**Name & Designation**: **Dr. CHHANDA MUKHOPADHYAY**
**Professor**
**Department of Chemistry**
**University of Calcutta**

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

**Nationality**: Indian

**Present post**:Professor

**Institution with address**: Department of Chemistry
University of Calcutta
92 APC Road,
Kolkata-700009
West Bengal
India

**Residential Address**: AD-107, Salt Lake City
Sector-I
Kolkata-700064
West Bengal
India

**Telephone No. (with STD code):** + 91-33-9433019610

**E-mail**: (1) cmukhop@yahoo.co.in (2) chmchem@caluniv.ac.in

**Educational Qualifications:**Degree University Year % Rank
B.Sc, Calcutta University 1979-82 74% **First**
M.Sc. Calcutta University 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 Centre, University of Texas, Houston, Texas, USA "Polycyclic aromatic compounds as anticancer 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=**168**) (excluding research highlights)

**LIST OF PUBLICATIONS (UP-TO-DATE)**

(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) (**2022**).

(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).

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(160) "Synthesis of δ,δ-Diaryl-α-cyanoacrylamides and δ,δ-DiarylallylidieneMalononitriles by $Pd(OAc)_2$ Catalyzed Mizoroki-Heck Reaction" by Ayon Sengupta, Piyali Sarkar, SuvenduMaity, SoumyadipBasu, Prasanta Ghosh, **Sonali Rudra** and **Chhanda Mukhopadhyay*** , ***Chemistry Select***, 6, 11047-11053(**2021**).

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(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, BarnaliNaskar, Chitrangada Das Mukhopadhyay, Sanchita Goswami and **Chhanda Mukhopadhyay*,** ***Journal of Molecular Structure***, 1236 (**2021**) 130280.

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(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,BarnaliNaskar, ChandradayProdhan, 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**).

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(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 SoumyadipBasu,Tanushree Ghosh,SuvenduMaity, Prasanta Ghoshand **Chhanda Mukhopadhyay***, ***Chemistry Select***, 4, 5763-5767 (**2019**).

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(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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(122) "A facile, convenient and catalyst-free one-pot route to fluorescent pyrrolo[3,4-c]pyridines*via* multicomponent strategy in aqueous medium", by Pampa Maity, Tandrima Chaudhuri and **Chhanda Mukhopadhyay*,*** ***Chemistry Select***, 3, 2080-2087 (**2018**).

(121) "Utility of the ditopic nature of magnetically recyclable $NiFe_2O_4$ nano-catalyst for the green synthesis of two different spiro[indoline-pyrrolizine] scaffolds" by SoumyadipBasu,

UtpalKayal, SubhenduMaity, Prasanta Ghosh, Asim Bhaumik and **Chhanda Mukhopadhyay***, ***Chemistry Select*** , 3, 12755-12763 (**2018**).

(120) "Microwave Irradiation in Organic Synthesis Towards the Construction of Biologically Active *N*-Heterocycles" by Rajiv Karmakar and **Chhanda Mukhopadhyay***, ***Journal of IndianChemical Society*****(invited article),** 95, 1409-1441**(2018).**

(119) "Stoichiometric versus catalytic action of Organocopper compounds in Organic Transformations" by Rajiv Karmakar and **Chhanda Mukhopadhyay***, ***Journal of IndianChemical Society* (invited article),** volume 95**, July** (**2018**), pp 863-878.

(118) "Benzimidazole: A solid state colorimetric chemosensor for fluoride and acetate" by Tandrima Chaudhuri, Animesh Mondal and **Chhanda Mukhopadhyay, *Journal of Molecular Liquids***, 251, 35-39 (**2018**).

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(111) "An expeditious synthesis of spiro[chromeno[2,3-c]pyrazole-4,3'-indolin]-2'5-diones Catalysed by recyclable spinel $ZnFe_2O_4$ nanopowder" by Kajal De, PiyaliBhanja, Asim Bhaumik, **Chhanda Mukhopadhyay***, ***Chemistry Select*** , 2, 4857-4865 (**2017**).

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(106) "The Synthesis of New 8-Imino-1-one Acridine Derivatives Catalyzed by Calix[4]arene Monoacid Core" by Piyali Sarkar and **Chhanda Mukhopadhyay***, ***Green Chemistry***, 18, 6556-6563 (**2016**).

(105) "A novel rearrangement followed by ring contraction-based highly selective and sensitive turn-on chromogenic and fluorescent chemodosimeter for $Cu^{2+}$" by Paramita Das,Tandrima Chaudhuri*, AnimeshKarmakar,SucharitaSaha, Sumita Sengupta (Bandyopadhyay)and **Chhanda Mukhopadhyay***, ***Asian Journal of Organic Chemistry***, 5, 1492-1498 (**2016**).

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**BOOK CHAPTERS**:

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**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 $TiO_2$ 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]-trioneetc…,
- 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.

**Editorship of Journals**:

(1) Sectional Editor (Organic and Biochemistry Section) of the **Journal of Indian Chemical Society.**
(2)**Editorial Board Member** of "**Current Microwave Chemistry**" (Bentham Science publications).

**Summary of research scholars:**

(1) Dr. Arup Datta (PhD in 2010), Assistant professor at ShibpurDinabandhu 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 Sister Nivedita 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)
(12) Pampa Maity (SRF, UGC NET) (thesis submitted)(presently employed at TCGLS)
(13) Soumyadip Basu (SRF, UGC NET)
(14) Kajal Mal (Assistant Master in Chemistry, Govt. Model School, Rajnagar, Birbhum)
(15) Sayan Pramanik (SRF, CSIR NET)
(16) Prabhat Sarkar (SRF, CSIR NET)
(17) Soumitra Rana (SRF, CSIR NET)
(18) Ayon Sengupta (Senior Research Scientist, TCGLS)
(19) Debasish Bera (SRF, UGC NET)
(20) Goutam Sinha (JRF, CSIR NET)
(21) Supratim Das (JRF, UGC NET)
(22) Tiyasha Dhar (JRF, UGC NET)

**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)