Profile

Ramakanta Mondal

Assistant Professor
Department of Chemistry
Khatra Adibasi Mahavidyalaya, Khatra
PIN: 722140, West Bengal, India

Personal Details

Date of Birth: 26/06/1988
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Languages known: English, Bengali, Hindi
Date of Joining: 18/07/2020

Research Training

Postdoctoral Fellow (June 2018-June 2020): The Hebrew University of Jerusalem, Israel
Topic: Structural & biochemical characterization of membrane proteins and mechanism of ion transportation using biochemical and biophysical approaches.

Doctoral Research (January 2013-January 2018): Indian Institute of Science Education and Research (IISER) Bhopal
Topic: Protein conformational dynamics, protein unfolding and subsequent refolding, protein-drug interactions and the applications of various surfactants in the field of drug delivery

Academic Qualifications

2018: Doctor of Philosophy Department of Chemistry, Indian Institute of Science Education and Research (IISER), Bhopal
Title of the Thesis: *Role of Surfactants in Drug Delivery and Protein Unfolding/Refolding Dynamics: A Spectroscopy and Calorimetric Approach.*

2012: Master of Science (Specialization-Physical Chemistry), Department of Chemistry, Visva-Bharati

2010: Bachelor of Science Department of Chemistry, Visva-Bharati

Awards

2019: Lady Davis Fellowship: Awarded by Hebrew University of Jerusalem, Israel

2012: Qualified National Eligibility Test in Chemical Sciences (CSIR-UGC Junior Research Fellowship), India

2012: Qualified Graduate Aptitude Test in Engineering (GATE)

Teaching Experience

Assistant Professor (July 18, 2020): "Khatra Adibasi Mahavidyalaya", Recognized by Bankura University, West Bengal, India.

Topic: Physical Chemistry

Research Interests

Ion Transportation Mechanism in Membrane Protein, Protein Folding and Molecular Dynamics

Experience in Instrumental Technique

- Steady-state absorption spectrophotometer
- Steady-state fluorimeter
- Time-Correlated Single Photon Counting (TCSPC) set-up
- Isothermal Titration Calorimeter (ITC)
- Dynamic Light Scattering (DLS) instrument
- Circular dichroism (CD) spectropolarimeter
- Femtosecond Up-conversion spectroscopy
- Fluorescene Correleation Spectroscopy (FCS)
- Scanning Electron Microscopy (SEM)

Software Used

Microsoft Office, Chem Draw, Origin, IGOR Pro, Sigma Plot, PyMOL, AutoDock 4.2,Gaussian 09, Gauss View 09.

Publication

1. An Angular Motion of a Conserved Four-helix Bundle Facilitates Alternating Access Transport in the TtNapA and EcNhaA Transporters. Masrati, G.; Mondal, R.; Rimon, A.; Kessel, A.; Padan, E.; Lindahl, E.; Ben-Tal, N.
Proceedings of the National Academy of Sciences **2020**, *117*, 31850. (Impact factor: 9.4)

2. Cardiolipin is an Optimal Phospholipid for the Assembly, Stability, and Proper Functionality of the Dimeric Form of NhaA Na+/H+ Antiporter. Rimon, A.;*** Mondal, R.**;***** Friedler, A.; Padan, E.
Sci. Rep. **2019**, *9*, 17662. [*** Equal Contribution**] (Impact factor: 3.99)

3. Triblock Co-polymer Assisted Mixed-Micelle Formation Results in the Refolding of Unfolded Protein. **Mondal, R.**; Ghosh, N.; Paul, B. K.; Mukherjee. S.
Langmuir **2018**, *34*, 896-903. (Impact factor: 3.56)

4. Contrasting Effects of pH on the Modulation of Structural Integrity of Hemoglobin Induced by Sodium Deoxycholate. **Mondal, R.**; Ghosh, N.; Mukherjee. S.
Phys. Chem. Chem. Phys. **2016**, *18*, 30867-30876. (Impact factor: 3.99)

5. Contrasting Effects of Salt and Temperature on Niosome-Bound Norharmane: Direct Evidence for Positive Heat Capacity Change in Niosome:β-Cyclodextrin Interaction. Paul, B. K.; Ghosh, N.; **Mondal, R.**; Mukherjee. S.
J. Phys. Chem. B **2016**, *120*, 4091-4101. (Impact factor: 2.86)

6. Enhanced Binding of Phenosafranin to Triblock Copolymer F127 Induced by Sodium Dodecyl Sulfate: A Mixed Micellar System as an Efficient Drug Delivery Vehicle. **Mondal, R.**; Ghosh, N.; Mukherjee. S.
J. Phys. Chem. B **2016**, *120*, 2968-2976. (Impact factor: 2.86)

7. Investigating the Micellization of the Triton-X Surfactants: A Non-Invasive Fluorometric and Calorimetric Approach. Jaiswal, S.;***** **Mondal, R**.;***** Paul, D.; Mukherjee, S.
Chem. Phys. Lett. **2016**, *646*, 18-24. [*** Equal Contribution**] (Impact factor: 2.03)

8. Inverse Temperature Dependence in Static Quenching versus Calorimetric Exploration: Binding Interaction of Chloramphenicol to β-Lactoglobulin. Ghosh, N.; **Mondal, R**.; Mukherjee. S.
Langmuir **2015**, *31*, 8074-8080. (Impact factor: 3.56)

9. Weak Interactive Forces Govern the Interaction A Non-Ionic Surfactant with Human Serum Albumin. Ghosh, N.; **Mondal, R**.; Deshmukh, A.; Dutta, S.; Mukherjee, S.
Chem. Phys. Lett. **2015**, *634*, 77-82. (Impact factor: 2.03)

10. A Critical Approach Toward Resonance-Assistance in the Intramolecular Hydrogen Bond Interaction of 3,5-Diiodosalicylic Acid: A Spectroscopic and Computational Investigation.
Photochem. Photobiol. Sci. **2015**, *14*, 1147-1162. (Impact factor: 2.9)

11. Hydrophobicity is the Governing Factor in theInteraction of Human Serum Albumin with Bile Salts. Ghosh, N.; **Mondal, R**.; Mukherjee. S.
Langmuir **2015**, *31*, 1095-1104. (Impact factor: 3.56)

12. Temperature Induced Morphological Transitions from Native to Unfolded Aggregated States of Human Serum Albumin. Das, N.; Ghosh, N.; Kale, A. P.; **Mondal, R**.; Anand, U.; Ghosh, S.; Tiwari, V. K.; Kapur,M.; Mukherjee. S.
J. Phys. Chem. B **2014**, *118*, 7267-7276. (Impact factor: 2.86)

13. Effect of β-CD on Refolding Dynamics of the Unfolded and Reduced State of Human Serum Albumin. Anand, U.; Ghosh, S.; Das, N.; Ghosh, N.; **Mondal, R**.; Karumbamkandathil, A.; Mukherjee.S.
Ind. J. Chem. A **2013**, *52A*, 1031-1040. (Impact factor: 0.489)

Conferences (Oral/Poster Presentation)

1. Poster Presentation in **ILANIT FISEB 2020 Conference, Israel,** on the topic of "Analysis of cation specificity of NhaA, Na^+/H^+ antiporter by mutagenesis", Department of Chemistry, The Hebrew University of Jerusalem, Israel.

2.Oral presentation entitled "Pluronic Triblock Co-polymer Mixed Micelle in Drug Delivery and Recovering Protein Structure from Unfolded State" in **InTeRaCTiONS-2016**, In-House Symposium, Department of Chemistry, ISER Bhopal, India.

3.Poster presentation in **National Symposium on Radiation and Photochemistry 2017** (NSRP-2017): Manipal University, India.

4.Poster presentation in **Inter-IISER Chemistry Meet 2017**. In house Symposium-Interactions2017, India (IICM 2017) held at IISERB, India

5.Poster presentation in **International Symposium on Advances in Spectroscopy and UltrafastDynamics** (ASUD-2014), IACS India

6.Workshop on **Advanced Microscopy and Imaging Techniques** 2013, Jointly organised by Olympus (Japan), DSS image tech(New Delhi) and Photometrics (USA) IISER Bhopal, India.