Prof. Swapan Dey

Associate Professor
Department of Chemistry and Chemical Biology
Indian Institute of Technology (ISM), Dhanbad
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Summary of Educational Qualifications:

- B. Sc. Chem (Hons) VU 1997
- M. Sc. (Organic Chem) VU 2000
- Ph. D. (Organic chemistry) IIEST, Shibpur, 2006
- RA (CSIR, Govt. of India), 2007-08
- AREAS+ Postdoc Fellow, KU Leuven, Belgium, 2014-15

Thesis title: *Molecular recognition of somee biologically important substrates with designed receptors in different solvents* (**September, 2006**). Thesis supervisor: Prof. Shyamaprosad Goswami, Department of Chemistry, IIEST, Shibpur.

Summary of Professional career:

Senior Lecturer:	20-03-2008 to 04-09-2009;	IIT (ISM), Dhanbad
Assistant Professor:	05-09-2009 to 11-04-2021;	IIT (ISM), Dhanbad
Associate Professor:	12-04-2021 to till date	IIT (ISM), Dhanbad

Awards and honors:

- **Dr. B. N. Mankad Award** for **best presentation of Organic Chemistry** in 44th Annual Convention of Chemists 2007 by Indian Chemical Society held in Jaipur.
- **AREAS+ Postdoc Fellow, KU Leuven, Belgium, 2014-15**
- **Fellow, Indian Chemical Society, Kolkata**
- **Fellow, Chemical Research Society of India, Bengaluru**
- **Life Member: Indian Association for the Cultivation of Science, Kolkata**

Administrative responsibilities:

- **Faculty coordinator:** M. Sc (2009-2014), Department of Chemistry and Chemical Biology, IIT (ISM)
- **Faculty in Charge:** 400 MHz NMR instrument, Department of Chemistry and Chemical Biology, IIT (ISM)
- **Senate Member:** 2015-2018
- **Warden:** Amber Hostel 2021-2023

Membership of professional bodies:

- **Life member:** Indian Chemical Society, Kolkata
- **Life member:** Chemical Research Society of India, Bengaluru
- **Life Member:** Indian Association for the Cultivation of Science, Kolkata

Journal reviewers:

i. Chemical Communications
ii. Dalton Trans.
iii. R. Sc. Advances
iv. New Journal of Chemistry
v. Journal of Molecular Structure
vi. Sensors and Actuators B
vii. Inorganic Chemistry
viii. Supramolecular Chemistry
ix. ChemistrySelect

Research Area:

- *Design and synthesis of sensors with heteronuclear building block*
- *Synthesis of imidazopyridine derivatives for anion recognition and ion transport with keen applications in medicinal chemistry (collaboration with Rega Institute, KU Leuven, Belgium)*
- *Supramolecular organo gel for ions and neutral molecules*
- *Metal free C-C aryalation towards the synthesis of small molecule heterocycles.*

Researcher ID:

Thomson-Reuters researcher ID:

Orchid ID: 0000-0002-6168-5627

Supervised Ph. D. Theses:

1. **Dr. Dibyendu Sain (December 2014)** Thesis title: Synthesis and complexation studies of various sensors with different substrates. **(Sole Guide)**
2. **Dr. Ashish Kumar (March 2018),** Thesis title: Synthesis of rhodamine, coumarin and BODIPY based fluorescent chemosensors for the recognition of selective metal ions with in vitro cell imaging studies. **(Sole Guide)**
3. **Dr. Chanda Kumari (August 2018),** Thesis title: Design and development of rhodamine based organic chemosensors for the recognition of metal ions and neutral substrates along with cell imaging studies. **(Sole Guide)**
4. **Dr. Neha Saxena (June 2020),** Thesis title: Synthesis of Surfactants from Natural Resources and their Characterization for Application in Enhanced Oil Recovery. **(Co-Guide). Guide: Prof. Ajay Mandal**
5. **Dr. Kumari Somlata Kashyap (July 2020),** Thesis title: Synthesis of BODIPY based chemosensors for the recognition of the metal ion and their cell imaging study. **(Sole Guide)**
6. **Dr. Surajit Mondal (December 2020),** Thesis title: Synthesis of fluorescent sensors using triazole building block for toxic heavy metal ions. **(Sole Guide)**
7. **Dr. Rajkumar Manna (February 2021),** Thesis title: Design and synthesis of epoxy-based macromolecular sensors **(Internal Guide). External Guide: Dr. Samaresh Ghosh)**
8. **Dr. Santosh Kumar Singh (January 2022),** Thesis title: “Synthesis of Low Molecular Weight Gelators and their Applications as Surfactant and Demulsifier for Oil Spill Recovery” **(Sole Guide)**
9. **Dr. Rashmi Singh (March 2022),** Thesis title: “Synthetic Methodologies for Polycyclic Heterocycles Based on Condensation Reactions of Substituted 1,4-Benzoquinones” **(Internal Guide). External Guide: Prof. Wim Dehaen**
10. **Dr. Annu Kumari (December 2022),** Thesis Title: "Syntheses of Heterocyclic Fluorescent Materials and Their Application in Light-Emitting, Supercapacitor and Ion Sensing"**(Sole Guide).**
11. **Dr. Dhrubajyoti Majumder (December, 2022),** Thesis Title: “Chemistry of Zinc, Cadmium Complexes Containing Nitrogen and Oxygen Donor Ligand” **(Internal guide). External Guide: Dr. Dipankar Mishra.**

Current Ph. D. Students:

Full-time Research Scholar

1. **Ms. Segufa Rahamn, JRF, Institute Fellow**
2. **Mr. Suhag Singh Sahay, JRF, Institute Fellow**
3. **Ms. Himayel Zehra Naqvi, JRF, Institute Fellow**
4. **Mr. Vipin Kumar, JRF, Institute Fellow**

Part-time Research Scholar

1. **Mr. Niraj Tayagi**

Supervised M. Phil Theses:

1. **Ms. Shweta Kumari**

Supervised M. Sc Theses:

2009:	**Mr. Somnath Chatterjee** **Mr. Piyush Panini**	**2010:**	**Mr. Dibyendu Sain** **Mr. Basaki Baral**
2011:	**Mr. Soumyadip Ghosh** **Mr. Mrinmoy Mondal** **Mr. Soumik Lahiri** **Mr. Sandip Ghosh**	**2012:**	**Mr. Sankha S Ganguly** **Mr. Partha Malakar** **Mr. Syed Samim Ali**
2013:	**Ms. Chanda Kumari** **Mr. Nirmal Mondal** **Mr. Supriyo Ghosh** **Ms. Ankita Gangopadhya**	**2014:**	**Ms. Mandira Nandi**
2015:	**Mr. Sourav Suman** **Mr. Mahasis Shom**	**2016:**	**Mr. Saikat Mandal** **Ms. Debomita Bhattachary** **Ms. Shilpi Anand**
2017:	**Mr. Sudip Sau** **Mr. Harmesh Kumar** **Ms. Sunita Sahoo** **Ms. Anusmita Sen**	**2018:**	**Mr. Sidharta Samanta** **Mr. Subhankar Santra** **Ms. Ruchi Tyagi**
2019:	**Mr. Subhradeep Ghosh**	**2020:**	**Ms. Priyanka Chhabra** **Mr. Ghokivi Hezheto Sumi**
2021:	**Mr. Suraj Kumar** **Mr. Rajeev Kumar** **Mr. Rohan Kundu** **Mr. Mrinmoy Khan**	**2022:**	**Ms. Itu Mallik** **Mr. Siddhartha Pal**
2023:	**Mr. Soham Das Adhikari** **Mr. Arun Kumar Manna** **Mr. Kalimulla Molla**		

Sponsored Projects as a Principal Investigator/ Co-Principal Investigator:

(i) Research project completed:

S. No	Title & No.	Cost in Lakh	Duration	Role as PI/Co-PI	Agency
1.	Molecular Recognition and Applications of Fluorescence Sensors in Host-Guest Chemistry **SR/FT/CS-061/2009**	19.90	29-03-2010 to 28-03-2013	**PI**	**DST Fast track**
2.	*Synthesis of abiotic receptors for biologically important substrates* **FRS/10/2010-2011/AC**	7.90	01-04-2011 to 31-03-2014	**PI**	Faculty Research Scheme, IIT-ISM, Dhanbad
3	Medicinal aspect of supramolecular chemistry: Anion recognition **EMR/2016/002183**	36.69	28-12-2016 to 27-12-2019	**PI**	**SERB-DST**
4	Supramolecular gelator for oil demulsification **RD/PRO/COL/407/2019**	18.82	16-07-2019 to 15-12-2020	**PI**	**Tata Steel, Jamshedpur**

(ii) Research project ongoing:

S. No	Title & No.	Cost in Lakh	Duration	Role as PI/Co-PI	Agency
1.	Bulk Production of Supramolecular Gelator for Demulsification of CRM Scum **TATA STEEL / 2021-2022/856/CHEMISTRY**	12,98,000/-	17-12-2021 To 16-12-2022	**PI**	**Tata Steel, Jamshedpur**

iii. Consultancy Projects:

"Study on use of fly ash for the manufacture of polypropylene composites for various products" awarded by *Rihand Super Thermal Power Project*, Rihand Nagar, UP carried out as a **member, 2012.**

List of publications:

1. **A novel class of highly flexible transparent boranil/polydimethylsiloxane composites for white light emission,** Annu Kumari. Sukhendu Nandi, **Swapan Dey**. **Journal of Luminescence, 2023**, 253, DOI:10.1016/j.jlumin.2022.119466.
2. **Polynaphthalene-Based Oxazaborinine Complexes Formulated as Red Light Emitters and High-Performance Asymmetric Supercapacitors,** Annu Kumari, Chandan K. Maity, G. C. Nayak, and **Swapan Dey Langmuir**, **2023**, 39, 8450-8462.
3. **Imidazopyridine–fluoride interaction: Solvent-switched AIE effects via S...O conformational locking,** Annu Kumari, Wim Dehaen, Deepak Chopra and **Swapan Dey, New Journal of Chemistry**, **2022**, 46, 10628-10636.
4. **D-Mannitol based surfactants for cosmetic and food applications and hydrogels to produce stabilized Ag nanoparticles**, Santosh Kumar Singh, **Swapan Dey**, Manfred P. Schneider and Sukhendu Nandi, **New Journal of Chemistry**, **2022**, Advance article.
5. **Strategy to Design a Flexible and Macromolecular Sensor to Bind Cd2+ Ions: A Complete Photophysical Analysis and Bio-Imaging Study,** Surajit Mondal and **Swapan Dey**, **ACS OMEGA**, **2021**, 6, 42, 27936–27945.
6. **Tandem Nenitzescu Reaction/Nucleophilic Aromatic Substitution to Form Novel Pyrido Fused Indole Frameworks,** Rashmi Singh, Harshita Bhatia, Dr. Prabhat Prakash, Dr. Elke Debroye, **Dr. Swapan Dey**, Prof. Wim Dehaen**, European Journal of Organic Chemistry, 2021**, 2021, 4865-4875**.**
7. **Dicyanamide-intertwined assembly of two new Zn complexes based on N2O4-type pro-ligand: Synthesis, crystal networks, spectroscopic insights, and selective nitroaromatic turn-off fluorescence sensing,** Dhruba jyoti Majumdar, **Swapan Dey**, Annu Kumari, Tapan KumarPal, Kalipada Bankura, and Dipankar Mishra, **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 2021, 254, 119612.**
8. **Application of the Meerwein reaction of 1,4-benzoquinone to a metal-free synthesis of benzofuropyridine analogues,** Rashmi Singh, Tomas Horsten,

Rashmi Prakash, **Swapan Dey** and Wim Dehaen**, Beilstein Journal of Organic Chemistry, 2021,** 17, 977–982.

9. ***Unusual absence of FRET in triazole bridged coumarin–hydroxyquinoline, an active sensor for Hg^{2+} detection,*** *Surajit Mondal, Niladri Patra, Hari Pada Nayek, Sumit K. Hira, Soumit Chatterjee,* ***Swapan Dey, Photochem. Photobiol. Sci., 2020, 19, 1211-1221.***
10. ***Template-Assisted Regioselective Identification of Metal Ions on Coumarin-Furan Conjugated Chemosensors: AIEE Effect and Photo-Switching pH Indicator by ICT,*** *Ashish Kumar, Sumit Kumar Hira,* ***Swapan Dey, Eur. J. Inorg. Chem. 2020, 3771-3777.***
11. ***Novel Class of Isoxazole-Based Gelators for the Separation of Bisphenol A from Water and Cleanup of Oil Spills,*** *Santosh Kumar Singh, Priyanka Saha,* ***Swapan Dey****, and Sukhendu Nandi,* ***ACS Omega 2020, 5, 15, 8613-8618.***
12. ***Dual core clickate fluorophores for selective recognition of Cu^{2+} and Ni^{2+} along with live cell imaging,*** Surajit Mondal, Chanda Kumari, Sumit K. Hira and **Swapan Dey, *Inorganica Chimica Acta,* 2020**, 509, 1196552.
13. ***Photo-physical aspects of BODIPY-coumarin conjugated sensor and detection of Al^{3+} in MCF-7 cell,*** Kumari Somlata Kashyap, Sumit Kumar Hira and **Swapan Dey**, ***Supramolecular Chemistry,*** 2019, 31, 695-702.
14. ***Recognition of Al^{3+} through the off-on mechanism as a proficient driving force for the hydrolysis of BODIPY conjugated Schiff base and its application in bio-imaging,*** Kumari Somlata Kashyap Ashish Kumar, Sumit Kumar Hira, Swapan Dey, ***Inorganica Chimica Acta,*** 2019, 498, 1191572.
15. ***Detection of Hg^{2+} ion using highly selective fluorescent chemosensor in real water sample and in-vitro cell study upon breast adenocarcinoma (MCF-7),*** Ashish Kumar, Sumit Kumar Hira, Partha Pratim Manna, and **Swapan Dey***, ***Supramolecular Chemistry,*** 2019, 31, 382-390.
16. ***"Epoxy-based polymer incorporating 1-Naphthylamine and sebacic acid moieties: A selective fluorescent sensor for ferric ions"*** Samaresh Ghosh, Rajkumar Manna, and **Swapan Dey**, ***Journal of Molecular Structure,*** 2019, 1180, 406-410.

17. ***Syntheses, crystal structures and photo physical aspects of azido-bridged tetranuclear cadmium (II) complexes: DFT/TD-DFT, thermal, antibacterial and anti-biofilm properties***, Dhrubajyoti Majumdara, **Swapan Dey*,** S. S. Sreejith, Jayanta Kumar Biswas, Monojit Mondal, Pooja Shukla, Sourav Das, Tapan Pal, Dhiraj Das, Kalipada Bankura, Dipankar Mishra*, ***Journal of Molecular Structure***, 2019, *1179*, 694-708.
18. ***Nitrato, Pseudohalo-Linked Zn(II)/Cd(II) Schiff-Base Complexes with 1,3-Diimine Spacer Group: Syntheses, Crystal Structures, DFT, TD-DFT and Fluorescence Studies***, Dhrubajyoti Majumdar, **Swapan Dey,** Sreejith S. Sreekumar, Sourav Das, Dhiraj Das, Ramesh K. Metre, Kalipada Bankura, Dipankar Mishra, **ChemistrySelect**, 2018, *3*, 12371-12382.
19. ***Water switched aggregation/disaggregation strategies of a coumarin-naphthalene conjugated sensor and its selectivity on Cu^{2+} and Ag^{+} ions along with cell imaging study on human osteosarcoma cells (U-2 OS),*** Ashish Kumar, Surajit Mondal, Kumari Somlata Kayshap, Sumit Kumar Hira, Partha Pratim Manna, Wim Dehaen and **Swapan Dey***, ***New Journal of Chemistry, 2018, 42, 10983 - 10988.***
20. **"Synthesis, characterization, physical and thermodynamic properties of a novel anionic surfactant derived from Sapindus laurifolius"** Neha Saxena, Nilajan Pal, **Swapan Dey**, and Ajay Mondal**, RSC Advances 2018, 8, 24485 – 24499.**
21. ***Polyurethane network using 1-Naphthylamine embedded epoxy-based polymer: Ferric ion selective Fluorescent probe"*** Samaresh Ghosh, Rajkumar Manna and **Swapan Dey, Polymer Bulletin 2018, 1-9.**
22. ***Highly selective and safe 'in vitro' detection of biologically important 'Uric acid' in living cells by a new fluorescent 'turn-on' probe along with quantum chemical calculation,*** Chanda Kumari, Dibyendu Sain, and Swapan Dey*, ***Sensors and Actuators, B: Chemical, 2018, 264, 208-215.***

23. ***Characterizations of surfactant synthesized from palm oil and its application in enhanced oil recovery,*** Neha Saxena, Nilanjan Pal, Swapan Dey and Ajay Mandal* **Journal of the Taiwan Institute of Chemical Engineers,** 2017, 81, 343–355.
24. ***A Non-Perilous Coumarin-Based Ratiometric Probe for 'In Vitro' Detection of Cu through Cell Imaging Technique,*** Chanda Kumari, Dibyendu Sain, Ashish Kumar, Hari Pada Nayek, Sushanta Debnath, Partha Saha and **Swapan Dey*** **ChemistrySelect**, 2017, 2, 8270–8277.
25. ***"Synthesis of Rhodamine-Based Chemosensor for Fe^{3+} Selective Detection with off-on Mechanism and its Biological Application in DL-tumor cells"*** Ashish Kumar, Dibyendu Sain, Chanda Kumari and **Swapan Dey*** ***ChemistrySelect 2017, 2, 2969-2974.***
26. ***'Intracellular detection of hazardous Cd^{2+} through a fluorescence imaging technique by using a nontoxic coumarin based sensor'*** Chanda Kumari, Dibyendu Sain, Ashish Kumar, Sushanta Debnath, Partha Saha and **Swapan Dey*** **Dalton Trans., 2017, *46*, 2524-2531.**
27. ***Detection of Hg^{2+} and Cs^{+} with a Rhodamine–based Sensor and Ethoxy–substituted Dihydroimidazole Ring Formation Associated with the Reduction of Hg2+ to Hg'*** Ashish Kumar, Dibyendu Sain, Chanda Kumari and **Swapan Dey*** **ChemistrySelect 2017, 2, 1106– 1110.**
28. ***' A bis-hydrazone derivative of 2,5-furandicarboxaldehyde with perfect hetero-atomic cavity for selective sensing of Hg(II) and its intracellular detection in living HeLa S3 cell'*** Chanda Kumari, Dibyendu Sain, Ashish Kumar, Hari Pada Nayek, Sushanta Debnath, Partha Saha and **Swapan Dey*** **Sensors and Actuators B 243 (2017) 1181–1190.**
29. ***'A real time colorimetric 'two in one' kit for tracking ppb levels of uric acid and Hg^{2+} in live HeLa S3 cells and Hg^{2+} induced keto–enol tautomerism'*** Chanda Kumari, Dibyendu Sain, Ashish Kumar, Sushanta Debnath, Partha Saha and **Swapan Dey*** **RSC Adv., 2016, 6, 62990.**
30. ***'Lead ion induced chemodosimeter approach of a tripodal hydroxyl-quinoline based phospho-ester through P–O bond cleavage'*** Dibyendu Sain, Chanda Kumari,

Ashish Kumar, Hari Pada Nayek and **Swapan Dey*** **Dalton Trans., 2016,** 45**, 9187 – 9192.**

31. ***"Indole based distinctive chemosensors for 'naked eye' detection of CN– and HSO4–, associated with hydrogen bonded complex and their DFT study'*** Dibyendu Sain, Chanda Kumari, Ashish Kumar and **Swapan Dey*** **Supramolecular Chemistry**, **2015**, 28, 239-48.
32. ***'Colorimetric 'turn on TBET' sensors for 'on the spot' visual detection of HSO4– in semi-aqueous medium: experimental and quantum chemical (DFT) studies'*** Dibyendu Sain, Chanda Kumari, Ashish Kumar and **Swapan Dey*** **Sensors and Actuators B: Chemical**, **2015**, 221, 849-856.
33. ***'Studies on Crystal Engineering Networks of Amidopyridine N-oxides in Solid State by NMR, mass and X-ray Techniques'*** **Swapan Dey**,* Ashish Kumar, Dibyendu Sain, Hari Pada Nayek, Anita Hazra, Shyamaprosad Goswami, Subrata Jana, Hoong-Kun Fun and Samil Isik, **Lett. Org. Chem.**, **2015**, 12, 584-590.
34. ***'A series of ditopic receptors for succinic acid Binding'*** **Swapan Dey***, Dibyendu Sain, Ashish Kumar and Chanda Kumari, ***RSC Adv.*****, 2014**, 4, 51486-51495.
35. ***'Steric inhibition of hydrogen bonding in molecular recognition of dicarboxylic acids: di-topic receptors containing a nitro group designed to behave like monotopic receptors'*** Shyamaprosad Goswami*, Rinku Chakrabarty, **Swapan Dey** and Hoong-Kun Fun, ***RSC Adv.*****, 2014**, 4, 49663-49671.
36. ***'Directed Molecular Recognition: Furfurylamine appended ditopic receptor for succinic acid'*** **Swapan Dey*** and Dibyendu Sain ***Supramolecular Chemistry,*** 2014, 26, 769-776.
37. ***'Naphthyridine Based Fluorescent Receptors for the Recognition of Uric Acid'*** **Swapan Dey***, Dibyendu Sain and Shyamaprosad Goswami ***RSC Adv.,*** **2014**, 4, 428-433.
38. ***'Recognition of a dicarboxylic acid with dipicolyl urea in solution and in solid phases: intramolecular hydrogen bond inhibiting both pyridine nitrogens from binding carboxyl groups'*** Shyamaprosad Goswami*, Subrata Jana, **Swapan Dey**,

Debabrata Sen, Hoong-Kun Fun, Suchada Chantrapromma **Tetrahedron, 2008**, 64, 6426-6433.

39. ***'Design and synthesis of a unique ditopic macrocyclic fluorescent receptor containing furan ring as a spacer for molecular recognition of dicarboxylic acids'*** Shyamaprosad Goswami*, **Swapan Dey**, and Subrata Jana, **Tetrahedron, 2008,** 64, 6358-6363.
40. ***'Specificity in crystal engineering: polymerization and dimerisation motif design in pyridine system'*** *S*hyamaprosad Goswami*, and **Swapan Dey**, subrata Jana, **Letters in Organic Chemistry, 2007,** 4**,** 448-451.
41. ***'Tailor-made Naphthyridines: Self-Assembling Multiple Hydrogen-Bonded Supramolecular Architectures from Dimer to Helix'*** Shyamaprosad Goswami*, **Swapan Dey,** John F. Gallagher, Alan J. Lough, Santiago Garcı´a-Granda, Laura Torre-Ferna´ndez, Ibon Alkorta, Jose´ Elguero, **Journal of Molecular Structure, 2007**, 846, 97-107.
42. ***'Microwave-expedited one-pot, two-component solvent-free synthesis of functionalised pyrimidines'*** Shyamaprosad Goswami*, Subrata Jana, **Swapan Dey** and Avijit Kumar Adak, **Australian Journal of Chemistry, 2007**, 60, 120-123.
43. ***'Directed Molecular Recognition: Design and Synthesis of Neutral Receptors for Biotin to bind both its functional groups'*** Shyamaprosad Goswami* and **Swapan Dey**, **Journal of Organic Chemistry, 2006**, 71, 7280-7287.
44. ***'Recognition of Dicarboxylic Acid by 6,6/-Dipivaloylamino- 3,3/-bipyridine and the Supramolecular Solid State Locking of the Carboxyls in the anti Form'*** Shyamaprosad Goswami*, Subrata Jana, **Swapan Dey**, Ibrahim Abdul Razak, Hoong-Kun Fun. **Supramolecular Chemistry, 2006**, 18, 571-576.
45. ***'2-Amino-6-hydroxymethylpyridine'*** Shyamaprosad Goswami, **Swapan Dey,** Suchada Chantrapromma, Hoong-Kun Fun; **Acta Crystallographica, 2006**, E62, o3225–o3227.
46. ***'Dynamic molecular recognition in the generation of a new crystal engineering motif: a unique case study of a dicarboxylic acid with a ditopic receptor favouring a polymeric over a dimeric hydrogen bonded supramolecular***

***complex*'** Shyamaprosad Goswami, **Swapan Dey**, Hoong-Kun Fun, Shazia Anjum and Atta-ur-Rahman, **Tetrahedron Letters, 2005**, 46, 7187-7191.

47. ***'Directed H-bonding inhibition in molecular recognition: A NMR case study of the H-bonding of a dicarboxylic acid with a new mixed diamide receptor having one adjacent pyridine-N-oxide'*** Shyamaprosad Goswami, **Swapan Dey,** Annada C. Maity and Subrata Jana**,** **Tetrahedron Letters, 2005**, 46, 1315-1318.
48. ***'A Convenient Palladium Catalyzed Synthesis of Symmetric Biaryls, Biheterocycles and Biaryl Chiral Diamides'*** Shyamaprosad Goswami, Avijit Kumar Adak, Reshmi Mukherjee, Subrata Jana, **Swapan Dey**, and John F. Gallagher, **Tetrahedron, 2005,** 61, 4289-4295.
49. ***'N-[6-(Hydroxymethyl)pyridin-2-yl]-2,2-dimethyl-propanamide'*** Shyamaprosad Goswami, **Swapan Dey,** Suchada Chantrapromma, Hoong-Kun Fun, **Acta Crystallographica, 2005,** E61, o105-o107.
50. ***'A Simple and Convenient Manganese Dioxide Oxidation of Benzyl Halides to Aromatic Aldehydes under Neutral Condition'*** Shyamaprosad Goswami, Subrata Jana, **Swapan Dey,** and Avijit Kumar Adak **Chemistry Letters, 2005**, 34,194-195.
51. ***'Side chain bromination of mono and dimethyl heteroaromatic and aromatic compounds by solid phase N-bromosuccinimide reaction without radical initiator under microwave'*** Shyamaprosad Goswami**, Swapan Dey**, Subrata Jana, and Avijit Kumar Adak **Chemistry Letters, 2004,** 33, 916-918.
52. ***'Multiple hydrogen bonds and tautomerism in naphthyridine derivatives'*** Carmen Alvarez-Rua, Santiago García-Granda, Shyamaprosad Goswami, Reshmi Mukherjee, **Swapan Dey,** Rosa M. Claramunt, M. Dolores Santa María, Isabel Rozas, Nadine Jagerovic, Ibon Alkorta, and José Elguero, **New Journal of Chemistry, 2004,** 28, 700-707.

Abstracts presented in symposia

1. 'Rhodamine based highly fluorescent and colorimetric chemosensor for selective detection of Hg^{2+} and Cu^{2+} ions in aqueous medium' O-49, Ashish Kumar and **Swapan Dey*** Oral Presentation, ICEFN-2016 (March 27-29, 2016), organized by Nanoscience

and Nanotechnology Centre, Department of Chemistry, Kumaun University, Uttarakhand, India.

2. 'Rhodamine scaffold bis-triazole used as a highly fluorescent and colorimetric chemosensor for selective detection of Fe^{3+} ion and reversible *Off-On* fluorescence response' O-11, Surajit Mondal, Ashish Kumar, Chanda Kumari, K. Somlata Kashyap and **Swapan Dey*** Oral Presentation, ICEFN-2016 (March 27-29, 2016), organized by Nanoscience and Nanotechnology Centre, Department of Chemistry, Kumaun University, Uttarakhand, India.
3. 'Rhodamine based highly selective fluorescent 'turn-on' chemosensor for visual detection of Hg^{2+} ion' Ashish Kumar, Dibyendu Sain, Chanda Kumari and **Swapan Dey*** Oral Presentation, 33rd Annual Conference, Indian Council of Chemists, Indian School of Mines, Dhanbad (15^{th} – 17^{th} **December, 2014**)
4. Selective sensing of Mercury (II) ion by a rhodamine & napthyridine based highly selective fluorescent-chemosensor and their quantum chemical DFT calculation' Chanda Kumari, Dibyendu Sain, Ashish Kumar and **Swapan Dey*** Oral Presentation, 33rd Annual Conference, Indian Council of Chemists, Indian School of Mines, Dhanbad (15^{th} – 17^{th} **December, 2014**)
5. Selective sensing of bismuth (III) ion by an 8-hydroxyquinoline based highly fluorescent tripodal receptor, Chanda Kumari, Dibyendu Sain, and **Swapan Dey*** PP-175, North Maharastra University, **February 2014**.
6. Visual detection of Pb^{+2} and Cu^{+2} by an 8-Hydroxyquinoline based Fluorogenic chemosensor Dibyendu Sain and **Swapan Dey*,** (OP - 16) North Maharastra University, **February 2014**.
7. Indole based Fluorogenic chemosensor for visual detection of HSO_4^- and CN^- ions *Dibyendu Sain, Ashis Kumar and* **Swapan Dey*** OP-15, **CTriC-2014, CUSAT**, **17^{th}-18^{th} January 2014.**

8. *'Synthesis of an 8-Hydroxyquinoline based fluorogenic chemosensor for visual and spectroscopic detection of Pb^{+2}*' Dibyendu Sain, Chanda Kumari, Ashish Kumar and **Swapan Dey, Best Oral presentation, Research Scholar Meet-2014 (RSM-2014),** Indian School of mines, Dhanbad, 28^{th} February, 2014.

9. Furfuryl amine based ditopic receptor for succinic acid, **Swapan Dey*** and Dibyendu Sain, Abs. # ORG(OP)72, **48th Annual Convention of Chemists 2011** organised by the Indian Chemical Society, Allahabad University, **December 2011**.
10. *Dicarboxylic Acids: Good Supramolecular Synthons for Crystal Engineering*, **Swapan Dey** Abs.# ORG(OP)-68; **46th Annual Convention of Chemists 2009 and International Conference On Recent Research Trends in Chemical Sciences by Indian Chemical Society** held on 2nd -6th December **2009 a**t VIT, Vellore, Tamilnadu, India.
11. Appliance *of Molecular Recognition: Urea-Uric Acid-Biotin-Creatinine:* Subrata Jana and **Swapan Dey,** Abs.# ORG(AP) 32; **45th Annual Convention of Chemists 2008 and** by Indian Chemical Society held on 23rd to 27th November, 2008 at Dharwad, Karnatak University, India.
12. Molecular *Recognition and Fluorescence Sensors for Urea and Uric Acid;* Shyamaprosad Goswami and **Swapan Dey**, Abs# ORG (AP)17, **44th Annual Convention of Chemists 2007** by Indian Chemical Society held on 23rd to 27th December, 2007 at Jaipur, India.
13. *Directed Molecular Recognition of Biotin: Design and Synthesis of specific Receptors:* Shyamaprosad Goswami, and **Swapan Dey**. Abs.# 19, **The Ramanbhai Foundation 1st International Symposium in Recent Trends in Pharmaceutical Research.** Jan. 23-24, **2003**, Ahmedabad, India.
14. *Molecular Recognition in Aqueous Media: Receptors for Uric Acid;* Shyamaprosad Goswami and **Swapan Dey,** Abs.# 11F, **National Symposium on Organic Chemistry-II: Current Trends and Prospects.** Jadavpur University, Kolkata-32, India, December 17, **2003**.

Invited talk / oral presentation:

1. ***International Symposium on "Supramolecular Chemistry and Materials" held on 21-22 May 2015 in the Department of Chemistry, KU Leuven: Title: "Molecular Recognition: The techniques for complexation of the substrates with designed receptors (invited talk)"***
2. *Indole based Fluorogenic chemosensor for visual detection of HSO_4^- and CN^- ions* **CTriC-2014, CUSAT**, **17th-18th January 2014.**

3. *Dicarboxylic Acids: Good Supramolecular Synthons for Crystal Engineering*, **46th Annual Convention of Chemists 2009 and International Conference On Recent Research Trends in Chemical Sciences by Indian Chemical Society** held on 2nd -6th December **2009 a**t VIT, Vellore, Tamilnadu, India.
4. Appliance *of Molecular Recognition: Urea-Uric Acid-Biotin-Creatinine:* **45th Annual Convention of Chemists 2008 and** by Indian Chemical Society held on 23rd to 27th November, 2008 at Dharwad, Karnatak University, India.
5. Presentation on, '*Molecular Recognition and Fluorescence Sensors for Urea and Uric Acid'* in 44th Annual Convention of Chemists 2007 by Indian Chemical Society held in Jaipur.

Invited Lectures/Guest Lectures/ technical talks:

- Technical talk on "Molecular Recognition for the complexation of the ions with designed sensors" in the international conference on "Application of Supramolecular Chemistry in Water treatment" held on 4-5th February 2019 at Tata Steel, Jamshedpur.
- "International Symposium on "Supramolecular Chemistry and Materials" held on 21-22 May 2015 in the **Department of Chemistry, KU Leuven, Belgium**: Title: "Molecular Recognition: The techniques for complexation of the substrates with designed receptors"
- Indole based Fluorogenic chemosensor for visual detection of HSO_4^- and CN^- ions **CTriC-2014, CUSAT**, **17th-18th January 2014.**
- Dicarboxylic Acids: Good Supramolecular Synthons for Crystal Engineering, **46th Annual Convention of Chemists 2009 and International Conference On Recent Research Trends in Chemical Sciences by Indian Chemical Society** held on 2nd -6th December **2009 a**t VIT, Vellore, Tamilnadu, India.
- Appliance of Molecular Recognition: Urea-Uric Acid-Biotin-Creatinine: **45th Annual Convention of Chemists 2008 and** by Indian Chemical Society held on 23rd to 27th November, 2008 at Dharwad, Karnatak University, India.

Work shop attended:

i. **"Introduction to Gaussian: Theory and Practice"**, New Delhi, India, January 6th-10th 2014 organised by Gaussian and Scube India Pvt. Ltd. New Delhi.

ii. “National workshop on ***Green Chemistry*** organized by Department of Chemistry, S. G. B. Amravati University, Amravati, Maharastra from February 17^{th} – 18^{th}, 2010.

Updated on the August 7, 2023