

## College Website Developments :: Faculty Profile Page

Provide information (**No formatting needed**) under these headings, where you do not wish to fill these areas in or it is not appropriate to do so, just leave these areas blank or write not applicable.

**Name:** Dr. AJANTA MUKHERJI

**Picture:** Head and shoulders portrait – upto 100kb, JPEG format. This will need to be supplied electronically and separate file.

**Job Title/Designation:** Assistant Professor in Chemistry (W.B.E.S.)

### About Me:

○ **Experience / Expertise:**

I have passed M.Sc. from the University of Calcutta and completed my Ph.D. from Bose Institute, Kolkata, working as a CSIR-NET JRF and SRF (2004-2010). Then I joined the W.B.E.S. in 2010 and have nearly 15 years of experience of teaching in undergraduate Chemistry. During this period, I have served at Krishnagar Government College (2010-2019), Nadia and at Maulana Azad College (from 2019 onwards). I enjoy teaching students the various aspects of Chemistry, in innovative ways, wherever possible.

○ **Specialisation & Area of Interests:**

Specialisation – Organic Chemistry;

Areas of Interest – Synthesis of bioactive, heterocyclic molecules; Green Chemistry; Environmental chemistry

### Qualifications:

- M.Sc. (CU), Ph.D. (Bose Institute; JU)
- Title of thesis (Ph.D.) with year: “Synthetic Approaches to Heterocycles and Studies on Their Reactions” (2010)

### Current Teaching:

- Overview – I have been teaching Organic Chemistry as a full time, permanent teacher in undergraduate level for nearly fifteen years.

### Research Interests:

- Overview – I have pursued my pre-doctoral research from Bose Institute, Kolkata under the guidance of Prof. Manas Chakrabarty. My research work comprised of synthesis of substituted and condensed (mainly nitrogen containing) heterocycles having known/ potential bioactivity, carrying out reactions in eco-friendly media and application of one or more principles of Green Chemistry in efficient synthesis of heterocyclic compounds.
- Main Research Projects – NA
- ORCID ID : 0000-0002-5555-9026

### Enterprise and Commercial Activities:

- NA

### Publications:

- **Books** NA
- **Book Chapters**

1. “Biologically Active Class of Marine Alkaloids”, M. Chakrabarty and A. Mukherji\*, in edited book “**Fusion of Knowledge, Multidisciplinary Perspectives in Research, Volume - 3**”, eds. L.M. Vempaty and A. Sharma, Paradox International Publication House, ISBN: 978-93-5809-357-5, **October, 2023** (First Edition), DOI: 10.25215/9358093579.20
2. “Emergent Trends of Nitrate and Nitrite Ion Detection in Drinking-water of Nadia District, West Bengal, India: A Seven-year Study”, A. Mukherji, in edited book “**Innovative Recent Trends in Research**”, eds. D.A. Ode and A. Gopatoti, Red’shine Publication, Sweden, ISBN: 978-91-89764-77-4, **July, 2021** (First Edition), DOI: 10.25215/9189764773

○ **Papers**

1. "Status of Drinking-water in Nadia district, West Bengal, India – a Two-year Surveillance Report for Chemical Contaminants", A. Mukherji, *International Journal of Science and Social Science Research*, July-Sept, **2023**, 1(2), 231-238 [ISSN: 2583-7877], DOI: [10.5281/zenodo.13380546](https://doi.org/10.5281/zenodo.13380546)
2. "Assessment of Drinking-water from Purba Bardhaman, North 24 Parganas, and two other districts of West Bengal, India: a Case Study", A. Mukherji, *International Journal of Integrated Research and Development*, July, **2023**, 1(23), 159-170 [ISSN: 2278-8670].
3. "Monitoring and Assessment of Drinking Water for Chemical Pollutants: A Three-Year Study in Nadia District, West Bengal", A. Mukherji, *Asian Journal of Organic and Medicinal Chemistry*, Apr-Jun, **2022**, 7(2), 257-265 [ISSN: 2456-8937].
4. "A Spatio-temporal Analysis of Fluoride Ion Concentration in Drinking-water of Nadia District, West Bengal, India", A. Mukherji, *The International Journal of Interdisciplinary Organizational Studies*, Jan-Mar, **2022**, 17(1), [ISSN: 2324-7649].
5. "Water Quality Assessment of Jalangi, Churni and Anjana Rivers of Krishnanagar, Nadia District, West Bengal, India: A Case Study in Pollution", D. Biswas and A. Mukherji\*, *The International Journal of Interdisciplinary Organizational Studies*, Jan-Mar, **2021**, 16(1), [ISSN: 2324-7649].
6. "Analysis of Drinking-water in Nadia District for Chemical Contaminants: Some Preliminary Findings", A. Mukherji, *International Journal of Ecosystem*, May, **2015**, 5(3A), 18-28 [ISSN: 2165-8889].
7. "Eco-friendly Synthesis of Condensed Nitrogen Heterocycles - A Brief Experience from Our Group", M. Chakrabarty and A. Mukherji, *Journal of the Indian Chemical Society*, **2013**, 90(10), 1681-1694 [ISSN 0019-4522; **IF: 3.2**].
8. "An Expedient Phase Transfer Catalyst-mediated Synthesis of 2-Alkyl/Aryl-1,8-Phenanthrolines", M. Chakrabarty\* and A. Mukherji, *Journal of Heterocyclic Chemistry*, **2012**, 49(6), 1443-1446 [ISSN 0022-152X; **IF: 2.4**].
9. "Heteropoly Acids as Novel Catalysts in Organic Synthesis", A. Mukherji, *Conscientia*, **2011**, 1(2), 9-17 [ISSN 2278-6554].
10. "An Expedient Synthesis of Novel 2-Substituted Thiazolo[4,5-f]isoquinolines/quinolines and Benzo[1,2-d:4,3-d']bisthiazoles and Their Potential as Inhibitors of COX-1 and COX-2", M. Chakrabarty\*, A. Mukherji, S. Karmakar, R. Mukherjee, K. Nagai, A. Geronikaki and P. Eleni, *Arkivoc*, **2010**, (xi), 265-290 [ISSN 1551-7004; **IF: 0.8**].
11. "Expedient Reaction of Ninhydrin with Active Methylene Compounds on Montmorillonite K10 Clay", M. Chakrabarty\*, A. Mukherji, S. Arima, Y. Harigaya and G. Pilet, *Monatshefte für Chemie*, **2009**, 140(2), 189-197 [ISSN: 0026-9247; **IF: 1.7**]
12. "A Keggin Heteropoly Acid as an Efficient Catalyst for an Expedient, One-pot Synthesis of 1-Methyl-2-(hetero)arylbenzimidazoles", M. Chakrabarty\*, A. Mukherji, R. Mukherjee, S. Arima and Y. Harigaya, *Tetrahedron Letters*, **2007**, 48(30), 5239-5242 (2007) [ISSN: 0040-4039; **IF: 1.5**]
13. "Phosphoric Acid-on-Silica gel: A Green Catalyst for the Synthesis of Symmetrical Bis(indolyl)alkanes", M. Chakrabarty\*, R. Mukherjee, A. Mukherji, S. Arima and Y. Harigaya, *Heterocycles*, **2006**, 68(8), 1659-1668 [ISSN: 0385-5414; **IF: 0.8**].
14. "Application of Sulfamic Acid as an Eco-friendly Catalyst in an Expedient Synthesis of Benzimidazoles", M. Chakrabarty\*, S. Karmakar, A. Mukherji, S. Arima and Y. Harigaya, *Heterocycles*, **2006**, 68(5), 967-974 [ISSN: 0385-5414; **IF: 0.8**].
15. "A New Catalytic Application of a Keggin Acid in the Synthesis of Symmetrical Bis(indolyl)alkanes", M. Chakrabarty\*, A. Mukherji, S. Karmakar, S. Arima and Y. Harigaya, *Heterocycles*, **2006**, 68(2), 331-338 [ISSN: 0385-5414; **IF: 0.8**].

○ **Invited Lectures**

1. "Imidazole-catalysed Sonochemical Approach to the Synthesis of Dihydropyrano[3,2-c]chromenes in Water" at the **International Conference on Recent Advances on Green Catalysis and Drug Discovery (ICRAGCDD-2024)**, organised by Green Chemistry Network Centre Chapter, Akal University, Talwandi Sabo, India, from **4-6<sup>th</sup> September, 2024**.

2. "Saving Our Nature from Degradation to Conservation" at the **Inter-College One-Day Seminar on "Way to A Greener World"**, organised by Government Girls' General Degree College, Ekbalpur, Kolkata, on **20<sup>th</sup> September, 2019**.

○ **Conference Talks**

1. **Oral presentation** entitled "*Status of Drinking-water in Nadia district, West Bengal, India – a Two-year Surveillance Report for Chemical Contaminants*" in **National Conference on Emerging Trends in Water Quantity and Quality Management-IV (ETWQQM-2022)**, organised by Poornima University, Jaipur, Rajasthan on **22-23<sup>rd</sup> March, 2022**.
2. **Oral presentation** entitled "*A Drinking-water Quality Assessment in Burdwan, North 24 Parganas, Birbhum and Purba Medinipur districts of West Bengal, India*" in **Two Days Online International Conference on "Advances in Science and Technology (ICAST-2022)**, organised by Rajarshi Chhatrapati Shahu College, Kolhapur, Maharashtra on **9-10<sup>th</sup> March, 2022**.
3. **Oral presentation** entitled "*Monitoring and Assessment of Drinking Water for Chemical Pollutants: A Three-Year Study in Nadia District, West Bengal*" in a three day **International e-conference on Current Research in Chemistry and Nanosciences (CRCNS-2022)**, jointly organized by Department of Chemistry, in association with IQAC and BOS Chemistry, LVH Arts, Science and Commerce College, Panchavati, Nashik, Maharashtra on **18-20<sup>th</sup> January 2022**.
4. **Oral presentation** entitled "*Heteropoly Acids: A Unique Class of Highly Efficient, Versatile and Eco-friendly Acid Catalysts*" in **National Symposium on 'Recent Advances in Chemistry & Industry (2014)'**, organized by the Indian Chemical Society on **1st & 2nd August, 2014**.
5. **Oral presentation** entitled "*An Expedient Synthesis of 2-Alkyl/aryl-1,8-phenanthrolines using Phase Transfer Catalyst-mediated Skraup/Doebner-von Miller Reaction*" in **Acharya P.C. Ray National Young Scientists' Conference**, organized by Presidency University, Calcutta University and Vivekananda Vijnan Mission (West Bengal chapter of Vijnana Bharati) and held at Presidency University on **17-18th February, 2012**.

○ **Posters**

1. Presented a **Poster** entitled "*Assessment of Water Quality Parameters of Some Local Rivers of Nadia District*" in **International Seminar on 'Recent Trends in Science Towards Sustainable Development'** organized by Acharya Prafulla Chandra College, New Barrackpore in collaboration with Indian Chemical Society, Kolkata on **6-7 August, 2018**.
2. Presented a **Poster** entitled "*First Synthesis of 2-substituted Thiazolo-[4,5-f]isoquinolines and Their Potential as Inhibitors of COX-1 and COX-2*" in **National Conference on 'Chemistry: Today and Tomorrow'** organized by Department of Chemistry, University of Kalyani on **26-27 July, 2018**.
3. Presented a **Poster** entitled "*Application of a Keggin Heteropoly acid as a Highly Efficient Catalyst for an Expedient, One-pot Synthesis of 1,2-Disubstituted Benzimidazoles*" in **National Seminar on 'Recent Development in Chemical Sciences'** organized by Barrackpore Rastraguru Surendranath College on **14th February, 2017**.
4. Presented a **Poster** entitled "*Reaction of Ninhydrin with Indane-1,3-dione on Mont. K10 Clay: Unexpected Tandem Aldol condensation-Dehydration-Michael addition*" in **National Symposium on 'Recent Advances in Chemistry & Industry 2016 (with special emphasis on Pharmaceutical Industry)'**, organized by the Indian Chemical Society on **2nd & 3rd August, 2016**.
5. Presented a **Poster** entitled "*Detection of Nitrate and Nitrite ions in Drinking Water: A Case Study in Nadia District*" in **23rd West Bengal State Science and Technology Congress, 2016**, organized by Presidency University, Kolkata on **28-29th February, 2016**.

**Other**

**Awarded First Position in Quality Analysis** for the Paper entitled "*Status of Drinking-water in Nadia district, West Bengal, India – a Two-year Surveillance Report for Chemical Contaminants*" in **National Conference on Emerging Trends in Water Quantity and Quality Management-IV (ETWQQM-2022)**, organized by Poornima University, Jaipur on **22-23<sup>rd</sup> March, 2022**.

**Contact Details:**

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**Professional Memberships and Activities:**

1. Life Member of Indian Association for the Cultivation of Science library
2. Life Member of Indian Chemical Society

**Other Information:** Reviewer of international peer-reviewed journal 'Sustainable Water Resources Management' (Springer) since 2017.

**Related Links:** NA