

Curriculum Vitae

Sushobhan Ghosh



Assistant Professor; Dept. of Chemistry; Alipurduar University; Alipurduar 736121

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2) sushobhan_ghsh@yahoo.co.in

Date of birth: 03rd July of 1980 (03.07.1980)

Present position: Assistant Professor; Dept. of Chemistry; Alipurduar University; Alipurduar 736121

Research field:

Discrete Molecular Architectures via Co-ordination driven Self-assembly

Design and Synthesis of metal complexes for interaction with DNA and their anticancer activity.

Synthesis of metal complexes as biomimetic catalysts for CO₂ fixation, Water oxidation and C-H activation

Publications:

1. Self-Assembly of Molecular Nanoballs: Design, Synthesis, and Characterization.

Ghosh, S.; Mukherjee, P. S. *J. Org. Chem.* **2006**, *71*, 8412.

Times Cited: 45

DOI: 10.1021/jo061311g

2. Design and Synthesis of a Pt(II) Nanoscopic Trigonal Bipyramidal Cage Using a New Tripodal Ester-Containing Ligand.

Ghosh, S.; Mukherjee, P. S. *Tetrahedron Lett.* **2006**, 9297.

Times Cited: 9

DOI: 10.1016/j.tetlet.2006.10.105

3. Self-Assembly of a Heterometallic Molecular Triangle Using an Ambidentate Ligand and Self-Selection for a Single Linkage Isomer.

Ghosh, S.; Turner, D. R.; Batten, S. R.; Mukherjee, P. S. *Dalton Trans.* **2007**, 1869.

(Featured on the cover of the issue and selected as one of the top ten accessed papers)

Times Cited: 36

DOI: 10.1039/b702353g

4. Self-Assembly of a Nanoscopic Platinum(II) Double Square Cage.

Ghosh, S.; Batten, S. R.; Turner, D. R.; Mukherjee, P. S. *Organometallics*, **2007**, *26*, 3252.

Times Cited: 17

DOI: 10.1021/om0701571

5. Self-Assembly of Metallamacrocycles via a Rigid Phosphorus Donor Linker.

Ghosh, S.; Mukherjee, P. S. *Organometallics*, **2007**, *26*, 3362.

Times Cited: 12

DOI: 10.1021/om700296k

6. Self-Assembly of Metal-Organic Hybrid Nanoscopic Rectangles.

Ghosh, S.; Mukherjee, P. S. *Dalton Trans.* **2007**, 2542.

Times Cited: 15

DOI: 10.1039/b617513a g

7. Self-Assembly of a Nanoscopic Prism via a New Organometallic Pt₃ Acceptor and Its Fluorescent Detection of Nitroaromatics.

Ghosh, S.; Mukherjee, P. S. *Organometallics*, **2008**, *27*, 316.

[(a) This work was highlighted in the 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]

Times Cited: 51

DOI: 10.1021/om701082y

8. Coordination Driven Self-Assembly of Four New Molecular Boats Using a Flexible Imidazole-Containing Donor Linker.

Ghosh, S.; Chakrabarty, R.; Mukherjee, P. S. *Dalton Trans.* **2008**, 1850.

Times Cited: 10

DOI: 10.1039/b713783d

9. Design, Synthesis, and Characterizations of a Series of Pt₄ Macrocycles and Fluorescent Sensing of Fe³⁺/Cu²⁺/Ni²⁺ Through Metal Coordination.

Ghosh, S.; Chakrabarty, R.; Mukherjee, P. S. *Inorg. Chem.* **2009**, *48*, 549.

Times Cited: 31

DOI: 10.1021/ic801381p

10. Self-Assembled Pd(II) Metalloclusters Using an Ambidentate Donor and the Study of Square-Triangle Equilibria.

Ghosh, S.; Mukherjee, P. S. *Inorg. Chem.* **2009**, *48*, 2605.

Times Cited: 30

DOI: 10.1021/ic802254f

11. Self-Assembly of a Pd(II) Neutral Molecular Rectangle via a new Organometallic Pd(II)₂Molecular Clip and Oxygen Donor Linker.

Bar, A. K.; Gole, B.; Ghosh, S.; Mukherjee, P. S. *Dalton Trans* **2009**, DOI: 10.1039/b911622m.

Times Cited: 16

DOI: 10.1039/b911622m

12. Self-Assembly of Molecular Prisms via Pt₃ Organometallic Acceptors and a Pt₂ Organometallic Clip.

Ghosh, S.; Gole, B.; Bar, A. K.; Mukherjee, P. S. *Organometallics*, **2009**, *28*, 10.1021/om900309x.

Times Cited: 23

DOI: 10.1021/om900309x

13. Synthesis of a Self-assembled Copper (II) Metallo Rectangle With a Guanosine - Substituted Terpyridine

Sushobhan Ghosh, Georg T. Silber, Andrew J. P. White, Neil Robertson* and Ramon Vilar* *Dalton Transactions*, **2013**, *42*, 13813.

DOI: 10.1039/c3dt51845k

14. Salphen metal complexes as tunable G-quadruplex binders and optical probes

Oscar Mendoza, Nurul H. Abd Karim, Arun Shivalingam, Alexander Thompson, Sushobhan Ghosh, Marina Kuimova, Ramon Vilar* RSC Adv., **2014**, *4*, 3355.

DOI: 10.1039/c3ra44793f

15. Assembly of Palladium(II) and Platinum(II) Metallo-Rectangles with a Guanosine-Substituted Terpyridine and Study of Their Interactions with Quadruplex DNA

Sushobhan Ghosh, Oscar Mendoza, Leticia Cubo, Frederic Rosu, Valerie Gabelica,

Andrew J. P. White, and Ramon Vilar* Chem. Eur. J. 2014 DOI: 10.1002/chem.201304905

Publications under UGC FRP

16. Synthesis, characterization, and cytotoxic properties of mono- and di-nuclear cobalt(II) polypyridyl complexes

Eskandari, Arvin; Kundu, Arunangshu; Lu, Chunxin; Ghosh, Sushobhan; Suntharalingam, Kogularamanan, Dalton Transactions (2018), 47(16), 5755-5763.

17. Hierarchical self-assembly of a new guanosine derivative to quadruplex structure in presence of potassium and ytterbium ions

Arunangshu Kundu and Sushobhan Ghosh*; 2018, 95, 1191-1197.

18. New Set of Multicomponent Crystals as Efficient Heterogeneous Catalysts for the Synthesis of Cyclic Carbonates

Arunangshu Kundu,† Swagata Saikia,† Manoj Majumder,§ Oindrila Sengupta,|| Biswajit Bhattacharya,⊥ Gobinda Chandra De,‡ and Sushobhan Ghosh*,†

ACS Omega **2019**, *4*, 5221–5232.

19. A Triangular Platinum(II) Multi-nuclear Complex with Cytotoxicity Towards Breast Cancer Stem Cells

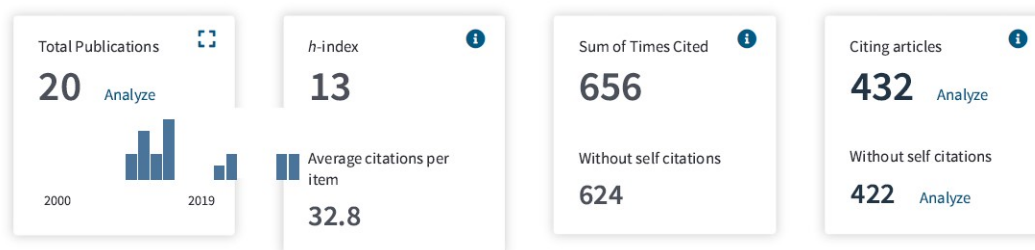
Arvin Eskandari,^a Arunangshu Kundu,^b Sushobhan Ghosh,^b * and Kogularamanan Suntharalingam^c *Angew Chem Int. Ed. ASAP

doi.org/10.1002/anie.201905389

20. Green Synthesis of Novel Polyesterurethane Materials from Epoxides and Carbon Dioxide by New Set of One-Dimensional Coordination Polymer Catalyst

Kundu, Arunangshu; De, Gobinda Chandra; Ghosh, Sushobhan
ACS Omega (2019), 4(9), 14074-14084.

Citation Report



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Summary

- 15 years research in Supramolecular Chemistry
- Practical knowledge of advanced synthetic and characterization methods
- Experience in handling several sophisticated instruments including Bruker-kappa-apex CCD single crystal X-ray diffractometer and Bruker 400MHz NMR spectrophotometer
- Co-author of 20 publications in peer-reviewed journals
- Experience in team-oriented work environments

Education and Work Experience

2020(August) – Present: Assistant Professor, Dept. of Chemistry, Alipurduar University.

2015 (June) – 2020 (August) UGC Assistant Professor, Dept. of Chemistry; Gauhati University; Guwahati 781014

2013 (June)- 2015 (May)

Postdoctoral research associate in George August University Gottingen under Prof. Franc Meyer as Alexander Von Humboldt Fellow. Project Title: Establishing the Mechanism of C-C Coupling Reactions by Dinuclear Copper Systems and Elucidation of Proper Oxygenation Pathways through the Interpretation of Structure and Reactivity of Intermediate Dioxygen Species

*** 2011 (January)-2012 (December)**

Postdoctoral research associate in Imperial College London under Prof. Ramon Vilar as Newton International Fellow. Project Title: Interaction of metal complexes with quadruplex DNA as molecular probes and oncogene regulators.

*** 2010 (May)-2010 (December)**

Postdoctoral Research associate in POSTECH (Pohang University of Science and Technology), South Korea under Prof. Kimoon Kim. Project Title: Designing functional metal organic frameworks for gas adsorption and catalysis.

*** 2009 (November) -2010 (March)**

Research associate in Inorganic and Physical Chemistry; Indian Institute of Science; Bangalore.

*** 2005–2009**

Research Scholar (Chemistry), Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore, India. **Research Topic:** “Discrete molecular architectures of finite shapes and sizes via metal ligand coordination” Supervisor: **Dr. Partha Sarathi Mukherjee**

*** 2002-2004**

Master of Science with specialization in **Organic Chemistry**, University of North Bengal, Siliguri, India.

*** 1999-2002**

Bachelor of Science (Honor’s in Chemistry), Alipurduar College, University of North Bengal, India.

*** 1995-1997**

Higher Secondary, From West Bengal Council of Higher Secondary Education.

*** 1995**

SSLC, From West Bengal Board of Secondary Education.

Award and Fellowship:

- * 2010 **Alexander Von Humboldt Fellowship**
- * 2010 **Royal Society Newton International Fellowship**
- * 2005 **NET (UGC-CSIR)**
- * 2005 **Research Fellowship by Indian Institute of Science**
- * 2004 **GATE (89 percentile)**

Seminars and Conferences :

- **Presentation of Poster in CRSI 2007 Conference held in Delhi, India.**
- **Presentation of Poster in CRSI 2008 Conference at IISc, Bangalore, India.**
- **Attended 2nd International Training School on G-Quadruplexes in Spa, Belgium, from September 11 to 14, 2011.**
- **Presented contributed lecture in ICC40 (40th International Conference on Coordination Chemistry) in Valencia Spain from 9th-13th September, 2012.**
- **Presentation of work in International Conference on Emerging Trends in Chemical Sciences, ICETCS-2017 September 16, 2017.**

- **Presented invited Lecture in King's college London in July 2018 under Royal Society Newton Fellowship Alumni Scheme**

- **Presented Invited lecture in University of Northbengal May 2019.**

Skills:

- Design and implementation of multi-step syntheses.
- Synthesis and handling of air, moisture and light sensitive compounds. Schlenk techniques and purification of products *via* column chromatography.
- Experience of independent handling of Bruker 400 MHz spectrometer and recording variable temperature NMR spectra.
- Experience of collecting single crystal data in Bruker-kappa-apex CCD and Bruker SMART CCD and reduction of data using SAINT software.
- Experience of solving the crystal structure.

- Computer proficiency: PC's, Silicon Graphics, chemical modeling, drawing and visualization application (CS ChemOffice), Microsoft Crystallographic software like ORTEP-32, PLUTON, Mercury, Diamond, POVRAY, Weblab etc.

Teaching and Training Skills:

- Teaching Assistant for Practical Courses of Integrated PhD students of Chemical Science Division, Indian Institute of Science.
- Demonstrating during the practical courses at Department of Chemistry, Imperial College London.
- Teaching in the department of Chemistry Gauhati University
 - Organic Synthesis
(Units: Reduction of organic compounds, C-C bond formation, Reagents in Organic Synthesis)
 - 2. Spectroscopy
(Units: Vibrational Spectroscopy, NMR Spectroscopy, Mass Spectrometry)
 - 3. Supramolecular Chemistry
(Units: Self-assembly)
 - 4. Modern Method of Analysis
(Units; Light Microscopy, Electron Microscopy, X-ray Crystallography, Thermal methods)

Research Projects:

- 1. Designing Suitable Host Molecules as Enzyme Mimics for Supramolecular Catalysis; UGC Start-up grant; 2 years; 6 lakh.**
- 2. Synthesis of Polycarbonates from the Greenhouse Gas CO₂ by Supramolecular Catalysts Designed via Co-ordination Driven Self-assembly. ; DST-SERB; 3 years; 30.06 lakh.**
- 3. Transition metal complexes as potential anticancer agents, Royal Society, Newton International Fellowships Alumni 6000 GBP**

Guiding of MSc Project Students (completed)

2016-2017

- 1. Debojit Gogoi**

Design of Metal Organic Framework with Polyridyl ligand and L-Proline

2017-2018

- 1. Puja Saikia**

Urea Based Organic Framework For Detection of Fluoride And Phosphate Anions

- 2. Manashi Mech**

Design and synthesis of porphyrin containing supramolecular boxes via co-ordination driven self-assembly

3. Rinki Brahma

Design and Synthesis of Receptor for Neurotransmitter Dopamine

2018-2019

1. Swagata Saikia

Design and Synthesis of MOFs as efficient catalysts for cyclic carbonate synthesis

2. Puja Biswas

Design and Synthesis of MgO nanoparticles for efficient catalysis of cyclic carbonate synthesis

Guiding PhD Student (*ongoing*)

Arunangshu Kundu

Synthesis of Supramolecular Complexes for Biological Activity and Catalytic Conversion of CO₂. Registered

Registration No. CBPBU/112/Ph.D/001