Dr. Suchandra Chakraborty

Assistant Professor

Department of Chemistry

Contact Information

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Specialization

- **Organic Chemistry**

THE BHAWANIPUR EDUCATION SOCIETY COLLEGE

Biographical Sketch

Dr. Suchandra Chakraborty is holding the position of Assistant Professor, Department of Chemistry, The Bhawanipur Education Society College, Kolkata affiliated to University of Calcutta. She completed her B.Sc. degree in the year of 2004 from Bethune College, University of Calcutta and she accomplished her M.Sc. degree in 2006 from Presidency College, University of Calcutta. Dr. Chakraborty was award ed Ph.D. degree from the University of Calcutta in 2014 in field of Synthetic Organic Chemistry. She has several research publications in peer reviewed nation and international journals. She has more than 10 years of teaching and research experience. Apart from research publications, Dr. Chakraborty also has several publications to her credit in the field of science education journals. She develops the e-content of numerous interesting topics of organic chemistry for teaching purpose. She has authored 6 text books of organic chemistry till date for undergraduate chemistry honours students and 2 books for SEC course recently incorporated in the CBCS curriculum. She has also developed an APP in the Android platform for the undergraduate/postgraduate students for their practical classes. She is very passionate about her teaching. Besides, she has a research wing in the college as SynthChem Lab.

Academic Qualifications

Exam Passed	Year of Passing	Board/ University	Division / Class	Percentage (%) of Marks
Madhyamik	1999	WBBSE	1st	81.2
Higher Secondary	2001	WBCHSE	1st	80.7
B.Sc. (Chemistry Hons.)	2004	University of Calcutta	1st	60.7
M.Sc. (Organic chemistry special)	2006	University of Calcutta	1st	72.3
CSIR-UGC NET	2007		CSIR-JRF/SRF	

Thesis Awarded

- Ph.D. degree awarded from the University of Calcutta in 2014 in Science.

  Title of the Thesis: “Development of Synthetic Methodology and Its Application in Nitrogen Heterocycles”.

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Research Experience

- Doctoral Research work: Calcutta School of Tropical Medicine, Kolkata
- Funding Agency: CSIR, New Delhi Post-doctoral Research work was done as CSIR SRF (Ext.) in the Department of Clinical and Experimental Pharmacology, School of Tropical Medicine, Kolkata.
- Areas of Expertise: Basic synthetic organic chemistry, experience in handling Microwave Reactor, Solid phase reactions, Green chemical processes, Reactions in inert atmosphere, experience in handling Atomic Absorption spectrophotometer with hydride generator, experience in handling UV-VIS spectrophotometer, HPLC.

Research Interests

- Development of synthetic methodologies
- Heterocyclic chemistry with a special reference to carbazole nucleus
- Total synthesis of carbazole alkaloids and carbazoloquinones.
- Developing new methods for organic reactions related to Chemical Education

Subjects Taught

Stereochemistry | Organic Basic Reaction Mechanisms | Chemistry of Carbonyl compounds | Synthetic Chemistry | Heterocyclic Chemistry | Clinical and Experimental Biochemistry | Pharmaceutical Chemistry | Green Chemistry

Books Published

- Study Guide to Organic Chemistry Vol.1, Chandan Saha, Suchandra Chakraborty, Ahana Saha, Kaushik Basu, Techno World, Kolkata, July, 2017. ISBN-13: 978-8192669564.
- Study Guide to Organic Chemistry Vol.2, Chandan Saha, Suchandra Chakraborty, Ahana Saha, Kaushik Basu, Techno World, Kolkata. November, 2017. ISBN-13: 978-8192669588.
- Study Guide to Organic Chemistry Vol.3, Chandan Saha, Suchandra Chakraborty, Ahana Saha, Kaushik Basu, Techno World, Kolkata. April, 2018. ISBN-13: 978-8192695228.

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- Study Guide to Organic Chemistry Vol.4, Chandan Saha, Suchandra Chakraborty, Ahana Saha, Kaushik Basu, Techno World, Kolkata. August, 2018. ISBN-13: 978-8192695259.
- Study Guide to Organic Chemistry Vol.5, Chandan Saha, Suchandra Chakraborty, Ahana Saha, Kaushik Basu, Techno World, Kolkata. August, 2018. ISBN-13: 978-8192695259.
- Study Guide to Organic Chemistry Vol.6, Chandan Saha, Suchandra Chakraborty, Ahana Saha, Kaushik Basu, Techno World, Kolkata. November, 2019. ISBN-: 978-93-88347-39-6.
- Lectures on Analytical Clinical Biochemistry, Chandan Saha, Biswanath Chakraborty, Suchandra Chakraborty, Kaushik Basu, Techno World, Kolkata. November, 2019. ISBN-: 978-93-88347-42-6.
- Lectures on Pharmaceutical Chemistry and Pesticide Chemistry, Chandan Saha, Biswanath Chakraborty, Suchandra Chakraborty, Kaushik Basu, Techno World, Kolkata. August, 2020, ISBN-: 978-93-88347-59-4.

On Going Project

- R & D Project of GOVERNMENT OF WEST BENGAL, DEPARTMENT OF SCIENCE & TECHNOLOGY AND BIOTECHNOLOGY, VIGYAN CHETANA.
- Project Title: “Studies on The Synthesis of Carbazole Alkaloids: Potential Antibacterial Agents and Photophysical Biomarkers”.

Application Development

- IntelliChem Identifier 1.0.1 (April 2020) The app has been designed and developed in the SynthChem Lab, Suchandra Chakraborty & Associates.
- Google Play Download URL: https://play.google.com/store/apps/details?id=io.ci.compoundidentifier
- Watch demonstration Videos: https://youtu.be/2otk3-mNL0Q

Awards

- Young Scientist Award in the symposium on “Acharya Prafulla Chandra Ray Memorial Symposium on Chemistry & Industry (2013)” organized by the Indian Chemical Society in Commemoration of the 152th Birth Anniversary of Acharya Prafulla Chandra Ray on August 02-03, 2013.

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Research Publications (National/ International)

- "Brine Mediated Efficient Benzoylation of Primary Amines and Amino Acids"; Gautam Chattopadhyay, Suchandra Chakraborty and Chandan Saha, Synthetic Communications, 38: 4068–4075, 2008.
- "Montmorillonite-KSF induced Fischer indole cyclization under microwave towards a facile entry to 1-keto-1,2,3,4-tetrahydrocarbazoles"; Suchandra Chakraborty, Gautam Chattopadhyay and Chandan Saha, Indian Journal of Chemistry, 50B, 201-206, 2011.
- "A Novel CAN-SiO2-Mediated One-Pot Oxidation of 1-Keto-1,2,3,4-tetrahydrocarbazole to Carbazoloquinones: Efficient Syntheses of Murrayaquinone A and Koeniginequinone A"; Suchandra Chakraborty, Gautam Chattopadhyay and Chandan Saha, Journal of Heterocyclic Chemistry, 48 (2), 331- 338, 2011.
- "A Tandem Reduction-oxidation Protocol for the Conversion of 1-Keto-1,2,3,4-tetrahydrocarbazoles to Carbazoles via Tosylhydrazones through Microwave Assistance: Efficient Synthesis of Glycozoline, Clausenalene, Glycozolicine, Deoxy Carb Azomycin B and the Total Synthesis of Murrayafoline A"; Suchandra Chakraborty, Gautam Chattopadhyay and Chandan Saha, Journal of Heterocyclic Chemistry, 2013, 50 (1), 91-98.
- "Dissymmetry and Asymmetry – A Hopeless Conflict in Chemical Literature", Suchandra Chakraborty and Chandan Saha, Resonance, 17 (8), 768, 2012.
- "Isolation and characterization of Pseudomonas sp. STM 997 from soil sample having potentiality to degrade carbazole moiety utilizing 3,6-dimethyl-1-keto-1,2,3,4–tetrahydrocarbazole, a novel mimic carbazole derivative", Biswanath Chakraborty, Suchandra Chakraborty, Anjan Kumar Basu, Bhrigu Aditya, T.P.Sinha, Tanima Modak Dhar, Chandan Saha, Applied Biochemistry and Biotechnology, 168, 1765 – 1777, 2012.
- "Photophysical properties of an environment sensitive fluorophore 1-Keto-6,7-dimethoxy-1,2,3,4-tetrahydrocarbazole and its excited state interaction with N, N-dimethylaniline: A spectroscopic investigation", Amrit Krishna Mitra*, Sujay Ghosh*, Suchandra Chakraborty, Chandan Saha, Manas Kumar Sarangi and Samita Basu, Journal of Photochemistry and Photobiology A: Chemistry, 240, 66-74, 2012. (*equal contributors)
- "Hydrogen Bond Sensitive Probe 5-Methoxy-1-keto-1,2,3,4-tetrahydro Carbazole in the Microheterogeneity of Binary Mixtures and Reverse Micelles," Manas Kumar Sarangi, Amrit Krishna Mitra, Chaitrali Sengupta, Sujay Ghosh, Suchandra Chakraborty, Chandan Saha and Samita Basu, Journal of Physical Chemistry C, 2013, 117 (5), 2166–2174.

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- "Efficient Acetylation of Primary Amines and Amino Acids in Environmentally Benign Brine Solution using Acetyl chloride", Kaushik Basu, Suchandra Chakraborty, Achintya Kumar Sarkar & Chandan Saha, Journal of Chemical Sciences, 125 (3), 2013, 607-613.
- "Synthesis and spectroscopic exploration of carboxylic acid derivatives of 6-hydroxy-1-keto-1,2,3,4-tetrahydrocarbazole: Hydrogen bond sensitive fluorescent probes", Amrit Krishna Mitra*, Sujay Ghosh*, Suchandra Chakraborty, Chandan Saha and Samita Basu, Journal of Luminescence, 143, 2013, 693 – 703.
- "Total synthesis of Carb Azomycin G", Suchandra Chakraborty and Chandan Saha, European Journal of Organic Chemistry, 2013 (25), 5731 - 5736.
- "A Closer Look at the Mulliken Barker Test: An improvisation for nitro compounds having acidic functionality", Kaushik Basu, Suchandra Chakraborty, Chandan Saha, Resonance, 18 (9), 2013, 873
- "One-pot Efficient Reductive acetylation of Primary Aromatic Amines", Kaushik Basu, Suchandra Chakraborty, Achintya Kumar Sarkar & Chandan Saha, IOSR Journal of Applied Chemistry Volume 7, Issue 4 Ver. I., 2014, 30-40.
- "Antibacterial activity of Murrayaquinone A and 6-methoxy-3,7-dimethyl-2,3-dihydro-1H-carbazole-1,4(9H)-dione", Biswanath Chakraborty, Suchandra Chakraborty, and Chandan Saha. International Journal of Microbiology, vol. 2014, pp 1-8.
- "Distinction between the Reactivity of Phosphorus Ylide vs. Sulfur Ylide with the Carbonyl Compounds: Simplicity and Logic", Suchandra Chakraborty, Kaushik Basu and Chandan Saha, Education in Chemical Science and Technology, Vol. 2, No. 1, pp 9 -24, 2014.
- "In Vitro Activity of Synthesized 6-Chloro-2-methyl-1H-carbazole-1,4(9H)-dione against Methicillin-Resistant Staphylococcus aureus", Biswanath Chakraborty, Suchandra Chakraborty, Indrani Bhattacharyya and Chandan Saha, IOSR Journal of Applied Chemistry Volume 7, Issue 11 Ver. I. 2014, 61-66.
- "A Tribute to Bardhan and Sengupta: Synthesis of Phenanthrene and Its Derivatives", Suchandra Chakraborty and Chandan Saha, Resonance 20 (7), 1, 2015.
- "Solid phase benzoylation of phenols and alcohols in microwave reactor: an eco-friendly protocol", Suchandra Chakraborty, Ahana Saha, Kaushik Basu and Chandan Saha, Synthetic Communications, 45 (20), 2331-2343, 2015. doi.org/10.1080/00397911.2015.1078899.

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- Monitoring the Competence of a New Keto-tetrahydrocarbazole Based Fluorosensor Under Homogeneous, Micro-Heterogeneous and Serum Albumin Environments", Amrit Krishna Mitra, Abhishek Sau, Subhas Chandra Bera, Suchandra Chakraborty, Chandan Saha and Samita Basu, Journal of Fluorescence, 25 (6), 1931 -1949, 2015.

- "The Curtin—Hammett Principle: A Qualitative Understanding", Suchandra Chakraborty and Chandan Saha, Resonance, 21(2), 151-171, 2016.

- "Evaluation of antimicrobial activity of synthesized fluoro carbazole derivatives based on SAR", Suchandra Chakraborty, Biswanath Chakraborty, Ahana Saha, Chandan Saha, Tamal Kanti Ghosh and Indrani Bhattacharyya, Indian Journal of Chemistry, 56B, 701-708, 2017.

- "Total synthesis of hyellazole and its derivatives", Suchandra Chakraborty and Chandan Saha, European Journal of Organic Chemistry, Volume 2018, Issue 17, 2013-2021.

- "IntelliChem Identifier: An Intelligent Search Engine at Your Fingertips for Identification of Unknown Organic Compounds", Suchandra Chakraborty, Kaushik Basu, Sanjib Haldar, Chandan Saha, Resonance, 26(5), 685-703, 2021.

Seminars / Webinars / Workshops / Conferences

- Participated in the The Role of Chemistry in Environmental Protection (28th June, 2021) organized by Dept. of Chemistry Haldia Government College.

- Coordinator of the students' webinar Chem Voice 21 (26th June, 2021) organized by Dept. of Chemistry The BES College.

- Participated in the International webinar on "Chemistry and Recent Developments in Medicinal Field" (23rd August, 2020) organized by Department of Chemistry, Surendranath Evening College.

- Participated in the Promotion of College Teachers in the Light of UGC Guidelines 2016 and 2018 (8th August, 2020) organized by CAS Committee Bethune College, Kolkata.

- Participated in the Discipline Specific Elective (DSE) Topics of UG Chemistry (Hons.), CBCS syllabus, University of Calcutta (4th-7th August, 2020) organized by Dept. of Chemistry, Maulana Azad college and Asutosh college.

- Co-ordinator of the webinar Scientists under Scanner: When they are stepping against the Ethics of Science (8th August, 2020) organized by Dept. of Chemistry, The BES College.

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- Participated in the Revised NAAC Assessment and Accreditation Process for affiliated colleges (22nd July,2020) organized by Serampore Girls' College and Bidhan Chandra College, Rishra.
- Participated in the National webinar on Exploring New Facets of Organic Synthesis: From Metal to Metal-free catalysis (18th July,2020) organized by Dept. of Chemistry The BES College.
- Participated in the National webinar on Rethinking Infectious Diseases at the Time of COVID-19 (18th July,2020) organized by Dept. of Chemistry New Alipore College.
- Participated in The Enigma of Gravity: From the Apple to The Black Hole (17th July,2020) organized by Dept. of Physics, The BES College.

Committee Member Conferences

- NAAC Steering Committee
- Women's Cell Committee
- Internal Complaints Committee
- Student's Credit Card Scheme

Vision Statement

- provide students with the academic foundations that will put them in good stead to achieve in university and beyond.
- Encourage college students to embrace enterprise, self-confidence, creativity and social justice in all their endeavours.
- promote the virtues of scientific method, research and scholarly inquiry so students can bring important critical thinking skills to their pursuits outside of college.
- cultivate partnerships between my students and industry so that they leave university with both workforce ready skills and the social capital required for gaining meaningful employment in their fields.

Suchandra Chakraborty

Signature of the Faculty Member

Date: 01st September, 2022

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