eur. J. Inorg. Chem. **2004**, 4675.

30. Synthesis and crystal structure of two discrete, neutral assemblies of manganese and zinc using a rigid organic clip
P. S. Mukherjee, Kil Sik Min, Atta M. Arif and Peter J. Stang
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P. S. Mukherjee, Sanjit Konar, E. Zangrando, F. Lloret, N. Ray Chaudhuri
Indian J. Chemistry **2004**, *43A*, 760.
28. Two new 3D architectures of Cu(II): synthesis, crystal structures and variable temperature magnetic studies
Sudipta Dalai, **P. S. Mukherjee**, Ennio Zangrando, Joan Ribas, N. Ray Chaudhuri
Indian J. Chemistry (Special issue), **2003**, *42A*, 2250.
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N. Das, **P. S. Mukherjee**, Atta M. Arif, Peter J. Stang
J. Am. Chem. Soc. **2003**, *125*, 13950.
26. Synthesis of two new 1D and 3D networks of Cu(II) and Co(II) using malonate and eurotopine: crystal structures and magnetic studies
S. Konar, **P. S. Mukherjee**, M.G.B. Drew, J. Ribas, N. Ray Chaudhuri
Inorg. Chem. **2003**, *42*, 2545.
25. Structural analyses and magnetic properties of two novel 3D networks of nickel(II) and manganese(II) using carboxylate as bridging ligand
P. S. Mukherjee, S. Konar, E. Zangrando, T. Mallah, J. Ribas and N. Ray Chaudhuri
Inorg. Chem., **2003**, *42*, 2695.
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S. Dalai, **P. S. Mukherjee**, S. Geib, N. Ray Chaudhuri*
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J. Chem Soc., Dalton Trans., **2002**, 822. (Selected as one of the top ten accessed papers).
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S. Konar, **P. S. Mukherjee**, E. Zangrando, F. Lloret, and N. Ray Chaudhuri
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20. A doubly end-to-end azido 1D ferromagnetic chain
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19. Two 1D and 3D coordination polymer of Mn(II) with dicyanamide bridge: synthesis, crystal structure and magnetic behavior
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18. Three novel end-to-end single azido bridged 1D copper(II) chains: Syntheses, crystal structure determination and magnetic behavior
P. S. Mukherjee, T. K. Maji, R. Vicente, J. Ribas, N. Ray Chaudhuri
Eur. J. Inorg. Chem., **2002**, 943.
17. Synthesis, crystal structures and magnetic properties of two new 1D copper(II) coordination polymers containing fumarate(- 2) and chelating N, N-donor
S. Dalai, **P. S. Mukherjee**, G. Rogez, T. Mallah, M. G. B. Drew N Ray Chaudhuri
Eur. J. Inorg. Chem. **2002**, 3292.
16. Azido bridged two new ferromagnetic Cu(II) chains: synthesis, structure and variable temperature magnetic behavior
S. Dalai, **P. S. Mukherjee**, M. G. B. Drew, T. H. Lu, N. Ray Chaudhuri
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P. S. Mukherjee, T. K. Maji, G. Mostafa, J. Ribas, M. S. El Fallah, N. Ray Chaudhuri, *Inorg. Chem.*, **2001**, 40, 928.
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T. K. Maji, **P. S. Mukherjee**, G. Mostafa, T. Mallah, J.C. Boquera, N. Ray Chaudhuri, *Chem. Commun.*, **2001**, 1012.
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P. S. Mukherjee, T. K. Maji, G. Mostafa, E. Zangrando, N. Ray Chaudhuri
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12. A three component fully interlocked 3-D network: crystal structure and magnetic behavior
P. S. Mukherjee, S. Dalai, G. Mostafa, E. Zangrando, T. H. Lu, G. Rozeg, N. Ray Chaudhuri
Chem. Commun., **2001**, 1346.

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P. S. Mukherjee, S. Dalai, E. Zangrando, F. Lloret, N. Ray Chaudhuri
Chem. Commun., **2001**, 1444.
10. 1 D coordination polymer of copper(II) containing m-1,1,3 azido ligand with alternating ferro-antiferromagnetic interaction
T. K. Maji, **P. S. Mukherjee**, S. Koner, G. Mostafa, J. P. Tuchagues, N. Ray Chaudhuri
Inorg. Chim. Acta, **2001**, 314,111.
09. A novel bimetallic alternating chain: synthesis, crystal structure and magnetic study
P. S. Mukherjee, T. K. Maji, T. Mallah, E. Zangrando, L. Randaccio, N. Ray Chaudhuri, *Inorg. Chim. Acta*, **2001**, 315, 249.
08. A 1D coordination polymer of copper(II) with three different bridging anions: synthesis, crystal structure, and magnetic behaviour
P. S. Mukherjee, T. K. Maji, G. Mostafa, W. Hibbs, N. Ray Chaudhuri
New J. Chem., **2001**, 25, 760.
07. Synthesis, crystal structure, and magnetic properties of two new Cu(II) complexes with end-to-end azido bridging
P. S. Mukherjee, S. Dalai, G. Mostafa, T. H. Lu, E. Rentschler, N. Ray Chaudhuri
New J. Chem., **2001**, 25, 1203.
06. Synthesis, Crystal Structures and Magnetic Properties of two New 1D Copper(II) Coordination Polymers Containing Fumarate(- 2) and Chelating N,N'-Donor as Ligands
S. Dalai, **P. S. Mukherjee**, G. Rogez, T. Mallah, M. G. B. Drew N Ray Chaudhuri
Eur. J. Inorg. Chem. **2002**, 3292.
05. Synthesis, characterization of triamine complexes of nickel(II)selenocyanate and their thermally induced dimerization : X-ray single crystal structures of [Ni(dpt)(SeCN)₂(H₂O)] and [Ni(aepn)(SeCN)₂(H₂O)] (dpt = bis (3-aminopropyl)amine and aepn = (2-aminoethyl)(3-aminopropyl)amine)
T. K. Maji, G. Mostafa, **P. S. Mukherjee**, A. Mondal, A. J. Welch, K. Okamoto, N. Ray Chaudhuri
Polyhedron, **2000**, 19, 1903.
04. An oxalato-bridged copper(II) complex
J. Cheng, F. L. Liao, T. H. Lu, **P. S. Mukherjee**, T. K. Maji, N Ray Chaudhuri,
Acta Cryst., **2001**, E57, m263.

03. An 1D thiocyanato bridge nickel (II) system: Crystal structure and magnetism
T. K. Maji, I. R. Laskar, G. Mostafa, A. J. Welch, **P. S. Mukherjee**, N. Ray Chaudhuri, *Polyhedron* **2001**, 20, 651.
02. Synthesis and magnetic study of three new μ -oxalato dinuclear copper(II) complexes
P. S. Mukherjee, T. K. Maji, S. Koner, G. Rosair, N. Ray Chaudhuri, *Indian J. Chem.*, 40A, 2001, 451.
01. The first alternating single end-on and single end-to-end azido bridged Cu(II) chain
P. S. Mukherjee, T. Maji, G. Mostafa, T. Mallah, N. R. Chaudhuri *Inorg. Chem.*, **2000**, 39, 5147.

Lectures delivered in last few years:

- 1) Finite and infinite polynuclear assemblies
TIFR, Mumbai, May-2005
- 2) A few examples of polynuclear assemblies
IPC Dept, IISc-Bangalore, July 28th, 2005
- 3) Self-assembly of Pt and Pd based molecular architectures
Annual meeting of the Chemical Sciences division IISc, Jan-2007
- 4) Molecular architectures via coordination
First ACCC conference, Okazaki, Japan, July-2007
- 5) Polynuclear magnetic materials
Department of Chemistry, Madurai Kamraj University, Nov-2007
- 6) Metal-ligand coordination: an efficient tool to design large molecules
Department of Chemistry, Madurai Kamraj University, Nov-2007
- 7) Discrete and extended polynuclear assemblies
MTIC conference, IIT-Chennai, Dec-2007
- 8) Self-assembly of polynuclear assemblies of diamagnetic and paramagnetic metal ions "INSA, New Delhi, April-2008".
- 9) Invited lecture on "Finite and Infinite Metal-Organic Assemblies"
in Chemistry of Materials conference organized by the Department of Chemistry, Gitam University, Vishakapatnam, July-2008
- 10) Invited lecture on "Self-assembly via coordination: an account of our recent research" Organic Chemistry Dept, Free University, Berlin, Germany, Sept-2008.
- 11) Invited lecture: Self-assembly via coordination: an account of our recent research
Vellore Institute of Technology, Vellore, Sept-2008.
- 12) Invited lecture: Coordination driven self-assembly: A tool to design assemblies of finite shapes and sizes
Department of Chemistry, University of Neuchatel, Switzerland, October-2008

- 13) Invited lecture: Coordination driven self-assembly: A tool to design assemblies of finite shapes and sizes
Department of Chemistry, University of Freibourgh, Switzerland, October-2008
- 14) Invited lecture: Self-assembly of discrete diamagnetic and paramagnetic clusters
Department of Chemistry, University of Bern, Switzerland, October-2008
- 15) Invited lecture: Designing molecules via coordination
Kalna College, WB, November-2008
- 16) Invited lecture in an International conference 'Functional materials' held in Calcutta University on 7th Jan 2009.
- 17) Invited lecture "Discrete and finite supramolecular assemblies via coordination" in an Indo-German conference held in Delhi University, March 2009.
- 18) Invited Lecture "Functional materials" in a CSIR sponsored meeting at Periyakulam PG College (Tamil Nadu) in Feb, 2009.
- 19) Invited lecture "Discrete nanoscale magnetic materials" in a meeting arranged by the Microsoft Research India, Bangalore, in May 2009.
- 20) "Metal-organic hybrid macrocycles and cages: design and synthesis via coordination" in Emerging Trends in Chemistry-2009 held at IISc in May 2009.
- 21) Invited lecture on "Metal-ligand coordination driven nanostructures" in Platinum Jubilee meeting of the Indian Academy of Science, Bangalore held in Hyderabad (July 3rd, 2009)
- 22) "Metallacycles and cages via coordination" in an International conference "IRIS-12" held in Goa.
- 23) Invited lecture on "Supramolecular Metallacycles and Cages via Metal-Ligand Coordination" In an international conference "The 2nd ACCC" held in Nanjing, China, 3rd Nov, 2009.
- 24) Invited Lecture on "Matallacycles and Cages via directional self-assembly" Department of Chemistry, Ulsan University, Korea (December 21, 2009).
- 25) Invited Lecture on "Diamagnetic and Paramagnetic polynuclear clusters" Department of Chemistry, Kyungpook National University, Korea (January 8, 2010).
- 26) Invited Lecture on "Metal ligand coordination as a tool to design functional matallacycles and cages" Department of Chemistry, Hanyang University, Korea (January 15, 2010).
- 27) Invited Lecture on "Matallacycles and Cages via directional self-assembly" Department of Chemistry, Gyeongsong National University, Korea (January 28, 2010).
- 28) Invited lecture on "Discrete and polymeric inorganic-organic hybrid materials" Ulsan National Institute of Science and Technology (UNIST), Korea (February 1, 2010).
- 29) Invited lecture on "Matallacycles and Cages via directional self-assembly", POSTECH, Korea (January 29, 2010).
- 30) Invited lecture on "Current trends in supramolecular chemistry" in a national conference organized by The American College, Madurai (February 13, 2010).

- 31) Invited lecture on “Smart molecular architectures and their functionalization” in 60th Anniversary of Coordination chemistry conference held in Osaka, Japan (Sept-2010).
- 32) Invited Lecture on “Functions through architectures” in Osaka City University, Japan (October-2010).
- 33) Invited lecture on “Self-assembly of smart molecular architectures and self-selection in multicomponent self-assembly” in Jadavpur University, Kolkata (November 2010).
- 34) Invited lecture on “Supramolecular coordination towards nano-architectures” in an international conference on nanomaterials held in Vizag, Dec 2010.
- 35) Invited lecture on “Self-selection in coordination self-assembly” in Humboldt Kolleg, IAP (Bangalore) (Feb 2011)
- 36) Invited lecture on “Self- assembly of molecular architectures and self-sorting in multicomponents self-assembly” in 13th CRSI symposium in Bhubaneswar (Feb 2011).
- 37) Lecture on “Smart organometallic architectures as potential sensors” in the “First European Inorganic Chemistry Conference” held in Manchester, UK (Apr-2011)
- 38) Invited lecture on “Self-selection in coordination self-assembly” in IIT-Madras, June-2011.
- 39) Lecture on “Pt(II)-nanoarchitectures for explosives detection” in an international symposium “Advanced Complex Inorganic Nanomaterials” held in Namur, Belgium (Sept-2011).
- 40) Invited special lecture “Multicomponent self-assembly and electron rich sensors”, ISRO-IISc Space Technology Center, Sept 2011.
- 41) Invited lecture “Self-selection in coordination self-assembly” in an International Conference “3rd Asian Conference on Coordination Chemistry” held in Delhi, October 2011.
- 42) Invited lecture “Multicomponent self-assembly and functionalization” in the 22nd General meeting of TWAS held in International Centre for Theoretical Physics (ICTP), Trieste-Italy, November 2011.
- 43) Invited lecture “Self-sorting in self-assembly and electron rich sensors for explosives” in the Department of Chemistry, University of Trieste, Italy, November 2011.
- 44) Invited lecture “Self-selection in coordination self-assembly and organic reactions in confined nanospace in coordination cage” in the National conference MTIC-14 held in School of Chemistry, University of Hyderabad, December 2011.
- 45) Invited plenary lecture on “Engineering molecules for applications” in Shivaji University (Maharashtra) on the occasion of Golden jubilee year of the University, Jan-2012.
- 46) Invited lecture on “Supramolecular Coordination” in a National symposium on research and teaching in chemistry held in Panskura College (W.B.) during Jan 17-18, 2012.
- 47) Invited lecture on “Versatility of supramolecular coordination” in meeting of Indian Academy of Science organized by St Joseph’s college, Kerala on March 7, 2012.

- 48) Invited lecture on "Magnetic clusters and electron rich sensors" in meeting of Indian Academy of Sciences organized by St Joseph's college, Irinjalakula on March 8, 2012.
- 49) Invited lecture on "Supramolecular coordination-an accepted terminology" in Vidyasagar University under UGC sponsored lecture series, March 15, 2102.
- 50) Invited lecture on "Magnetic clusters and single molecule magnets" in Vidyasagar University under UGC sponsored lecture series, March 16, 2012.
- 51) Invited lecture on "Prospects of supramolecular chemistry" in INSPIRE programme held in Shivaji University-Kolhapur, on May 30, 2012.
- 52) Invited lecture on "Chemical reactions in confined nanospace of molecular cages" in Department of Chemistry, Nankai University, Sept 2012.
- 53) Invited lecture on "Electron rich sensors for nitroaromatic explosives and self-sorting in coordination self-assembly" in East China Normal University, Shanghai, Sept 2012.
- 54) Invited lecture on "Self-sorting in self-assembly and functionalization towards catalysis" in School of Chemistry, University of Hyderabad, October 2012.
- 55) Invited lecture on "Self-sorting in self-assembly and catalysis in confined space" in a conference organized by department of chemistry, IIT-Guwahati, December 2012.
- 56) Invited lecture on "Self-assembly of electron rich sensors for explosives" in a conference organized by department of chemistry, IIT-Delhi, December 2012.
- 57) Invited lecture on "Supramolecular coordination" in department of chemistry, Guru Nanak Dev University, December 2012.
- 58) Invited lecture on "Polynuclear magnetic assemblies" in the department of chemistry, Guru Nanak Dev University, December 2012.
- 59) Invited lecture on "Sensing explosives: A supramolecular approach" in the School of Physical Sciences, JNU, Delhi, March 2013.
- 60) Invited lecture on "Functional molecular architectures" in Pondicherry University, March 2013.
- 61) Invited lecture on "Sensing explosives and catalysis in confined nanospace" in Buenos Aires University, Argentina, October 2013.
- 62) Invited lecture on "Molecular marriage in covalent cage formation" in Asain Crystallographic conference, HKUST, Hong Kong, December 2013.
- 63) Invited lecture on "Supramolecular Coordination" in a refresher course in Jadavpur University, Jan 2014.
- 64) Invited lecture on "Catalysis in confined nanospace" in a national conference organized by NIT-Rourkela, Jan 2014.
- 65) Invited lecture on "Molecular marriage in covalent cages" in a national conference organized by the American College, Madurai, Jan 2014.
- 66) Invited lecture on "Self-sorting in covalent cage formation" in a national conference organized by IISER Mohali, Mohali, March 2014.
- 67) Invited lecture on "Supramolecular chemistry: basics and application" in an Indian Academy of Sciences' workshop, BHU, Varanasi, April 2014.
- 68) Invited lecture on "Supramolecular Coordination" in an Indian Academy of Sciences' workshop, Aurangabad Ambedkar University, Aurangabad, March 2014.

- 69) Invited lecture on "Catalysis in nanocavity" in an Indian Academy of Sciences' workshop, Aurangabad Ambedkar University, Aurangabad, March 2014.
- 70) Invited lecture on "Explosive sensing and cage catalysis" at the Institute of Organic Chemistry, University of Seigen, Germany, May 2014.
- 71) Invited lecture on "MOF and supramolecular sensors for nitroaromatics" at the Institute of Inorganic Chemistry, University of Duesseldorf, Germany, May 2014.
- 72) Invited lecture on "Functional supramolecular nanoarchitectures" at the Max-Planck Institute for solid state research, Stuttgart, Germany, June 2014.
- 73) Invited lecture on "Supramolecular sensors for nitroaromatics" at the Technical University Munich, Germany, June 2014.
- 74) Invited lecture on "Explosives sensing by nanoarchitectures and chemical reactions in confined nanospace" at the Institute of Organic Chemistry, University of Würzburg, Germany, June 2014.
- 75) Invited lecture on "Explosives sensing by nanoarchitectures self-sorting in organic cage formation" at the Institute of Organic Chemistry, University of RWTH Aachen, Germany, June 2014.
- 76) Invited lecture on "Explosives sensing by nanoarchitectures and chemical reactions in confined nanospace" at the Institute of Organic Chemistry, University of Heidelberg, Germany, May 2014.
- 77) Invited lecture on "Functional self-assembled cages" at the Institute of Organic Chemistry, University of Mainz, Germany, July 2014.
- 78) Invited lecture on "Chemical reactions in confined nanospace of coordination cages", in International Conference on Coordination Chemistry (ICCC41) in Singapore, July 2014.
- 79) Invited lecture on "Supramolecular Coordination" in UGC sponsored symposium on supramolecular chemistry in St. Philomous college, Mysore, Aug 2014.
- 80) Invited lecture on "Self-assembled functional materials" at Graduate school of Engineering Kyoto, Japan, November 2014.
- 81) Invited lecture on "Molecular sensors for explosives and chemical reactions in confined space" at the Institute of Molecular Science, Okazaki, Japan, November 2014.
- 82) Invited lecture on "Self-sorting in covalent and organic cages" at the department of chemistry of Osaka City University, Japan, November 2014.
- 83) Invited lecture on "Self-assembled discrete and extended functional materials" at Department of Chemistry, University of Kyoto, Japan, November 2014.
- 84) Invited lecture on "Supramolecular sensors and molecular flasks for organic transformations" at Department of chemistry, Hiroshima University, Japan, November 2014.
- 85) Invited lecture on "Self-sorting in covalent cage formation and chemical reactions in confined nanospace" in an international conference "structural chemistry: molecules and materials", Kolkata, December 2014.
- 86) Invited lecture on "Molecular marriage of organic/coordination cages" in a symposium "New directions in main group synthesis" held at IIT-Bombay in Dec 2014.
- 87) Invited lecture on "Explosives sensing by supramolecular sensors" in India-China-Singapore symposium held at SSCU, IISc in Dec 2014.

- 88) Invited lecture on “Supramolecular self-assembly” in a national symposium on chemical sciences held in Shivaji University, Jan 2015.
- 89) Invited lecture on “Self-assembled discrete molecular architectures and their applications” in a workshop on organic and inorganic self-assembly, held at KIIT, Bhubaneswar, Feb 2015.
- 90) Invited lecture on “Learning the chemistry of small to large molecules” in “National Science day” programme organised by IACS, Kolkata, Feb 28, 2015.
- 91) Invited lecture on “Chemistry of complex inorganic and organic molecules” in a National symposium at Gandhigram University (Tamil Nadu), March 2015.
- 92) Invited lecture on “Molecular marriage in covalent cage formation” in a discussion meeting held at International center, Goa, July 2015.
- 93) Invited lecture on “Self-sorting in molecular cage formation” in an international conference “Asian Conference on Coordination Chemistry (ACCC-5)” held in University of Hong Kong, July 2015.
- 94) Invited lecture on “Chemical reactions in confined nanospace” in the department of chemistry, M S Baroda University (Gujarat), July 2015.
- 95) Invited Institute lecture on “Cage Catalysis” at the Department of Chemistry, NIT-Rourkela in Aug 2015.
- 96) Invited lecture on “Recent Trends in Supramolecular Chemistry” in a Science Academy’s workshop at the Department of Chemistry, Guru Ghasidas Central University, Bilaspur in August 2015.
- 97) Invited lecture on “Cage Catalysis” in the Department of Chemistry, East China Normal University, Shanghai in October 2015.
- 98) Invited lecture on “Cage catalysis and self-sorting in molecular cages” in the Department of Chemistry, Beijing University of Technology, Beijing in October 2015.
- 99) Invited lecture on “Cage catalysis and molecular marriage” in the Department of Chemistry, Zhejiang University, Huanzhou in October 2015.
- 100) Invited lecture on “Self-sorting in covalent cage formation” in the Department of Chemistry, Northwest University, Xi’ en (China) in October 2015.
- 101) Invited lecture on “Cage Catalysis and Molecular Marriage” in the Department of Chemistry, Sun Yat-Sen University, Guanzhou in October 2015.
- 102) Invited lecture on “Chemical Reactions in Confined Nanospace” in the Institute of Structures and Matters, CAS, Fuzho (China) in October 2015.
- 103) Invited lecture on “Catalysis in confined nanospace” in IISER-Mohali in October 2015.
- 104) Invited lecture on “Self-assembled 3D architectures and use of their confined space” in MTIC conference held at Jadavpur University, Dec 2015.
- 105) Invited lecture on “Functional coordination architectures” in an International conference on nanomaterials held at Gitam University (Vishakapatnam), December 2015.
- 106) Invited lecture on “Supramolecular Chemistry” in DSU University Bangalore in December 2015.
- 107) Invited lecture on “Organic Reactions in Confined Nanospace” in annual meeting of the Indian Chemical Society held at Jaipur University in December 2015.

- 108) Invited lecture on “Catalysis in confined nanospace” in a national conference on supramolecular chemistry and nanomaterials held at Gujarat Forensic University in January 2016.
- 109) Invited lecture on “Molecular Vessels” in CRSI annual meeting held at Chandigarh in February 2016.
- 110) Invited lecture on “3D coordination Cages” in a national symposium held at Visva Bharati University in March 2016.
- 111) Invited lecture on “Functional Molecular Nanovessels” in an international conference (ISCAN 2016) organized by IISER Trivandrum in March 2016.
- 112) Invited lecture on “Chemical reactions in molecular cages” in an international workshop on “Chemical reactions under external fields” held at Xiamen University (China) in April 2016.
- 113) Invited lecture on “Molecular Nanovessels” in IISC-HUJI joint symposium held at University of Jerusalem (Israel) in April 2016.
- 114) Invited lecture on “Molecular Nanovessels and Molecular Marriage” at IIT-Guwahati in April 2016.
- 115) Invited lecture on “Chemical Reactions in Nanovessels” at IISER-Pune in April 2016.
- 116) Invited lecture on “Self-Assembled Molecular Nanovessels” in International Symposium on Macrocyclic and Supramolecular Chemistry held in Seoul (South Korea) in July 2016.
- 117) Invited lecture on “Chemical Reactions in Confined Space and Self-Sorting in Organic Cage formation” at Ulsan University (South Korea) in July 2016.
- 118) Invited lecture on “Chemical Reactions in Confined Space and Molecular Marriage” at UNIST (South Korea) in July 2016.
- 119) Invited colloquium on “Chemical Reactions in Confined Space” at TIFR Mumbai in Aug 2016.
- 120) Invited lecture on “Supramolecular chemistry” in a UGC National seminar organized by Haldia Govt. College in Aug 2016.
- 121) Invited lecture on “Molecular vessels and molecular marriage” at IISER Bhopal in September 2016.
- 122) Invited lecture on “Molecular Marriage” in a one-day symposium held at IIT-Kanpur in October 2016.
- 123) Invited lecture on “Nanovessels” in an Indo-German conference held at Khajuraho in November 2016.
- 124) Invited lecture on “Supramolecular Coordination –An Introduction” at University of Munster, Germany in November 2016.
- 125) Invited lecture on “Catalysis in confined nanospace” at University of Munster, Germany in November 2016.
- 126) Invited lecture on “Supramolecular sensors and self-sorting in cage formation” at University of Munster, Germany in November 2016.
- 127) Invited colloquium on “Supramolecular Coordination Architectures” at IISER Trivandrum in Dec 2016.
- 128) Invited lecture on “Cage catalysis” at a conference “Recent Trends in Organometallic Chemistry” held in Trivandrum in Dec 2016.
- 129) Invited lecture on “Molecular Vessels” in “Chemical Science” session of SABIC conference held in Kolkata in Jan 2017.

- 130) Invited lecture on "Catalysis in confined space" at an ACS On-campus event held at IISER Pune in Jan 2017.
- 131) Invited Plenary lecture on "Self-assembled molecular flasks" at a national symposium held at National Forensic University, Gandhinagar in Jan 2017.
- 132) Invited lecture at Kalna College on "Engineering nano-molecules" Feb 2017.
- 133) Invited lecture on "Molecular vessels" at Jadavpur University in UGC-CAS symposium, Feb 2017.
- 134) Invited lecture on "Functional Coordination Assemblies" at IIT-Patna, Feb 2017.
- 135) Invited lecture on "Molecular Nano-flasks" in a symposium organized by NIT-Patna, Feb 2017.
- 136) Invited lecture on "Supramolecular materials" at National Taiwan University in February 2017
- 137) Invited lecture on "Self-sorting and coordination flasks" at National Tsing-Hua University, Taiwan, in Feb 2017.
- 138) Invited lecture on "Molecular nano-vessels" at Academia Sinica, Taiwan in Feb 2017.
- 139) Invited Plenary lecture on "Molecular Vessels" at Chandigarh Science Congress, Punjab University, March 2017.
- 140) Invited lecture on "Supramolecular architectures" at IIT-Ropar, March 2017.
- 141) Invited Plenary lecture on "Molecular self-assembly" at a conference held at Central University of Jharkhand in March 2017.
- 142) Invited lecture on "Functional supramolecules" at the BITS Pilani, April 2017.
- 143) Invited lecture on "Chemistry in confined space" at Organic Chemistry Institute, University of Essen (Germany), May 2017
- 144) Invited lecture on "Catalysis in confined self-assembled cages" at Institute of Organic Chemistry, Siegen University (Germany), May 2017
- 145) Invited lecture on "Molecular vessels" at Institute of Inorganic Chemistry, Technical University Dortmund (Germany), June 2017
- 146) Invited lecture on "Chemistry in confined space" at the Institute of Organic Chemistry, University of Heidelberg (Germany), June 2017
- 147) Invited lecture on "Molecular Flasks" at the Kekule Institute of Organic Chemistry, University of Bonn (Germany), June 2017
- 148) Invited lecture on "Chemical Reactions in Confined Nanospace" at Otto Diels Institute of Organic Chemistry, University of Kiel (Germany), July 2017
- 149) Invited Plenary lecture on "Supramolecular Chemistry" at JBNST, Kolkata, April 2017.