

CURRICULUM VITAE OF DR. BISWAJIT DEY

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Designation and Name of the Institution:

Associate Professor, Department of Chemistry, Siksha-Bhavana,
Visva-Bharati (A Central University), Santiniketan-731235,
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(Associate Professor: June 2021 – Continuing, Assistant Professor:
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- https://scholar.google.com/citations?hl=en&user=mqtA0wkAAAAJ&view_op=list_works&sortby=pubdate

Subject: CHEMICAL SCIENCES (Inorganic Chemistry)

Academic details:

First class in B.Sc. (H) in Chemistry with distinction in Subsidiary Subject from Jadavpur University (2003),

First class in M.Sc. (Inorganic Chemistry Specialization) from Jadavpur University (2005),

Ph.D. (Science) from Jadavpur University on Supramolecular Chemistry of Inorganic and Organic Compounds (2010).

Professional Experience:

Teaching and Research (Independent) at University Level: More than 15 years.

Field of Research:

My special research interest is to explore the supramolecular systems including crystals, co-crystal, metallogels, organogels, metallohydrogels, bio-macromolecule based gels, self-healing stuff, 2D nano materials, transition metal dichalcogenides, Non-linear optical materials, sensor, semiconducting diodes, catalysis, nano-bio technology.

Master's and Doctoral Dissertations Supervised:

Ph. D. Supervised: 11 Research Scholars, Degree awarded: 7 Research Scholars

Master's Dissertations supervised: 31

NEP Internship supervised: 7 (Rabindranath Tagore University, Assam; Jadavpur University, W.B.; Presidency University, W.B.)

B.Sc. & M.Sc. Internship supervised: 4 (Nalanda University, Bihar; IISER Kolkata, W.B.; Behala College, W.B.)

Award:

National Scholarship from HS to M.Sc. level.

GATE, CSIR-NET.

Research Publications:

73. Self-Repairing Metallosupramolecular Soft Flexible Scaffolds with Different Gel-Immobilized Media: Study of Rheo-Reversible Systems toward Cytochrome c and Bcl2 Protein-Mediated Apoptotic Cascades in Cancer Cells. **Biswajit Dey**, Deblina Saha, Banani Bhattacharjee, Subhajoy Sadhu, Rishita Dey, Suresh Kumar Yatirajula, Arnob Chakrovorty, Asmita Samadder. *Langmuir* 2025, 41, 21107–21124.

DOI: <https://doi.org/10.1021/acs.langmuir.5c02936>

Web link: <https://pubs.acs.org/doi/full/10.1021/acs.langmuir.5c02936>

72. Tetracarboxylic aromatic acid-based self-healing metallosupramolecular flexible nano-scaffold: Exploring rheological features, stimuli-responsiveness and anti-bacterial efficiency. **Biswajit Dey**, Subhajoy Sadhu, Deblina Saha, Sai Jyoti Behera, Anupam Kundu, Ritu Ranjan Kumar, Suresh Kumar Yatirajula, Jnanendra Rath. *Inorganic Chemistry Communications* 2025, 178, 114571.

DOI: <https://doi.org/10.1016/j.inoche.2025.114571>

Web link: <https://www.sciencedirect.com/science/article/abs/pii/S1387700325006872>

71. Organic and Coordination Polymer-Based Gelators-Directed Mechanically Self-Repairing Flexible Metallosupramolecular Soft Scaffolds. Indrajit Pal, Supravat Ghosh, Deblina Saha, Santanu Majumdar, Suresh Kumar Yatirajula, Partha Pratim Ray, **Biswajit Dey**. *Inorganic Chemistry* 2025, 63, 12003–12016.

DOI: <https://pubs.acs.org/doi/full/10.1021/acs.inorgchem.4c04986>

Web link: <https://pubs.acs.org/doi/10.1021/acs.inorgchem.4c04986>

70. Zn(II)-based mechanically flexible metallosupramolecular network: Investigating

rheology, morphology, anti-bacterial effect and semiconducting device performances. Indrajit Pal, Supravat Ghosh, Subhajoy Sadhu, Anupam Kundu, Santanu Majumdar, Suresh Kumar Yatirajula, Jnanendra Rath, Partha Pratim Ray, **Biswajit Dey**. *Inorganica Chimica Acta* 2025, 574, 122413.

DOI: <https://doi.org/10.1016/j.ica.2024.122413>

Web link: <https://www.sciencedirect.com/science/article/abs/pii/S0020169324005048>

69. Self-Healing Supramolecular Flexible Network of Zn(II): Exploring Chemo-Responsiveness, Antimicrobial Efficiency, and Variable Microelectronic Device Performances. Deblina Saha, Tamal Dey, Indrajit Pal, Anupam Kundu, Shreyasi Das, Suresh Kumar Yatirajula, Jnanendra Rath, Samit K. Ray, **Biswajit Dey**. *Langmuir* 2024, 2024, 40, 26517–26531.

DOI: <https://doi.org/10.1021/acs.langmuir.4c03383>

Web link: <https://pubs.acs.org/doi/10.1021/acs.langmuir.4c03383>

68. Mechanically Flexible Self-Healing Mg(II)-Metallogel: Approach of Triggering the ROS-Induced Apoptosis in Human Breast Cancer Cells. Deblina Saha, Debojit Talukdar, Indrajit Pal, Santanu Majumdar, Gerald Lepcha, Subhajoy Sadhu, Suresh Kumar Yatirajula, Gaurav Das, **Biswajit Dey**. *Langmuir* 2024, 40, 19816–19829.

DOI: <https://doi.org/10.1021/acs.langmuir.4c02627>

Web link: <https://pubs.acs.org/doi/abs/10.1021/acs.langmuir.4c02627>

67. Solvent-Directed Bioactive Supramolecular Zinc(II)–Metallogels: Exploring Semiconducting Aptitudes of Fabricating p–n Junction and Schottky Devices. Deblina Saha, Tamal Dey, Indrajit Pal, Anupam Kundu, Santanu Majumdar, Subhajoy Sadhu, Suresh Kumar Yatirajula, Jnanendra Rath, Samit K. Ray, **Biswajit Dey**. *ACS Appl. Bio Mater.* 2024, 7, 5609–5621.

DOI: <https://doi.org/10.1021/acsabm.4c00694>

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66. Comparative Vision of Nonlinear Thermo-Optical Features and Third-Order Susceptibility of Mechanically Flexible Metallosupramolecular Self-Repairing Networks with Isomeric Organic Acids. Indrajit Pal, Nitesh Kumar Pathak, Santanu Majumdar, Gerald Lepcha, Amiya Dey, Suresh Kumar Yatirajula, Umakanta Tripathy, **Biswajit Dey**. *Inorg. Chem.* 2024, 63, 12003–12016.

DOI: <https://doi.org/10.1021/acs.inorgchem.4c00763>

Web link: <https://pubs.acs.org/doi/abs/10.1021/acs.inorgchem.4c00763>

65. Optical Nonlinearity of Semiconducting Cd(II) Metallogel in the Femtosecond Regime with Two-, Three-, and Four-Photon Absorption. Tara Singha, Baishakhi Pal, Santanu Majumdar, Gerald Lepcha, Indrajit Pal, Partha Pratim Ray, **Biswajit Dey**, Prasanta Kumar Datta. *ACS Appl. Opt. Mater.* 2024, 2, 474–484.

DOI: <https://doi.org/10.1021/acsaom.4c00007>

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64. Solvent and Stoichiometry-dependent Versatile Organogelation and Robust

Crystallization from Supramolecular Association of Adipic Acid and Triethanolamine. Gerald Lepcha, Indrajit Pal, Santanu Majumdar, Yogesh Dhasmana, Sanjay Mondal, Ennio Zangrando, Deepak Chopra, and **Biswajit Dey**. *New J. Chem.*, 2024, 48, 9322-9332.

DOI: <https://doi.org/10.1039/D4NJ00559G>

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63. Comparative outcomes of the voltage-dependent current density, charge transportation and rectification ratio of electronic devices fabricated using mechanically flexible supramolecular networks. Baishakhi Pal, Santanu Majumdar, Indrajit Pal, Gerald Lepcha, Amiya Dey, Partha Pratim Ray, and **Biswajit Dey**. *Dalton Trans.*, 2024, 53, 7912-7921.

DOI: <https://doi.org/10.1039/D4DT00383G>

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62. Exploration of Variable Solvent Directed Self-Healable Supramolecular M(II)-Metallogels (M = Co, Ni, Zn) of Azelaic Acid: Investigating Temperature-Dependent Ion Conductivity and Antibacterial Efficiency Indrajit Pal, Santanu Majumdar, Gerald Lepcha, Kazi Tawsif Ahmed, Suresh Kumar Yatirajula, Subhratanu Bhattacharya, Rudra Chakravarti, Bireswar Bhattacharya, Swadesh Ranjan Biswas, and **Biswajit Dey**. *ACS Applied Bio Materials* 2023, 6, 12, 5442–5457.

DOI: <https://doi.org/10.1021/acsabm.3c00675>

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61. Solvent-Driven Variations of Third-Order Nonlinear Thermo-Optical Features of Glutaric Acid-Directed Self-Healing Supramolecular Ni(II) Metallogels. Indrajit Pal, Nitesh Kumar Pathak, Santanu Majumdar, Gerald Lepcha, Amiya Dey, Suresh Kumar Yatirajula, Umakanta Tripathy, **Biswajit Dey**. *Langmuir* 2023, 39, 16584–16595.

DOI: <https://doi.org/10.1021/acs.langmuir.3c02572>

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60. Unveiling the Semiconducting Diode Property through Current Density–Voltage Features with Effective Interface Mobility and Conductivity of Nitroterephthalic Acid-Directed Supramolecular Co(II)/Cu(II) Metallogels. Indrajit Pal, Animesh Biswas, Santanu Majumdar, Gerald Lepcha, Baishakhi Pal, Partha Pratim Ray, **Biswajit Dey**. *ACS Applied Engineering Materials* 2023, 1, 3005–3015.

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59. Chemo-responsiveness of aliphatic and aromatic amines on LMWG directed supramolecular metallogel: A morphological scrutiny of metallogel decomposition. Indrajit Pal, Gerald Lepcha, Santanu Majumdar, **Biswajit Dey**. *Journal of the Indian Chemical Society* 2023, 100, 101084.

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58. Investigating charge transportation and photo-responsive outcome of a Schottky diode fabricated by 2-amino terephthalic acid directed supramolecular Mn(II)-metallogel.

Baishakhi Pal, Santanu Majumdar, Krishna Sundar Das, Gerald Lepcha, Indrajit Pal, Partha Pratim Ray, **Biswajit Dey**. *Journal of Physics and Chemistry of Solids*, 2023, 182, 111612.

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57. MoS₂ and MoSe₂ 2D nanosheets-based bio-active supramolecular nano-structural scaffold-capped potent Ag-NPs: Exploring morphological, anti-bacterial and anticancer property. Gerald Lepcha, Rajib Sahu, Santanu Majumdar, Saikat Banerjee, Arpita Bhowmick, Samya Sen, Bholanath Panda, Debasis Dhak, Keka Sarkar and **Biswajit Dey**. *New Journal of Chemistry*, 2023, 47, 15357-15365.

DOI: <https://doi.org/10.1039/D3NJ00383C>

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56. Suberic Acid-Based Supramolecular Metallogels of Ni(II), Zn(II), and Cd(II) for Anti-Pathogenic Activity and Semiconducting Diode Fabrication. Gerald Lepcha, Santanu Majumdar, Baishakhi Pal, Kazi Tawsif Ahmed, Indrajit Pal, Biswarup Satpati, Swadesh Ranjan Biswas, Partha Pratim Ray and **Biswajit Dey**. *Langmuir*, 2023, 39, 7469-7483.

DOI: <https://doi.org/10.1021/acs.langmuir.3c00765>

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55. Ni(II) and Zn(II)-metallogels based anti-bacterial scaffolds for fabricating light-responsive junction type semiconducting diodes with non-ohmic conduction mechanism. Gerald Lepcha, Baishakhi Pal, Santanu Majumdar, Kazi Tawsif Ahmed, Indrajit Pal, Partha Pratim Ray, Swadesh Ranjan Biswas and **Biswajit Dey**. *Materials Advances*, 2023, 4, 2595-2603.

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54. Itaconic and citraconic acid directed thixotropic and self-healable supramolecular metallogels of M(II) (M=Co, Cu, Zn, and Cd) for the growth-inhibitory potency against human pathogenic microbes. Santanu Majumdar, Debosmita Mukherjee, Gerald Lepcha, Kunal Kumar Saha, Krishna Sundar Das, Indrajit Pal, Narayan C Mondal and **Biswajit Dey**. *New Journal of Chemistry*, 2023, 47, 9643-9653.

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53. Structural Engineering and Electronic Properties of Halide-Specific Supramolecular Architectures: Effective for Stabilizing H₅O₂⁺ and Fabricating Semiconducting Photoresponsive Diodes, Santanu Majumdar, Arka Dey, Arkamita Bandyopadhyay, Gerald Lepcha, Ranjan Kumar Mondal, Vivek K. Gupta, Partha Pratim Ray, **Biswajit Dey**. *J. Phys. Chem. C* 2023, 127, 3417-3431.

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52. Establishment of different aliphatic amines-based rapid self-healing Mg(OH)₂ metallogels: Exploring the morphology, rheology and intriguing Semiconducting Schottky Diode characteristics. Santanu Majumdar, Baishakhi Pal, Gerald Lepcha, Krishna Sundar

Das, Indrajit Pal, Partha Pratim Ray, **Biswajit Dey**. *New J. Chem.* 2023, Accepted Manuscript. DOI: <https://doi.org/10.1039/D2NJ06029A>.

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51. An aromatic acid based supramolecular Zn (II)-metallogel for fabricating light-sensitive metal-semiconductor junction type Schottky diode with satisfactory rectification ratios. Santanu Majumdar, Arka Dey, Rajib Sahu, Gerald Lepcha, Amiya Dey, Partha Pratim Ray, **Biswajit Dey**. *Materials Research Bulletin*, 2023, 157, 112003.

Web link: <https://www.sciencedirect.com/science/article/pii/S0025540822002744>.

50. Squaric acid driven supramolecular metallogels of Cd (II) and Zn (II): Sensitive inhibitors for multi-drug resistance ESKAPE pathogens. Santanu Majumdar, Gerald Lepcha, Kazi Tawsif Ahmed, Indrajit Pal, Swadesh Ranjan Biswas, **Biswajit Dey**. *Journal of Molecular Liquids*, 2022, 368, 120619.

Web link: <https://www.sciencedirect.com/science/article/abs/pii/S0167732222021584>.

49. Adipic Acid Directed Self-Healable Supramolecular Metallogels of Co(II) and Ni(II): Intriguing Scaffolds for Comparative Optical-Phenomenon in terms of Third Order Optical Non-Linearity. Gerald Lepcha, Tara Singha, Santanu Majumdar, Amit Kumar Pradhan, Krishna Sundar Das, Prasanta Kumar Datta, **Biswajit Dey**. *Dalton Trans.*, 2022, Accepted Manuscript (DOI: <https://doi.org/10.1039/D2DT01983C>)

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48. A croconate-directed supramolecular self-healable Cd(II)-metallogel with dispersed 2D-nanosheets of hexagonal boron nitride: a comparative outcome of the charge-transport phenomena and non-linear rectifying behaviour of semiconducting diodes. Santanu Majumdar, Baishakhi Pal, Rajib Sahu, Krishna Sundar Das, Partha Pratim Ray, **Biswajit Dey**. *Dalton Trans.*, 2022, 51, 9007-9016

Web Link: <https://pubs.rsc.org/en/content/articlelanding/2022/dt/d2dt01206e/unauth>

47. Strategic fabrication of efficient photo-responsive semiconductor electronic diode-devices by Bovine Serum Albumin protein-based Cu(II)-metallohydrogel scaffolds. Santanu Majumdar, Partha Pratim Ray, Rajib Sahu, Arka Dey, **Biswajit Dey**. *International Journal of Biological Macromolecules*, 2021, 195, 287-293.

Web Link: <https://www.sciencedirect.com/science/article/abs/pii/S0141813021026155>

46. Exploring an aromatic dicarboxylic acid-grafted supramolecular Cd(II)-metallogel: The mechanically flexible stuff for achieving MoS₂, MoSe₂, WS₂, GO, and h(BN) 2D nanosheets-dispersed versatile supramolecular gel-nano composites. Santanu Majumdar, Gerald Lepcha, Rajib Sahu, **Biswajit Dey**. *Journal of Physics and Chemistry of Solids*, 2022, 170, 110903.

Web Link: <https://www.sciencedirect.com/science/article/abs/pii/S0022369722003298>

45. DNA mediated Graphene Oxide (GO)-nanosheets dispersed supramolecular GO-DNA hydrogel: An efficient soft-milieu for simplistic synthesis of Ag-NPs@GO-DNA and Gram +ve/-ve bacteria-based AgNPs@GO-DNA-Bacteria nano-bio composites. Santanu Majumdar, Madhuri Ghosh, Suprabhat Mukherjee, Biswarup Satpati, **Biswajit Dey**. *Journal*

of *Molecular Liquids*, 2021, 342, 117482

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44. Exploring the studies of charge transportation of an aromatic acid based Co(II)-Metallogel scaffold fabricated Schottky device. Amiya Dey, Sayantan Sil, Santanu Majumdar, Rajib Sahu, Madhuri Ghosh, Gerald Lepcha, Partha Pratim Ray, **Biswajit Dey**. *Journal of Physics and Chemistry of Solids*, 2022, 160, 110300.

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43. Electronic charge transport phenomena directed smart fabrication of Metal-Semiconductor based electronic junction device by a supramolecular Mn(II)-Metallogel. Santanu Majumdar, Sayantan Sil, Rajib Sahu, Madhuri Ghosh, Gerald Lepcha, Amiya Dey, Sourav Mandal, Partha Pratim Ray, **Biswajit Dey**. *Journal of Molecular Liquids*, 2021, 338, 116769.

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42. 4,4'-Bipyridine-based Ni(II)-metallogel for fabricating a photo-responsive Schottky barrier diode device. Pubali Das, Santanu Majumdar, Arka Dey, Sourav Mandal, Atish Mondal, Sinchan Chakrabarty, Partha Pratim Ray, **Biswajit Dey**. *New J. Chem.*, 2021, Advance Article (DOI: <https://doi.org/10.1039/D1NJ01629F>)

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41. Reversible inverse cooling phenomena by trinity of triethylamine, L-glutamic acid and water. **Biswajit Dey**, Santanu Majumdar, Subhendu Dhibar. *Journal of Molecular Liquids*, 2021, 323, 114596.

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40. Terephthalic acid-directed supramolecular Cu(II)-metallogel for photosensitive semiconducting Schottky diode with promising electronic charge transportation. Subhendu Dhibar, Arka Dey, Santanu Majumdar, Partha Pratim Ray, **Biswajit Dey**. *International Journal of Energy Research*, 2021, 45, 5486-5499.

Web Link: <https://onlinelibrary.wiley.com/doi/abs/10.1002/er.6176>

39. A Zn(II)-Coordination Polymer for the Instantaneous Cleavage of Csp³-Csp³ Bond and Simultaneous Reduction of Ketone to Alcohol. Debasish Ghosh, Subhendu Dhibar, Vivek K. Gupta, Gourab Kanti Das, **Biswajit Dey**. *Inorg. Chem.*, 2020, 59, 5350-5356.

Web Link: <https://pubs.acs.org/doi/abs/10.1021/acs.inorgchem.9b03441>

38. Cd-Based Metallohydrogel Composites with Graphene Oxide, MoS₂, MoSe₂, and WS₂ for Semiconducting Schottky Barrier Diodes. Santanu Majumdar, Arka Dey, Rajib Sahu, Subhendu Dhibar, Partha Pratim Ray, **Biswajit Dey**. *ACS Appl. Nano Mater.*, 2020, 3, 11025-11036.

Web Link: <https://pubs.acs.org/doi/abs/10.1021/acsanm.0c02215>

37. Protein-Based Self-Healing Cu(II)-Metallohydrogels: Efficient Third-Order Nonlinear

Optical Materials in Terms of an Intensity-Dependent Refractive Index and Two-Photon Absorption. Santanu Majumdar, Tara Singha, Subhendu Dhibar, Amit Mandal, Prasanta Kumar Datta, **Biswajit Dey**. *ACS Appl. Electron. Mater.*, 2020, 2, 3678–3685.

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36. Organic-Acid-Mediated Luminescent Supramolecular Tb(III)-metallogel Applied in an Efficient Photosensitive Electronic Device with Excellent Charge Transport Properties. Subhendu Dhibar, Arka Dey, Santanu Majumdar, Amiya Dey, Partha Pratim Ray, **Biswajit Dey**. *Ind. Eng. Chem. Res.*, 2020, 59, 5466–5473.

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35. Triethylenetetramine-Based Semiconducting Fe(III) Metallogel: Effective Catalyst for Aryl–S Coupling. Subhendu Dhibar, Arka Dey, Debasish Ghosh, Santanu Majumdar, Amiya Dey, Partha Pratim Ray, **Biswajit Dey**. *ACS Omega*, 2020, 5, 2680-2689.

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34. A Cu(II)-Inorganic Co–Crystal as a Versatile Catalyst Towards „Click“ Chemistry for Synthesis of 1,2,3-triazoles and β -hydroxy-1,2,3-triazoles. Debasish Ghosh, Subhendu Dhibar, Amiya Dey, Priyanka Manna, Partha Mahata, **Biswajit Dey**. *ChemistrySelect*, 2020, 5, 75-82.

Web Link: <https://chemistry-europe.onlinelibrary.wiley.com/doi/abs/10.1002/slct.201904225>

33. Monoethanolamine and Fe(III) based metallohydrogel: An efficient Schottky barrier diode. Subhendu Dhibar, Rajkumar Jana, Partha Pratim Ray, **Biswajit Dey**. *Journal of Molecular Liquids*, 2019, 289, 111126.

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32. Development of Supramolecular Semiconducting Mn(II)-Metallogel Based Active Device with Substantial Carrier Diffusion Length. Subhendu Dhibar, Arka Dey, Amiya Dey, Santanu Majumdar, Debasish Ghosh, Partha Pratim Ray, **Biswajit Dey**. *ACS Appl. Electron. Mater.*, 2019, 1, 1899–1908.

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31. Graphene oxide dispersed supramolecular hydrogel capped benign green silver nanoparticles for anticancer, antimicrobial, cell attachment and intracellular imaging applications. D. Ghosh, S. Dhibar, A. Dey, S. Mukherjee, N. Joardar, S. P. Sinha Babu, **B. Dey**. *Journal of Molecular Liquids*, 2019, 282, 1-12.

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30. Mechanically tuned molybdenum dichalcogenides (MoS₂ and MoSe₂) dispersed supramolecular hydrogel scaffolds. Subhendu Dhibar, Amiya Dey, Debasish Ghosh, Amit Mandal, **Biswajit Dey**. *Journal of Molecular Liquids*, 2019, 276, 184-193.

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29. A Supramolecular Gel of Oxalic Acid-Monoethanolamine for Potential Schottky Barrier Diode Application. Subhendu Dhibar, Arka Dey, Debasish Ghosh, Santanu Majumdar,

Amiya Dey, Priyanka Mukherjee, Amit Mandal, Partha Pratim Ray, **Biswajit Dey**. *ChemistrySelect*, 2019, 4, 1535-1541.

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27. The development of a rapid self-healing semiconducting monoethanolamine-based $M5g(OH)_2$ metallogel for a Schottky diode application with a high ON/OFF ratio. Subhendu Dhibar, Arka Dey, Amiya Dey, Santanu Majumdar, Amit Mandal, Partha Pratim Ray, **Biswajit Dey**. *New J. Chem.*, 2019, 43, 15691-15699.

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26. A bio-relevant supramolecular Co(II)-complex for selective fluorescence sensing of μM range inorganic As(III) in aqueous medium and its intracellular tracking in bacterial systems. Subhendu Dhibar, Priya Yadav, Tanim Paul, Keka Sarkar, Asoke Prasun Chattopadhyay, Anna Krawczuk, **Biswajit Dey**. *Dalton Trans.*, 2019, 48, 4362-4369.

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<https://pubs.rsc.org/am/content/articlelanding/2019/dt/c8dt04127j/unauth#!divAbstract>

25. A supramolecular Cd(II)-metallogel: an efficient semiconductive electronic device. Subhendu Dhibar, Arka Dey, Santanu Majumdar, Debasish Ghosh, Amit Mandal, Partha Pratim Ray, **Biswajit Dey**. *Dalton Trans.*, 2018, 47, 17412-17420.

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[Cu(imidazole)₄(Cl)]⁺ Unit Involving C-H...Cl, N-H...Cl, $\pi \cdots \pi$, C-H... π Interactions : A Structural, Spectral and Theoretical Investigation. **B. DEY**, P. MUKHERJEE, R. MONDAL, M. FLECK. *Asian Journal of Chemistry*, 2014, 26, 3643-3648.

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8. Three dimensional metal-malonate frameworks with pillared layered architecture: Unusual role of metal-chelate as pillar. **Biswajit Dey**, Amrita Das, Somnath Ray Choudhury, Atish Dipankar Jana, Li-Ping Lu, Miao-Li Zhu, Subrata Mukhopadhyay. *Inorganica Chimica Acta*, 2010, 363, 981-987.

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6. Water–Chloride and Water–Bromide Hydrogen-Bonded Networks: Influence of the Nature of the Halide Ions on the Stability of the Supramolecular Assemblies. **Biswajit Dey**, Somnath Ray Choudhury, Patrick Gamez, Attilio Vittorio Vargiu, Arturo Robertazzi, Chih-Yuan Chen, Hon Man Lee, Atish Dipankar Jana, Subrata Mukhopadhyay. *J. Phys. Chem. A*, 2009, 113, 8626–8634

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5. Use of π – π forces to steer the assembly of a NTA complex of Cu(II) into hydrogen bonded supramolecular layers (H₃NTA = nitrilotriacetic acid). **Biswajit Dey**, Somnath Ray Choudhury, Eringathodi Suresh, Atish Dipankar Jana, Subrata Mukhopadhyay. *Journal of Molecular Structure*, 2009, 921, 268-273.

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3. Robust recognition of malonate and 2-amino-4-picolinium in conjunction with M(II) as a triad (M = Ni/Co/Mn): role of this highly stable hydrogen-bonded motif in driving supramolecular self-assembly. Somnath Ray Choudhury, **Biswajit Dey**, Suranjana Das, Arturo Robertazzi, Atish Dipankar Jana, Chih-Yuan Chen, Hon Man Lee, Patrick Gamez, Subrata Mukhopadhyay. *Dalton Trans.*, 2009, 7617-7624

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2. A tridentate in situ generated ligand that directs the self-assembly of a transition metal complex: Synthesis and structural characterization of cis-dichloro[1-(2-aminoethyl)biguanide]copper(II) monohydrate. **Biswajit Dey**, Somnath Ray Choudhury, Suranjana Das, Atish Dipankar Jana, Li-Ping Lu, Miao-Li Zhu, Amitava Dutta, Subrata Mukhopadhyay. *Polyhedron*, 2008, 27, 2899-2904.

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1. Bis(2-aminopyridinium) diaquabis(malonato- $\kappa^2 O, O'$)cuprate(II). S. R. Choudhury, J. Bhattacharyya, S. Das, **B. Dey**, S. Mukhopadhyay, L.-P. Lu, M.-L. Zhu. *Acta Cryst.*, 2007, E63, m1331-m1332.

Web link: <https://scripts.iucr.org/cgi-bin/paper?sk3114>

Research project:

1. Project Title:

Design, synthesis and characterization of metallosupramolecules with N,O-donor organic ligands in water media

Principal Investigator: **Dr. Biswajit Dey**

Sponsored by CSIR, Govt. of India (Project No.: 01(2866)/16/EMR-II)

Project Completed.

2. Project Title:

Exploration of intriguing supramolecular features of various metallosupramolecular networks of transition metal ions with N,S,O-donor organic ligands in water media

Principal Investigator: **Dr. Biswajit Dey**

Sponsored by SERB-DST, Govt. of India (Project No.: SR/FT/CS- 77/2011)

Project Completed.

3. Project Title:

Exploration of different applications of functional supramolecular metal-organic crystals and gel materials

Principal Investigator: **Dr. Biswajit Dey**

Sponsored by Department of Science and Technology and Biotechnology, Govt. of West Bengal (Sanction letter No.: 14(Sanc.)/ST/P/S&T/15G-18/2018 dated 29/01/2019).

Project Completed.

4. Project Title:

Exploration of Self-healing Supramolecular Metallogels for Light responsive Semiconducting Diode fabrication, Optical Nonlinearity and multi-component Green Organic Synthesis

Principal Investigator: **Dr. Biswajit Dey**

Sponsored by SERB DST (Govt. of India) for the research project (File no. CRG/2023/002689 dated 20/12/ 2023).

Project Ongoing.

Patent Details:

Indian Patent No. 408792 (201731031013)

Invention Title: COPPER-BASED CATALYST

Inventor:

DR. BISWAJIT DEY, DEBASISH GHOSH, SUBHENDU DHIBAR, Visva-Bharati University, Santiniketan-731 235, West Bengal, India

Applicant: DR. BISWAJIT DEY, DEBASISH GHOSH, SUBHENDU DHIBAR, Visva-Bharati University, Santiniketan-731 235, West Bengal, India

Status: Granted (Date of Certificate Issue 11/10/2022)

Resource Person:

Sl. No.	Title	Details of Workshop/Invited lectures / Resource Person/ paper presentation in Seminars/ Conferences	Category/Type of Event
1	Gels: Intriguing Materials for Nano-Bio Technology, Semiconducting Diode Fabrication, and Catalysis	Faculty Development Program (FDP) on “Materials for Sustainable and Renewable Energy” under Short Term Training Program (STTP) by Dumka Engineering College, Dumka, Jharkhand 814101 (From 3rd to 7th March 2020)	National

International Presentation:

Invited lectures

Sl. No.	Title	Details of Workshop/Invited lectures / Resource Person/ paper presentation in Seminars/ Conferences	Category/Type of Event
1	Multi-Functional Supramolecular Gel for Nano, Nano-bio and Biological Applications	International Conference on ‘Recent Trends in Chemical Sciences-2022’ (RTCS-2022) held at Department of Chemistry & Chemical Biology, Indian Institute of Technology (ISM) Dhanbad during	16-18 th December, 2022.
2	A Supramolecular Benign Hydrogel: Soft Scaffold for exploring Nano, Bio and Nano-Bio Applications	International Conference on Green Initiatives in Chemical Sciences for Sustainable Development (ICGICSSD – 2022) held at Department of Chemistry, Sikkim Manipal Institute of Technology during November 18-19, 2022.	International
3	Metallogels: The multi-functional materials	International Conference on Functional Materials (ICFM 2020) held at IIT-Kharagpur during January 06- 08, 2020	International
4	A Supramolecular Hydrogel and its multi-functionality towards nano-bio technology	International Conference on Energy, Materials and Information Technology (ICEMIT 2017), organized by Department of Engineering and Applied Sciences, Amity University Jharkhand, Ranchi, India, held on 23 - 24 December, 2017	International

5	Fluorescence Spectroscopic and Microscopic Sensing of Critical Level Toxic Inorganic Arsenic(III) in water and different bio-species	International Conference on Molecular Spectroscopy (ICMS 2017) to be held on 8, 9 & 10 December 2017 at School of Chemical Sciences Auditorium, Mahatma Gandhi University, Kottayam, Kerala, India	International
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Oral/Poster presentation:

Sl. No.	Title	Details of Workshop/ Seminars/ Conferences	Category/Type of Event	Oral/Poster Presented
1	GELATION OF BILE ACID DERIVATIVES THROUGH SUPRAMOLECULAR CHEMISTRY	International Conference on Energy, Materials and Information Technology (ICEMIT 2017), organized by Department of Engineering and Applied Sciences, Amity University Jharkhand, Ranchi, India, held on 23 - 24 December, 2017	International	Poster Presented
2	Experimental evidences of lone pair...pi interaction towards the supramolecular chemistry	International Symposium on Facets of Weak Interactions in Chemistry, at Department of Chemistry, University of Calcutta on 13.01.2011 to 15.01.2011	International	Poster Presented
3	A Supramolecular Hydrogel - DNA hydrogel - Their Applications	“International Conference on Emerging Materials”, at Department of Chemistry and Chemical Technology, Vidyasagar University during April 20-21,	International	Poster Presented

		2017		
4	Detection of As(III) in living systems	International Conference on Innovative Applications of Chemistry in Pharmacology & Technology (ICIACPT-2015) February 06-08, 2015 P.G. DEPARTMENT OF CHEMISTRY BERHAMPUR UNIVERSITY, BHANJA BIHAR, BERHAMPUR-760007	International	Poster Presented
5	1-D Coordination Polymer of Cu(II): A Critical Level Arsenic(III) Sensor	International Conference on Structural Chemistry of Molecules and Materials, at University of Calcutta, held on November 30-December 2, 2014	International	Poster Presented
6	Zn(II)-sensor in water	International Conference on Environmental Biology and Ecological Modelling (ICEBEM – 2014), at Department of Zoology (CAS) VisvaBharati Santiniketan, India, February 24 to 26, 2014	International	Poster Presented

National:
Invited lectures

Sl. No.	Title	Details of Workshop/Invited lectures / Resource Person/ paper presentation in Seminars/ Conferences	Category/Type of Event
1	A Supramolecular Hydrogel: Smart Scaffold for Nano-Bio Technology	One Day National Level Seminar on March 27, 2019 to be held at the Department of Chemistry, The University of Burdwan, Golapbag, Burdwan-713104, WB, INDIA	National

Oral/Poster presentation

Sl. No.	Title	Details of Workshop/ Seminars/ Conferences	Category/Type of Event	Oral/Poster Presented
1.	Low Molecular Weight Organic Gelator: An Intriguing Factor of Supramolecular Metallogels	Recent Trends in Chemical Science Research and Applications (RTCSRA-2019), at Department of Chemistry, Visva-Bharati, 13.09.2019	National	Poster Presented
2	The role of template size in self assembly: The case of NH_4^+ ion template and the Cu(II)-Urotropin-nitrilotriacetate complex	National Seminar on Membranes, Micro-emulsions and Self-Assembled systems (MMSAS-2010) at Department of Chemistry, Sikkim Manipal Institute of Technology on 28.09.2010-30.09.2010	National	Oral Presentation
3	Metal-directed in-situ generation of organic ligand in water medium and supramolecular self-assembly process of metal-organic complex	Chemical Research in the First Decade of 21st Century, at Department of Chemistry, Visva-Bharati, 06.08.2011	National	Poster Presented
4	A benign functional supramolecular hydrogel	Chemistry of Functional Materials of Current Interest, at Department of Chemistry, Jadavpur University on 16th March, 2016	National	Poster Presented
5	Direct detection of toxic Chromium(VI) in environment	NSRTAS – 2016, Society of Bioresource, Environment and Agricultural Research, Santiniketan & Department of Animal Science, Palli Siksha Bhavana, Visva- Bharati, Sriniketan, on December 4, 2016	National	Poster Presented
6	1-D Micellized coordination polymer in water medium	Emerging Trends in Chemistry (ETC-2017), at Department of Chemistry, Jadavpur University, Jadavpur, Kolkata on 15th February, 2017	National	Poster Presented

7	Cr(VI)-oxo anion sensing in water	National Symposium on Recent Advances in Chemistry & Industry 2016 (with special emphasis on Pharmaceutical Industry), at Indian Chemical Society, on 02-08-2016 to 03-08-2016	National	Poster Presented
8	Crystallographic, PIXEL and Hirshfeld Surface analysis of crystalline isopropylmalonic and n-butylmalonic acids	Recent Advances in Chemistry Research, at Department of Chemistry, Visva-Bharati, 04.03.2016	National	Poster Presented
9	DNA-hydrogel for Ag-NPs synthesis	“Condensed Matter Days 2015” at Department of Physics, Visva-Bharati, during August 27-29, 2015	National	Poster Presented
10	Correlation of micro-structural and spectroscopic results of a MOF in Triton X-100 based organized media in water	National seminar on Chemistry, Department of Chemistry, University of Kalyani, on 24 February, 2016:	National	Poster Presented
11	Micellized MOF of Mn(II) in water	National seminar on Chemistry, Indian Chemical Society, Kolkata, on 31 July-1 August, 2015	National	Poster Presented
12	Coordination Polymers of metal ions and its applications	National Seminar on Multifunctional Polymer Materials, organized by Department of Chemistry, Prof. Sukumar Maiti Polymer Award Foundation and Department of Chemistry, Visva-Bharati, on 14-15th February, 2015	National	Oral Presentation
13	Comparison of supramolecular self assembling features in two selective organic acids	National symposium on Recent Advances in Chemistry and Industry (2014), organized by Indian Chemical Society, 1-2nd August, 2014	National	Poster Presented

14	Supramolecular-assembly process of a co-crystalline aliphatic dicarboxylic acid in solid-state	Recent Advances in Chemistry, at Department of Chemistry, Visva-Bharati, on 9th of March, 2014	National	Poster Presented
15	Self-assembly process of an organic dicarboxylic acid in solid-state	National Seminar on Development of Modern Technology: A Catalyst for Advancement of Science (DMTCAS-2014) at Birbhum Institute of Engineering & Technology to be held on 22nd & 23rd February 2014	National	Poster Presented
16	Chloride Assisted Supramolecular Self-Assembly of Square-Pyramidal [Cu(imidazole) 4 (Cl)] + unit involving C-H...Cl, N-H...Cl, $\pi \cdots \pi$, C-H... π interactions	Recent Developments in Chemistry (RDC-2013), at Department of Chemistry, National Institute of Technology Durgapur, on 3rd5th Oct, 2013	National	Poster Presented

Significant points:

Sl. No.	Details
1.	Indian Patent No. 408792 (201731031013) Invention Title: COPPER-BASED CATALYST Inventor: DR. BISWAJIT DEY, DEBASISH GHOSH, SUBHENDU DHIBAR, Visva-Bharati University, Santiniketan-731 235, West Bengal, India Applicant: DR. BISWAJIT DEY, DEBASISH GHOSH, SUBHENDU DHIBAR, Visva-Bharati University, Santiniketan-731 235, West Bengal, India Status: Granted (Date of Certificate Issue - 11/10/2022)
2.	Editor, Chemistry Africa
3.	Acting as potential referee of different papers/articles of several eminent international journals including Journal of Molecular Structure Journal of Physics and Chemistry of Solids Materials Letters ACS Omega

	ACS Sensors Analytical Chemistry ACS Applied Materials & Interfaces CrystEngComm RSC Advances ChemistrySelect ACS Applied Bio Materials Chemistry Africa Asian Journal of Organic Chemistry New Journal of Chemistry Analyst European Journal of Inorganic Chemistry International Journal of Biological Macromolecules Inorganic Chemistry Macromolecular Bioscience Journal of Luminescence Polyhedron Molecular Systems Design & Engineering
4.	Life Fellow of Indian Chemical Society
5.	Life Member Material Research Society of India