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Professor
Department of Chemistry
University of Calcutta



Date & Place of Birth: 25th February, 1961, Kolkata

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Educational Qualifications:	Degree	University	Year	%	Rank
	B.Sc	University of Calcutta	1979-82	74%	First
	M.Sc.	University of Calcutta	1982-84	80.6%	First
	Ph.D.	Jadavpur University	1991		

Research Experience

Ph.D. (1986-1991) I.A.C.S. (Kolkata)

Thesis title: "Bridged Ring and Condensed Cyclic Systems"

Post Doctoral Research

(a) 1992-1993 Bose Institute (Kolkata)
 and 1994

"NMR studies on
 Structure and dynamics of bent DNA"

(b) 1998-2000 M.D. Anderson Cancer "Polycyclic aromatic Centre, University of Texas, compounds as anticancer
 Houston, Texas, USA agents"

Professional Experience:

- (1) January 1994- October 2005 (St. Paul's C. M. College)
- (2) Joined as Reader at University of Calcutta in October 2005
- (3) Associate Professor (University of Calcutta, January 2006)
- (4) Professor (University of Calcutta, June 2010 till date)

List of publications: (Total no. till date=195) (excluding research highlights)

LIST OF PUBLICATIONS (UP-TO-DATE)

(195) “Fe₂O₃ Nano-Catalyst Mediated Oxidative Decarboxylation C-H Acylation/Benzoylation of 3-Alkylidene-2-Oxindoles With α -Keto Acids” by Soumitra Rana, Aswini Bera, Prabhat Sarkar, Uday Shee, Goutam Sinha, Debasish Bera, Bhanu Bhusan Khatua and **Chhanda Mukhopadhyay***, *Applied Organometallic Chemistry* (DOI: 10.1002/aoc.7821) (2024).

(194) “Solvent-free microwave reactions towards significant organic transformations: a green approach”, by Animesh Mondal and **Chhanda Mukhopadhyay***, *Tetrahedron Green Chemistry* 4 (2024) 100054 (<https://doi.org/10.1016/j.tgchem.2024.100054>).

(193) “Metal and acid-free synthesis of acenaphthenone-2-ylidene ketones in PEG 400 and their radical nitration by TBN in water” by Tiyasa Dhar, Debasish Bera, Tandrima Chaudhuri and **Chhanda Mukhopadhyay***, *Organic and Biomolecular Chemistry*, (<https://doi.org/10.1039/D4OB00963K>), 22, 8002-8009 (2024).

(192) “Synthetic strategies of highly bioactive scaffold Bis(indolyl)methane under greener condition-a comprehensive review” by Arijit Kundu and **Chhanda Mukhopadhyay***, *Current Topics in Medicinal Chemistry* (DOI: 10.2174/0115680266319238240821080203) (2024).

(191) “L-proline Catalyzed Synthesis of Biologically Promising Heterocycles under Sustainable Conditions” by Rajiv Karmakar* and **Chhanda Mukhopadhyay***, *Tetrahedron Chem* (<https://doi.org/10.1016/j.tchem.2024.100087>), 11 (2024), 100087.

(190) “Synthesis and antiproliferative potency of 1,3,4-thiadiazole and 1,3-thiazolidine-4-one based new binary heterocyclic molecules: in vitro cell-based anticancer studies” by Avik Maji, Ambati Himaja, Nikhita Sripathi, Soumitra Rana, Abhik Paul, Ajeya Samanta, Uday Shee, **Chhanda Mukhopadhyay**, Balaram Ghosh and Tapan Kumar Maity*, *RSC Medicinal Chemistry* (DOI: 10.1039/d4md00279b) (2024).

(189) “I₂/DMSO-mediated substrate selective oxidation of tetrahydro indole-2,4-dione towards 4-hydroxy isatins and 5,6-dihydro-1H-indole-2,4-dione derivatives” by Goutam Sinha, Sayan Pramanik, Debashis Jana, Anirban Ghosh and **Chhanda Mukhopadhyay***, *New Journal of Chemistry*, 48, pages 12544 -12552 (<https://doi.org/10.1039/D4NJ01583E>) (2024).

(188) “An efficient metal free water mediated one pot domino protocol for the synthesis of novel 6',7'-dihydro-2H,2'H-spiro[acenaphthylene-1,3'-benzofuran]-2,4'(5'H)-dione scaffolds” by Supratim Das, Soumyadip Basu, Supriyo Halder and **Chhanda Mukhopadhyay***, *Tetrahedron*, (<https://doi.org/10.1016/j.tet.2024.134041>), 160 (2024) 134041.

(187) “DMSO Promoted Catalyst-free Oxidative C-N/C-O Couplings towards Synthesis of Imidazoles and Oxazoles” by Debasish Bera, Rajib Sarkar, Tiyasa Dhar, Pinaki Saha, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Org. Biomol. Chem.*, 2024, 22, 3684–3692 (<https://doi.org/10.1039/D4OB00383G>).

- (186) “Current progress in the synthesis of imidazoles and their derivatives via the use of green tools” by Debasree Saha and **Chhanda Mukhopadhyay***, *Heterocyclic Communications* **2024** ; 30; 20220175, pages 1-13 (DOI: 10.1515/hc-2022-0175) (ISBN 2191-0197).
- (185) “Metal-Free $K_2S_2O_8$ Mediated Synthesis of 3-(Substituted)-2-Arylisindolin-1-one Derivatives With Cascade C-N / C-C Bond Formations *Via* Radical Cyclization” by Soumitra Rana, Rajiv Karmakar, Uday Shee, and **Chhanda Mukhopadhyay***, *European Journal of Organic Chemistry* (<https://doi.org/10.1002/ejoc.202400080>) e202400080 (1-9) (**2024**).
- (184) “Synthesis of stereo-enriched bis glyco-cyclohexylamines by a one pot dual Petasis reaction” by Ayon Sengupta, Rajib Sarkar, Sonali Rudra and **Chhanda Mukhopadhyay***, *Tetrahedron Letters* (<https://doi.org/10.1016/j.tetlet.2024.155025>) 140 (**2024**) 155025.
- (183) “tert- Butyl nitrite promoted visible light induced steric-hindrance-regulated concurrent cross-coupling and regioselective nitration of 3-alkylidene-2- oxindoles” by Prabhat Sarkar, Soumitra Rana, Debashis Jana, Subham Mandal and **Chhanda Mukhopadhyay***, *Advanced Synthesis and Catalysis*, (DOI 10.1002/adsc.202301159), 366 , 1661-1668 (**2024**).
- (182) “On-water” synthesis of thioxoimidazolidinone-isatin/ninhydrin conjugates, followed by temperature-induced dehydration by nano $ZnMnO_3@Ni(OH)_2$ catalyst” by Soumitra Rana, Soumyadip Basu, Aswini Bera, Pinaki Saha, Prasanta Ghosh, Bhanu Bhusan Khatua and **Chhanda Mukhopadhyay***, *Green Chemistry*, 26, 2750-2762 (DOI: 10.1039/D3GC03730D) (**2024**).
- (181) “Microwave activated synthetic route to various biologically important heterocycles involving transition metal catalysts” by Soumyadip Basu and **Chhanda Mukhopadhyay***, *Current Microwave Chemistry* (DOI: [10.2174/0122133356267427231120062925](https://doi.org/10.2174/0122133356267427231120062925)), 10 (issue 2), 97-121 (**2023**).
- (180) “Aqueous mediated iodine catalyzed C-N coupling followed by C-C coupling towards 5H-pyrazino[2,3-b]indoles” by Debasish Bera, Rajib Sarkar, Pinaki Saha, Prasanta Ghosh, **Chhanda Mukhopadhyay***, *Chemical Communications*, (DOI: 10.1039/D3CC01631E) , 59, 7771 - 7774 (**2023**).
- (179)“A substrate switchable pathway for selective construction of bridged dibenzo[b,f][1,5]diazocines and bridged spiromethanodibenzo[b,e]azepines” by Sayan Pramanik, Pinaki Saha, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *ACS Omega*, 8, 23, 20579–20588 (DOI: <https://doi.org/10.1021/acsomega.3c01046>) (**2023**).
- (178) “Steric-Hindrance Induced diastereoselective radical nitration of 3-alkylidene-2-oxindoles followed by tosyl hydrazine mediated sulphonation” by Sayan Pramanik, Pinaki Saha, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Journal of Organic Chemistry* (Article) (DOI: <https://doi.org/10.1021/acs.joc.2c01523>), 88, 6, 3386-3402 (**2023**).
- (177) “L-Proline Catalyzed Organic Reactions via Microwave-Activation” by Rajiv Karmakar and **Chhanda Mukhopadhyay***, *Current Microwave Chemistry* (DOI: [10.2174/2213335610666230330164520](https://doi.org/10.2174/2213335610666230330164520)) , pages 26-42, volume 10 (issue 1) (**2023**).

(176) "Substrate specific ring opening annulations of donor-acceptor cyclopropanes with 3-phenacylidene-2-oxindoles" by Sayan Pramanik, Pinaki Saha, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Tetrahedron*, 131, 133202 (2023) (<https://doi.org/10.1016/j.tet.2022.133202>).

(175) "Metal Free I₂-Promoted Direct Synthesis of 2-Cyano Substituted Maleimides via Unique 3,3-dicyano-2-arylacrylic acid Intermediate" by Prabhat Sarkar, Pinaki Saha, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Organic and Biomolecular Chemistry*, (DOI: 10.1039/D2OB01725C), 21, 789 - 796 (2023).

(174) "Green Synthetic Approach: A well-organized Eco-Friendly Tool for Synthesis of Bio-active Fused Heterocyclic Compounds", by Rajiv Karmakar and **Chhanda Mukhopadhyay***, *Current Green Chemistry*, Volume 10, Number 1, pages 5-24 (DOI: [10.2174/2213346110666230120154516](https://doi.org/10.2174/2213346110666230120154516)) (2023).

(173) "Recent Progress in Palladium Catalysed Sustainable Synthesis of Heterocycles" by Debasree Saha and **Chhanda Mukhopadhyay***, *Current Organocatalysis* (DOI: [10.2174/2213337210666221208142224](https://doi.org/10.2174/2213337210666221208142224)) volume 10, no. 3, 3023, pages 147-159 (2023).

(172) "Vanadium incorporated Zeolite-Y, a versatile catalyst for inter and intra- molecular haloalkynylation coupling reactions" by Soumyadip Basu, Sauvik Chatterjee, Kajal De, Asim Bhaumik and **Chhanda Mukhopadhyay***, *Journal of Organometallic Chemistry* (<https://doi.org/10.1016/j.jorganchem.2022.122494>), volume 979, 122494 (2022).

(171) "Diastereo- and Regioselective Petasis Aryl and Allyl boration of Ninhydrins towards Synthesis of Functionalized Indene-diones and Dihydrobenzoindeno-oxazinones" by Ayon Sengupta, Suwendu Maity, Pinaki Saha, Prasanta Ghosh, Sonali Rudra* and **Chhanda Mukhopadhyay***, *Molecular Diversity* (<https://doi.org/10.1007/s11030-022-10496-4>) (2022).

(170) "FeCl₃ catalyzed synthesis of 6-thioxo-hexahydroindeno[1',2':4,5]imidazo[1,5-a]pyridin-12(6H)-ones via an interesting [1,2] oxygen shift pathway" by Soumyadip Basu, Soumitra Rana, Pinaki Saha, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *J. Org. Chem.* 2022, 87, 15, 9755–9763 (<https://doi.org/10.1021/acs.joc.2c00788>) (Article).

(169) "Base-Free I₂ -Catalyzed Robust Synthesis of Multi-Functionalized Aniline Scaffolds through Mild and Operationally Simple One-Pot Domino Protocol" by Prabhat Sarkar and **Chhanda Mukhopadhyay***, *Chemistry Select* (<https://doi.org/10.1002/slct.202201379>), volume 7, issue 26 (2022).

(168) "Chromatography Free Expeditious Green Synthesis of 3-Hydroxy-2-pyrrolidone Derivatives under Eco-friendly Conditions via the Oxidation of Benzyl amines without Catalyst" by Kajal Mal and **Chhanda Mukhopadhyay***, *Journal of Molecular Structure*, (<https://doi.org/10.1016/j.molstruc.2022.133377>), 1265 (2022) 133377.

(167) "Tosylhydrazine-promoted self-conjugate reduction–Michael/aldol reaction of 3-phenacylideneoxindoles towards dispirocyclopentanebisoxindole derivatives" by Sayan Pramanik and **Chhanda Mukhopadhyay***, *Beilstein Journal of Organic Chemistry*, 18, 469-478 (2022).

(166) "Synthesis of New Horizons in Benzothiazole Scaffold and used in Anticancer Drug Development", by Rajiv Karmakar and **Chhanda Mukhopadhyay***, *Physical Sciences Reviews* (2022) (<https://doi.org/10.1515/psr-2021-0044>).

(165) "Developments in C-C Bond Formation Catalyzed by Solid Supported Palladium: A Greener Perspective", by Debasree Saha and **Chhanda Mukhopadhyay***, *Physical Sciences Reviews*, pages 3287-3302 (2022) (<https://doi.org/10.1515/psr-2021-0081>).

(164) "Green synthesis of C5–C6-unsubstituted 1,4-DHP scaffolds using an efficient Ni-chitosan nanocatalyst under ultrasonic conditions", by Soumyadip Basu, Sauvik Chatterjee, Suman Ray, Suwendu Maity, Prasanta Ghosh, Asim Bhaumik and **Chhanda Mukhopadhyay***, *Beilstein Journal of Organic Chemistry*, 18, 133-142 (2022).

(163) "Sulfamic Acid Promoted Expeditious and Column Chromatography Free Synthesis of Functionalized Spiro [indoline-3, 7'-pyrano [3, 2-c: 5, 6-c'] dichromene]-2, 6', 8'-trione derivatives under Reflux Conditions", by Kajal Mal and **Chhanda Mukhopadhyay***, *Journal of Molecular Structure*, (DOI: <https://doi.org/10.1016/j.molstruc.2021.132213>), 1253 (2022) 132213.

(162) "An Environment-Friendly Methodology For The Construction Of Diversified Bicycloacenaphtho [1, 2-d] Imidazole-8-Thione Scaffolds Using Spinel NiFe₂O₄ Nano-Particles As A Sustainable Catalyst" by Soumitra Rana, Soumyadip Basu and **Chhanda Mukhopadhyay***, *Molecular Diversity*, 2021 (DOI: 10.1007/s11030-021-10356-7).

(161) "Generation of I-, ArS- and ArSe- Substituted Pyrrolo[3,4-c]pyridine Derivatives Using Copper Iodide As an Iodinating agent" by Pampa Maity, Piyali Sarkar and **Chhanda Mukhopadhyay***, *Tetrahedron Letters*, 85 (2021) 153479.

(160) "Synthesis of δ,δ -Diaryl- α -cyanoacrylamides and δ,δ -DiarylallylideneMalononitriles by Pd(OAc)₂ Catalyzed Mizoroki-Heck Reaction" by Ayon Sengupta, Piyali Sarkar, Suwendu Maity, Soumyadip Basu, Prasanta Ghosh, **Sonali Rudra** and **Chhanda Mukhopadhyay***, *Chemistry Select*, 6, 11047-11053 (2021).

(159) "Molecular selectivity of indenopyridines for fullerenes: A comparative study" by Chiranjit Pal, Tandrima Chaudhuri, **Chhanda Mukhopadhyay** and Manas Banerjee, *Journal of the Indian Chemical Society* (<https://doi.org/10.1016/j.jics.2021.100145>) (2021).

(158) "Ultrasound Promoted Novel Route to Triazabenzobicyclopenta-[lm]Fluorenes : An Efficient NiFe₂O₄@SiO₂-SO₃H Nano Catalyst Assisted Green Synthesis", by Soumyadip Basu, Sauvik Chatterjee, Asim Bhaumik and **Chhanda Mukhopadhyay***, *Applied Organometallic Chemistry*, 35(12), e6426,<https://doi.org/10.1002/aoc.6426>(2021).

(157) “Organocatalysis: An overview on its application in oxidation and reduction reactions” by Ramyani Pal and **Chhanda Mukhopadhyay***, *Current Organocatalysis* (DOI: [10.2174/2213337208666210719101409](https://doi.org/10.2174/2213337208666210719101409)) volume 9, issue 1, pages 4-13 (2021).

(156) “Highly selective and sensitive benzo-imidazo-pyrrolo[3,4-c]pyridines based chemosensor for iron, DFT calculation and its biological application” by Pampa Maity, Barnali Naskar, Chitrangada Das Mukhopadhyay, Sanchita Goswami and **Chhanda Mukhopadhyay***, *Journal of Molecular Structure*, 1236 (2021) 130280.

(155) “Diastereoselective trans Cyclopropanation of 3-alkylidene oxindoles with in situ generated α -diazocarbonyls or α , β -unsaturated diazo compounds” by Sayan Pramanik, Suman Ray, Suwendu Maity, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Synthesis*, 21, A-M (2021) (DOI: 10.1055/a-1384-1967).

(154) “Ultrasound-Assisted Expeditious Catalyst-Free Green Approach towards Diastereoselective Synthesis of Spiro[indoline-3,2'-pyrido[2,1-b][1,3]oxazine]-3',4'-dicarboxylate Scaffolds” by Kajal Mal, Suman Ray, Suwendu Maity, Khondekar Nurjamal, Prasanta Ghosh, Goutam Brahmachari and **Chhanda Mukhopadhyay***, *Chemistry Select* 6 (6), 1263-1270 (2021).

(153) “Significant Organic transformations using Catalysts in water: a Greener way to combat Environmental Hazards” by Ramyani Pal and **Chhanda Mukhopadhyay***, *Current Green Chemistry*, 8 (1), 5-16 (2021).

(152) “Organocatalytic Synthesis of Heterocycles: A Brief Overview Covering Recent Aspects” by Rajib Sarkar* and **Chhanda Mukhopadhyay***, *Current Organocatalysis*, volume 8, issue 1, 93-108 (2021).

(151) “A synergistic effect of microwave irradiation and nano-TiO₂@[DABCO(CH₂CH₂CO₂H)]⁺[Br]⁻ for the expeditious synthesis of fully functionalised pyrroles incorporating benzo-thio unit” by Priya Mondal and **Chhanda Mukhopadhyay***, *Journal of Indian Chemical Society* (Convention Special Issue 2020, invited paper), Vol. 97, No. 12a, December 2020, pp. 2579-2591.

(150) “One pot synthesis of densely substituted 1,2,3,4-tetrahydro-1,6-naphthyridine mediated by isocyanide assisted reduction of C-C double bond” by Paramita Das*, Suman Ray, Rupak Saha and **Chhanda Mukhopadhyay***, *Chemistry Select*, 5, 3581-3585 (2020).

(149) “Nano-SiO₂@[DABCO(CH₂CH₂CO₂H)]⁺[Br]⁻ as an Efficient and Recyclable SCILL for Water Mediated Facile Synthesis of Thiol-substituted N-aryl Pentasubstituted Pyrroles” by Priya Mondal, Sauvik Chatterjee, Khondekar Nurjamal, Suwendu Maity, Asim Bhaumik, Goutam Brahmachari, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Catalysis Communications* (DOI: 10.1016/j.catcom.2020.105966) 139 (2020) 105966.

- (148) “Synthesis of Quinoline functionalized fluorescent chemosensor for Cu (II), DFT studies and its application in imaging in living HEK 293 cells” by Kajal Mal, Barnali Naskar, Chandraday Prodhana, Tandrima Chaudhuri, Sanchita Goswami, Keya Chaudhuri and **Chhanda Mukhopadhyay***, *Journal of Photochemistry and Photobiology A: Chemistry*(<https://doi.org/10.1016/j.jphotochem.2019.112211>) 389, 1-12 (2020).
- (147) “Microwave-assisted carbon–carbon and carbon-heteroatom cross-coupling reactions in organic synthesis” by Rammyani Pal and **Chhanda Mukhopadhyay***, *Current Microwave Chemistry* 7 (2), 86-98 (2020).
- (146) “Constructions of Carbon-Carbon and Carbon-Heteroatom bonds: Enabled by Visible Light” by Animesh Mondal and **Chhanda Mukhopadhyay***, *Current Organic Chemistry* volume 24, page 44-73 (2020).
- (145) “Carbon-Hydrogen Bond Functionalization in Aqueous Medium: A Brief Review” by Rajib Sarkar and **Chhanda Mukhopadhyay***, *Current Green Chemistry*, volume 6, pages 184-197 (2019).
- (144) “Erection of DABCO Based Acidic Ionic Liquid Supported ZnO Nanoparticles: Applianc of This Novel SCILL for Ecofriendly Synthesis of N-Aryl Polyhydroquinoline Derivatives” by Priya Mondal, Sauvik Chatterjee, Piyali Sarkar, Asim Bhaumik, **Chhanda Mukhopadhyay***, *Chemistry Select*, 4, 11701-11710 (2019).
- (143) “Intramolecular Ullmann-type C–N coupling for the synthesis of substituted benzo[4,5]imidazo[1,2-a]pyrrolo[3,4-c]pyridines” by Pampa Maity and **Chhanda Mukhopadhyay***, *Tetrahedron*, volume 75 (issue 35), pages 1-10 (2019).
- (142) “Pseudo five component reaction towards densely functionalized spiro[indole-3,2'-pyrrole] by picric acid, an efficient syn-diastereoselective catalyst: An insight to the diastereoselection on C(sp³)-C(sp³) axial conformation” by Ayon Sengupta, Suvendu Maity, Animesh Mondal, Prasanta Ghosh, Sonali Rudra and **Chhanda Mukhopadhyay***, *Organic and Biomolecular Chemistry*, 17, 1254-1265 (2019).
- (141) “Na-Y Zeolite, a convenient and recyclable catalyst for the facile one-pot synthesis of spiro dibenzo[b,e][1,4]oxazepine scaffolds”, by Kajal De, Suvendu Maity, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Applied Organometallic Chemistry* (DOI: 10.1002/aoc.4852) volume 33, issue 6, pages 1-12 (2019).
- (140) “Acid-Promoted Multicomponent Allylic Amidation towards 7-acetamido tetrahydroindole derivatives” by Sayan Pramanik, Suvendu Maity, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Tetrahedron Letters*, 60, 435-438 (2019).
- (139) “A Quick Accelerating Microwave Assisted Sustainable Technique: Permutated Spiro-Casing for Imaging Experiment” by Animesh Mondal, Barnali Naskar, Sanchita Goswami, Chandraday Prodhana, Keya Chaudhuri and **Chhanda Mukhopadhyay***, *Molecular Diversity*, 24(1), 93-106 (2019).

(138) "Creation of DABCO-Based Amphoteric Ionic Liquid Supported TiO₂ Nanoparticles: Execution of Amplified Catalytic Properties on Microwave-Assisted Synthesis of N-Substituted Pyrroles" by Priya Mondal, Sauvik Chatterjee, Asim Bhaumik, Suvendu Maity, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Chemistry Select*, 4, 3140-3150 (2019).

(137) "Mesoporous MCM-41 Silica Supported Pyridine Nanoparticle: A Highly Efficient, Recyclable Catalyst for Expeditious Synthesis of Quinoline Derivatives through Domino Approach" by Kajal Mal, Sauvik Chatterjee, Asim Bhaumik and **Chhanda Mukhopadhyay***, *Chemistry Select*, 4, 1776-1784 (2019).

(136) "An Efficient Phosphotungstic Acid Catalysed Synthesis of 4,5-Dioxopyrrolidines and Study of the Mechanistic Effect of the Solvent on the Reaction" by Soumyadip Basu, Tanushree Ghosh, Suvendu Maity, Prasanta Ghosh and **Chhanda Mukhopadhyay***, *Chemistry Select*, 4, 5763-5767 (2019).

(135) "Metal Nanoparticles: an Efficient Tool for the Synthesis of Heterocycles via C-H Activation" by Debasree Saha and **Chhanda Mukhopadhyay***, *Current Organocatalysis* 6, 79-91 (2019).

(134) "Interaction of Indenopyridines with [60]-fullerene: A spectroscopic and computational study" by Chiranjit Pal, Tandrima Chaudhuri, **Chhanda Mukhopadhyay** and Manas Banerjee, *Indian Journal of Chemistry*, Vol. 58A, (May 2019), page 561-566.

(133) "Pyrrolo[3,4-c]pyridine based fluorescent chemosensor for Fe³⁺/Fe²⁺ sensitivity and their application in living HepG2 cells" by Pampa Maity, Barnali Naskar, Sanchita Goswami, Chandraday Pradhan, Tandrima Chaudhuri, Keya Chaudhuri and **Chhanda Mukhopadhyay***, *ACS Omega*, 3, 18646-18655 (2018).

(132) "Dihydroindeno[1,2-b]pyrroles: New Al³⁺ selective off-on chemosensors for bio-imaging in living HepG2 cell" by Kajal Mal, Barnali Naskar, Animesh Mondal, Sanchita Goswami, Chandradoy Pradhan, Keya Chaudhuri and **Chhanda Mukhopadhyay***, *Organic and Biomolecular Chemistry*, 16, 5920-5931 (2018).

(131) "A Serendipitous Observation of Liquid Phase Size Selectivity inside Mesoporous Silica Nanoreactor in the Reaction of Chromene with Formic Acid" by Paramita Das, Suman Ray, Piyali Bhanja, Asim Bhaumik and **Chhanda Mukhopadhyay***, *ChemCatChem*, 10, 2260-2270 (2018).

(130) "Synthesis of (E)-3-(2-Oxo-2-Arylethylidene)Indolin-2-ones Through Alkyne Carbonyl Metathesis and Their Stereospecific Application Towards Spiro-Oxindolopyrrolizidine Scaffolds" by Soumyadip Basu and **Chhanda Mukhopadhyay***, *European Journal of Organic Chemistry*, 1496-1506 (2018).

(129) “Zeolite-Y mediated multicomponent reaction of isatins, cyclic-1,3-diketones and 1,2-phenylenediamine: An easy access to Spiro dibenzo [1,4] diazepines” by Kajal De, Piyali Bhanja, Asim Bhaumik and **Chhanda Mukhopadhyay***, *ChemCatChem*, 10, 590-600 (2018).

(128) “I₂ catalyzed access of spiro[indoline-3,4'-pyridine] appended amine dyad: new ON-OFF chemosensors for Cu²⁺ and imaging in living cells” by Animesh Mondal, BarnaliNaskar, SanchitaGoswami, ChandradayProdhan, Keya Chaudhuri and **Chhanda Mukhopadhyay***, *Organic and Biomolecular Chemistry*, 16, 302-315 (2018).

(127) “Fabrication of ionic liquid embedded ZnO nanoparticles: Application on thiol induced 2-Pyridone synthesis with symbiotic catalytic effect”, by Priya Mondal, Asim Bhaumik, Sauvik Chatterjee, **Chhanda Mukhopadhyay***, *Asian Journal of Organic Chemistry*, 7, 964-976 (2018).

(126) “Cu/TBHP Catalyzed CDC Reaction for the Synthesis of 3-hydroxy-2-pyrrolidinones” by Rajib Sarkar and **Chhanda Mukhopadhyay***, *Tetrahedron Letters*, 59 (32), 3069-3076 (2018).

(125) “Resorcinarene Supramolecular Organocatalyst for Functionalized 1-tetralone Synthesis in Aqueous Medium”, by Pampa Maity and **Chhanda Mukhopadhyay***, *Tetrahedron Letters*, 59, 3895-3901 (2018).

(124) “Regio- and Stereoselective Multicomponent Synthesis of Novel Chromeno-Annulated Pyrrolizine and Thiazolizine Scaffolds via 1,3-Dipolar Cycloaddition Reactions”, by Rajiv Karmakar and **Chhanda Mukhopadhyay***, *Chemistry Select*, 3, 8581-8586 (2018).

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- (7) "Electron transfer induced cleavage of γ - lactones to carboxylic acids by sodium hexamethyl phosphoric triamide (HMPA)" by J.K.Mukhopadhyaya, **Chhanda Mukhopadhyay** (nee Ray) and U.R.Ghatak, *Indian Journal of Chemistry*, Vol.33B, (1994), 132.
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- (5) "Ar₁ -5 Cyclisations of [(3RS)-and (3SR)-1-Diazo-3-(1RS)6-methoxy -1-methyl-1,2,3,4-tetrahydro-1-naphthyl]butan-2-ones.Synthesis and Crystal structure of (1RS,4RS,5RS,9RS)-4,5-

Dimethyl tricyclo[7.4.0.0_{1,5}]tridecane-3,11-dione” by **Chhanda Mukhopadhyay** (nee Ray), S.Ghosh, M.Mukherjee,A.K.Mukherjee and U.R.Ghatak, *J.Chem.Research(S)*, (1993),476,(M),(1993),3201.

(4) A.K.Ghosh,**Chhanda Ray** and U.R.Ghatak “First Total Synthesis of the Novel Cytotoxic Benzo-cycloheptenes (+) Deoxofaveline and (+) faveline methyl ether,” *Tetrahedron Letters*,(1992), 33(5), 655.

(3) **Chhanda Ray**, B.Saha and U.R.Ghatak, “Synthesis of some angularly cyclopentanone fused hydrophenanthrene and hydrofluorene derivatives by acid catalyzed intra-molecular C-alkylation of γ,δ -unsaturated α -diazomethyl ketones,” *Synthetic Communications*, (1991), 21(10 and 11),1223.

(2) **Chhanda Ray**, B.Saha (in part) and U.R.Ghatak “Bridged-ring and condensed cyclic systems-14 .Synthesis of some bridged propanohydrophenanthrene, - hydrofluorene and benzopropellane derivatives through intramolecular C-alkylations of γ,δ - unsaturated α -diazomethyl ketones,” *Tetrahedron*, (1990), 46, 2857.

(1) A.K.Chakraborty, B.Saha, **Chhanda Ray** and U.R.Ghatak, “Alkali metal liquid-ammonia reduction of γ -lactones to diols and cyclic hemiacetals. Stereochemical influence by the neighbouring group on the nature of the products,” *Tetrahedron*, (1987), 43, 4433.

BOOK CHAPTERS:

(1) “Sustainable Green Technologies for Synthesis of Potential Drugs Targeted towards Tropical Diseases” by Dripta De Joarder, Rajarshi Sarkar and **Chhanda Mukhopadhyay*** (**Elsevier**) Chapter 4, pages 75-93 (2019) for the book Green Approaches in Medicinal Chemistry for Sustainable Drug Design edited by Bimal K. Banik.

(2) “Ultrasonication under catalyst-free condition: an advanced synthetic technique toward the green synthesis of bioactive heterocycles” by Rajiv Karmakar and **Chhanda Mukhopadhyay***(**Elsevier**), Chapter 15, pages 497-562 (2021) for the book Green Synthetic Approaches for Biologically Relevant Heterocycles (second edition) Volume 1: Advanced Synthetic Techniques edited by Goutam Brahmachari (ISBN: 978-0-12-820586-0).

(3) “Copper Based Heterogeneous Catalysis for the synthesis of small organic molecules in aqueous medium” from the book “Aqueous Mediated Heterogeneous Catalysis” (publisher **de Gruyter**) by Rajib Sarkar and **Chhanda Mukhopadhyay***(<https://doi.org/10.1515/9783110733846-007>), Chapter 7, pages 161-175 (2022) (edited by Asit K. Chakraborti and Bubun Banerjee) (ISBN 978-3-11-073845-2).

(4) “Synthesis of New Horizons in Benzothiazole Scaffold and used in Anticancer Drug development” from the book “Heterocyclic Anticancer Agents” (publisher **de Gruyter**) by Rajiv Karmakar and **Chhanda Mukhopadhyay*** (<https://doi.org/10.1515/9783110735772-010>), Chapter 10, pages 343-385 (2022) (edited by Bimal Krishna Banik and Bubun Banerjee) (ISBN 978-3-11-073926-8).

(5) "Current Advances in the application of Actinide complexes for useful organic transformations" from the book Rare Earth Elements (publisher **de Gruyter**) by Debasree Saha and **Chhanda Mukhopadhyay***(<https://doi.org/10.1515/9783110788082-006>) (edited by Basudeb Basu and Bubun Banerjee), Chapter 6, pages 103-118 (2023) (ISBN: 9783110787948, eISBN: 9783110788082).

(6) "Solid-phase platform: a nonconventional synthetic route for the current organic synthesis of diversified heterocyclic and carbocyclic framework (publisher **de Gruyter**), book title: "Organic Synthesis, Natural Products Isolation, Drug Design, Industry and the Environment", by Animesh Mondal and **Chhanda Mukhopadhyay***(<https://doi.org/10.1515/9783111243993-005>) (edited by **Chhanda Mukhopadhyay** and Bubun Banerjee), Chapter 5, pages 135-182) e-book ISBN: 9783111243993, hard cover: ISBN: 9783111243740 (2023).

(7) "Aqueous Mediated Synthesis of bioactive O-Heterocycles" from the book Aqueous Mediated Synthesis (publisher **de Gruyter**) by Rajib Sarkar and **Chhanda Mukhopadhyay***(<https://doi.org/10.1515/9783110985627-007>) (edited by Asit K Chakraborti and Bubun Banerjee), Chapter 7, pages 205-225 (2024) (ISBN: 9783110985627).

(8) "Green metal catalyzed reactions under sustainable conditions toward medicinally potent biomolecules" by Dripta De Joarder, Rajarshi Sarkar and **Chhanda Mukhopadhyay*** (**Elsevier**), Chapter 1, pages 03-12 (2024) (Section 1: Chemical Catalysis) for the book Green Approaches in Medicinal Chemistry for Sustainable Drug Design edited by Bimal K. Banik (DOI: <https://doi.org/10.1016/B978-0-443-16166-7.00021-9>), (ISBN: 978-0-443-16166-7).

(9) "Sustainable green technologies for synthesis of potential drugs targeted toward tropical diseases" (updatation) by Dripta De Joarder, Rajarshi Sarkar and **Chhanda Mukhopadhyay*** (**Elsevier**), Chapter 10 , pages 191 - 204 (2024) (Section 4: Green Chemistry) for the book Green Approaches in Medicinal Chemistry for Sustainable Drug Design edited by Bimal K. Banik (DOI: <https://doi.org/10.1016/B978-0-443-16166-7.00019-0>) (ISBN: 978-0-443-16166-7)

(10) "Sustainable green approaches for synthesis of bioactive flavonoids as cardioprotective and anticancer drug agents" by Rajiv Karmakar* and **Chhanda Mukhopadhyay*** (**Elsevier**), Chapter 14, pages 305-343 (2024) (Section 5 : Medicinal Chemistry) for the book Green Approaches in Medicinal Chemistry for Sustainable Drug Design edited by Bimal K. Banik (DOI: <https://doi.org/10.1016/B978-0-443-16166-7.00014-1>) (ISBN: 978-0-443-16166-7).

BOOKS

(1) Non-Conventional Solvents-Volume 1 (edited by **Chhanda Mukhopadhyay** and Bubun Banerjee) (<https://doi.org/10.0000/9783110788129>) (Ionic Liquids, Deep Eutectic Solvents,

Crown Ethers, Fluorinated Solvents, Glycols and Glycerol) e-book ISBN: 9783110788129, hard cover : ISBN: 9783110787931 (2023) (publisher: **de Gruyter**)

(2) Non-Conventional Solvents-Volume 2 (edited by **Chhanda Mukhopadhyay** and Bubun Banerjee) (<https://doi.org/10.0000/9783111243993>) (Organic Synthesis, Natural Products Isolation, Drug Design, Industry and the Environment) e-book ISBN: 9783111243993, hard cover: ISBN: 9783111243740 (2023) (publisher: **de Gruyter**)

Research Highlights

(1) “*syn*-Selective, three-component Mannich Reaction in Aqueous Media” by **Chhanda Mukhopadhyay***, Arup Datta and Ray J. Butcher, *Synfacts*, 10, 1115 (2009).

(2) “Synthesis of 2-Oxo-2,5-Dihydropyrroles with TiO₂ Nanopowder” by Sunil Rana, Mike Brown, Arghya Dutta, Asim Bhaumik and **Chhanda Mukhopadhyay***, *Synfacts*, 9 (5), 0566 (2013).

(3) “A Solid Base Catalyst for the Synthesis of IsatinylideneRhodanines” by Suman Ray, **Chhanda Mukhopadhyay***, *Synfacts*, 9(11), 1247 (2013).

(4) “Synthesis of Benzothiazoles by using PiperazinylPyrimidine-Modified-MCM-41” by S. Ray, P. Das, B. Banerjee, A. Bhaumik and **C. Mukhopadhyay***, highlighted in *SYNFACTS*, (2015), 1334 (Reg. No.Y014715SF).

Publication from an International Symposium myself being convener

“Weak Interactions in Chemistry” by **Chhanda Mukhopadhyay*** and Sasankasekhar Mohanta, *Current Science*, 100 (9), 1282 (2011).

Research Interests:

- Organic Synthesis with special emphasis on nitrogen containing heterocycles like pyridines, triazoles, 1,2,4,5-tetrasubstituted imidazoles, diverse five ring fused acridines, pyrroloacridinones, acridine-1,8-dione, xanthenes, 2,4,5-triaryl and 2-alkyl-4,5-diaryl oxazole, blue light emitting highly fluorescent C7-imidazo indolizines, 1,6-naphthyridines, spiro-pyrazolo[3,4-b]pyridines and spiro[indolo-3,10'-indeno [1,2-b]quinolin]-trione etc....,
- Green Chemical reactions using green catalysts
- heterogeneous catalysis mainly silica and alumina based
- organic-inorganic hybrid catalysts
- mixed metal-oxide catalysts
- host-guest chemistry focusing on the formation of pseudorotaxanes
- application of nano-catalysts towards organic transformations
- multicomponent reactions
- calixarene chemistry: synthesis and applications
- fluorescence sensors and their application in imaging in living cells

Membership of Academic Institutions:

Life Member of Indian Chemical Society, Kolkata,
Life Member of Indian Association for the Cultivation of Science, Kolkata,
Life Member of Presidency College, Kolkata.
American Chemical Society Member (one year)

Governing Body Member of the following colleges:

- (1) New Alipore College
- (2) Purash-Kanpur-Haridas-Nandi-Mahavidyalaya
- (3) Victoria Institution (College)
- (4) Netaji Nagar College for Women

Awards and Recognition

- (1) Professor R. S. Varma Memorial Award, by the Indian Chemical Society (2015) for contribution in Organic Chemistry.
- (2) Chemical Research Society of India-Bronze Medal Award (2015)(CRSI) for contribution to research in Chemistry.
- (3) Awarded gold medal by the University of Calcutta for standing first in the first class at the M.Sc. Examination in Chemistry, (1984).
- (4) Awarded book prize by the University of Calcutta for standing first in the first class at the B.Sc. Examination in Chemistry, (1982).
- (5) Awarded “Cunningham Memorial Prize” and “Acharya P.C. Ray Memorial” book prizes by Presidency College, Kolkata (1982) for securing the highest marks in Chemistry.

BOS (Board of Studies Member of the Following)

- (1) Belur Ramkrishnamission Vidyamandira
- (2) St. Xavier’s College, Kolkata
- (3) West Bengal State University, Barasat
- (4) Bidhannagar College (affiliated to West Bengal State University, Barasat)
- (5) BOS Member of UG Chemistry, University of Calcutta

Assignments related to PhD Work:

- (1) Convener, PhD Research Advisory Committee in Chemistry (Organic)
- (2) External Member of PhD Committee, Presidency University
- (3) External Member of PhD Committee, Jadavpur University

Convener, NMR Committee, Department of Chemistry, University of Calcutta.

Editorship of Journals:

- (1) **Editorial Board Member** of “**Current Microwave Chemistry**” (Bentham Science publications).

Summary of research scholars:

- (1) Dr. Arup Datta (PhD in 2010), Assistant Professor at Shibpur Dinabandhu Institution
- (2) Dr. Pradip Kumar Tapaswi (PhD in 2011), Assistant Professor at Narasingha Dutta College
- (3) Dr. Sunil Rana (PhD in 2013) (Assistant Professor at FITJEE)

- (4) Dr. Sabari Ghosh (PhD in 2013) (Assistant Professor at Heritage College, Kolkata)
- (5) Dr. Paramita Das (PhD in 2014) (Assistant Professor at Ashutosh College)
- (6) Dr. Suman Ray (PhD in 2014) (Assistant Professor at Presidency University, Kolkata)
- (7) Dr. Rajib Sarkar (PhD in 2017) (SACT at Prabhu Jagatbandhu College)
- (8) Dr. Piyali Sarkar (PhD in 2017) (Assistant Professor at Institute of Health Sciences, Presidency University, Kolkata)
- (9) Dr. Animesh Mondal (PhD in 2018) (Assistant Professor at Government General Degree College at Salboni, Paschim Medinipur)
- (10) Dr. Kajal De (PhD in 2019) (Assistant Chemist Group B, GSI, India)
- (11) Dr. Priya Mondal (Assistant teacher, Deulia Balika Bidyamandir, Purba Medinipur) (PhD in 2021)
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- (13) Dr. Soumyadip Basu (PhD in 2023) (Scientific Assistant, Regional Testing Laboratory, Central Power Research Institute).
- (14) Dr. Kajal Mal (Assistant Master in Chemistry, Govt. Model School, Rajnagar, Birbhum) (PhD in 2023)
- (15) Dr. Sayan Pramanik (PhD in 2023) (SERB NPDF at IISER, Kolkata).
- (16) Prabhat Sarkar (Assistant Professor, Aghorekamini Prakashchandra Mahavidyalaya, Subhasnagar, Hooghly).
- (17) Soumitra Rana (SRF, CSIR NET)
- (18) Ayon Sengupta (Senior Research Scientist, TCGLS)
- (19) Debasish Bera (SRF, UGC NET)
- (20) Goutam Sinha (SRF, CSIR NET)
- (21) Supratim Das (SRF, UGC NET)
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Post Doctoral Fellows:

- (1) Dr. Rajiv Karmakar (DSKothari, at present Assistant professor at Dum Dum Motijheel College)
- (2) Dr. Rammyani Pal (DSKothari, joined on 2nd May, 2019-May 01, 2022)