



DR. PUSPAL MUKHERJEE

Assistant Professor of Chemistry

BRIEF

My area of interest in teaching and research are spectroscopy, kinetics, and quantum chemistry. Specifically, my research is oriented towards understanding the photophysical and photochemical processes in the electronically excited state of molecules.

CONTACT

DEPARTMENT: Chemistry

SCHOOL OF STUDIES: School of Sciences

DATE OF JOINING: 24th June, 2020

ADDRESS: School of Sciences, Netaji Subhas Open University, Regional Centre - Durgapur
Jawahar Lal Nehru Road,
Durgapur, Paschim Bardhaman, W.B. - 713 214

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ACADEMIC QUALIFICATION

M.Sc., Ph.D.

TEACHING EXPERIENCE

Netaji Subhas Open University, Assistant Professor of Chemistry
24th June, 2020–Present

AWARDS AND FELLOWSHIPS

- Best Poster Award - NSRP-2015 and TSRP-APSRC-2016
- Senior Research Fellowship 2014
- Junior Research Fellowship through National Eligibility Test (NET) 2012

RESEARCH INTERESTS & EXPERIENCE

- Experimental and Computational Spectroscopy
- Photoinduced electron and proton transfer
- Binary and Ternary solvent mixtures and their applications
- Photoinduced processes in nanomaterials

- Research Associate (2019 – 2020)
School of Chemical Sciences, Indian Association for the Cultivation of Science, Kolkata, W.B.
Supervisor: Dr. Prashant Chandra Singh

- Ph.D. (2012- 2018) in Chemistry (Physical)
Indian Institute of Technology Kanpur, Kanpur, U.P., India
Thesis Title: Modulation of Ultrafast Excited State Dynamics in SDS Micelle
Supervisor: Prof. Pratik Sen

- Summer Project Fellow (2011, May to July)

Indian Institute of Science Education and Research Kolkata,
Mohanpur, W.B., India

Project Title: Förster Resonance Energy Transfer between
Pyrene and Bovine Serum Albumin Controlled by the
Hydrophobic Pockets of Cyclodextrins

Supervisor: Prof. Pradipta Purkayastha

ADMINISTRATIVE EXPERIENCE

- Organising Committee member of One Day Webinar on "Advance Level Study on Chemical Sciences" held on 23rd September, 2020 organized by Department of Chemistry, School of Sciences, Netaji Subhas Open University
- Member of Study Centre Visit team of Tarakeswar Degree College (C-10) Study Centre NSOU, 06.06.2022
- Organising secretary of One day Workshop on A Capacity Building Approach to Laboratory Based Programmes in ODL Mode organized by School of Sciences, NSOU on 26th September, 2022

UG & PG TEACHING ASSIGNMENTS

UG

- Thermodynamics and Related Topics
- Chemicals Kinetics
- Electrochemistry
- Quantum Chemistry
- Spectroscopy
- Practical Courses in B.Sc. Chemistry

MEMBERSHIP OF DIFFERENT COMMITTEES

- Member of Board of Studies of Undergraduate Chemistry Programme of Netaji Subhas Open University
- Member of Board of Studies of Postgraduate Chemistry Programme of Netaji Subhas Open University
- Member of Departmental Research Committee for Ph.D. in Chemistry, Netaji Subhas Open University

MEMBERSHIP OF PROFESSIONAL BODIES

- Member of the Centre for Propagation of Scientific Knowledge (CPSK) since-2022

ELIGIBILITY TEST CLEARED NET/SET/GATE etc.):

Sl. No.	Details
1.	CSIR-UGC-NET (JRF) December – 2011
2.	Gate - 2011

RESEARCH PROJECTS:

Sl. No.	Name of the Project	Funding Agency	Period	Grant Mobilized	Outcome
1.	Exploration of Environment Sensitivity of Twisted Intramolecular Charge Transfer Class of Dyes for Potential Application in Amyloid Fibril Detection	NSOU	One year	Rs 1,10,000/-	2022-Ongoing

DETAILS OF PUBLICATIONS (BOOKS/ EDITED VOLUME / RESEARCH PAPERS/REVIEW): [Last 10 Year]

Sl. No.	Title of the paper vol. No., Issue No., Page No.	Publisher	Year of publication	ISSN/ ISBN
1	<i>Experimental Insight into Enzyme Catalysis and Dynamics: A Review on Applications of State of Art Spectroscopic Methods.</i> In <i>Advances in Protein Chemistry and Structural Biology</i> ; Puspal Mukherjee , Prashant Chandra Singh, 2020; Vol. 122, 33–62	Elsevier	2020	1876-1623/978-0-12-817762-4
2	<i>Solvation Dynamics in SDS Micelle Revisited with Femtosecond Time Resolution to Reveal the Probe and Concentration Dependence.</i> Puspal Mukherjee , Aritra Das and Pratik Sen. <i>Chem. Phys.</i> 2018, 513, 141-148.	Elsevier	2018	0301-0104
3	<i>Solvent Relaxation Accompanied Ultrafast Excited State Proton Transfer Dynamics Revealed in a Salicylideneaniline Derivative.</i> Puspal Mukherjee , Aritra Das, Md. Serajul Haque Faizi and Pratik Sen. <i>ChemistrySelect</i> 2018, 3, 3787 – 3796	Wiley-VCH	2018	2365-6549
4	Ultrafast Electron Transfer from Upper Excited State of Encapsulated Azulenes to Acceptors across an Organic Molecular Wall. Mohan Raj, Mintu Porel, Puspal Mukherjee , Xiuyuan Ma, Rajib Choudhury, Elena Galoppini, Pratik Sen, V. Ramamurthy. <i>J. Phys. Chem C</i> 2017, 121, 20205–20216.	American Chemical Society	2017	1932-7447 (print); 1932-7455 (web)
5	<i>Ultrafast Excited State Deactivation Channel of Thioflavin T Adsorbed on SDS Micelle: A Combined Femtosecond Fluorescence and Transient Absorption Study.</i> Puspal Mukherjee , Aritra Das, Pratik Sen. <i>J. Photochem. Photobiol. A Chem.</i> 2017, 348, 287–294.	Elsevier	2017	1010-6030
6	<i>Multi-mode Hydrogen Storage in Nanocontainers.</i> Suboohi Shervani; Puspal Mukherjee ; Anshul Gupta; Gargi Mishra; kavya Illath; Ajith Kumar; Sri Sivakumar; Pratik Sen; Kantesh Balani, Anandh Subramaniam. <i>Int. J. Hydrogen Energy.</i> , 2017, 42, 24256-24262.	Elsevier	2017	0360-3199
7	<i>Dynamical Response in Methanol–Chloroform Binary Solvent Mixture over fs–μs Time Regime.</i> Shradhey Gupta, Puspal Mukherjee , Bhaswati Sengupta, Pratik Sen. <i>Phys. Chem. Liq.</i> 2018, 56, 496-507	Taylor & Francis	2018	0031-9104 (print); 1029-0451 (web)
8	<i>Decoupling the Diffusion from Bimolecular Photoinduced Electron Transfer Reaction: A Combined Ultrafast Spectroscopic and Kinetic Analysis.</i> Puspal Mukherjee , Pratik Sen. <i>Phys. Chem. Chem. Phys.</i> , 2017, 19, 11220-11229.	Royal Society of Chemistry	2017	1463-9076 (print); 1463-9084 (web)
9	<i>Bi-Molecular Photo-Induced Electron Transfer in Static Quenching Regime: Illustration of Marcus Inversion in Micelle.</i> Puspal Mukherjee , Aritra Das, Arunava Sengupta, Pratik Sen. <i>J. Phys. Chem. B</i> , 2017, 121, 1610–1622.	American Chemical Society	2017	1520-6106 (print); 1520-5207 (web)
10	<i>Mixed Solvent Chemistry through Synergistic Solvation: Structure, Property and Function of t-Butanol – Dichloromethane Binary Solvent Mixture.</i> Shradhey Gupta, Keshaba Nanda Parida, Puspal Mukherjee , Pratik Sen. <i>J. Sol. Chem.</i> 2017, 46, 461-465.	Springer	2017	959782
11	<i>Dual Relaxation Channel in Thioflavin-T: An Ultrafast Spectroscopic Study.</i> Puspal Mukherjee , Shahnawaz Rafiq, Pratik Sen. <i>J. Photochem. Photobiol. A Chem.</i> 2016, 328, 136–147.	Elsevier	2016	1010-6030

12	Ramping of pH Across the Water-Pool of a Reverse Micelle. Puspall Mukherjee , Shradhey Gupta, Shahnawaz Rafiq, Rajeev Yadav, Vipin Kumar Jain, Jayraj Raval, and Pratik Sen. <i>Langmuir</i> , 2016, 32, 1693–1699.	American Chemical Society	2016	0743-7463 (print); 1520-5827 (web)
13	A Chemosensor for Al ³⁺ Ions in Aqueous Ethanol Media: Photophysical and Live Cell Imaging Studies. Nabanita Chatterjee, Shubhra Bikash Maity, Asmita Samadder, Puspall Mukherjee , Anisur Rahman Khuda-Bukhsh, Parimal K. Bharadwaj. <i>RSC Adv.</i> , 2016, 6, 17995-18001.	Royal Society of Chemistry	2016	2046-2069
14	Real Time Quantification of Ultrafast Photoinduced Bimolecular Electron Transfer Rate: Direct Probing of the Transient Intermediate. Puspall Mukherjee , Somnath Biswas, Pratik Sen. <i>J. Phys. Chem. B</i> , 2015, 119, 11253–11261.	American Chemical Society	2015	1520-6106 (print); 1520-5207 (web)
15	Graphene: a Self-Reducing Template for Synthesis of Graphene–Nanoparticles Hybrids. M. Manolata Devi, Sumit Ranjan Sahu, Puspall Mukherjee , Pratik Sen, Krishanu Biswas. <i>RSC Adv.</i> , 2015, 5, 62284-62289.	Royal Society of Chemistry	2015	2046-2069
16	Graphene–Metal Nanoparticle Hybrids: Electronic Interaction between Graphene and Nanoparticles. M. Manolata Devi, S. R. Sahu, Puspall Mukherjee , Pratik Sen, Krishanu Biswas. <i>Trans Indian Inst. Met.</i> 2016, 69, 839–844.	Springer	2016	9722815
17	Femtosecond Dynamics of Photoinduced Cis-Trans Isomerization of Ethyl-3-(1H-indole-3-yl) acrylate. Bhaswati Sengupta, Puspall Mukherjee , Saikat Das, Shahnawaz Rafiq, Shradhey Gupta, Dattatraya H. Dethle, Pratik Sen. <i>Chem. Phys. Lett.</i> 2015, 638, 31–37.	Elsevier	2015	0009-2614
18	Optical Property Characterization of Novel Graphene-X (X=Ag, Au and Cu) Nanoparticle Hybrids. Sumit Ranjan Sahu, Mayanglambam Manolata Devi, Puspall Mukherjee , Pratik Sen, Krishanu Biswas. <i>Journal of Nanomaterials</i> , 2013, vol 2013, 1-9	Hindwai	2013	1687-4129
19	Förster resonance energy transfer between pyrene and bovine serum albumin: Effect of the hydrophobic pockets of cyclodextrins. Arnab Maity, Puspall Mukherjee , Tarasankar Das, Prasun Ghosh, Pradipta Purkayastha. <i>Spectrochimica Acta Part A</i> 2012, 92, 382–387.	Elsevier	2012	1386-1425
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PAPERS PRESENTED AT SEMINARS, CONFERENCES, WORKSHOPS, ETC.: [Last 10 Year]

Sl. No.	Title of Paper/ Lecture	Organizing Institute	Conference, Seminar, workshop etc.	International (Within Country)/ International (Abroad)/National	Role
1	Dual Relaxation Channel in Thioflavin-T: An Ultrafast Spectroscopic Study	Indian Institute of Technology Kanpur, Kanpur, India	Indo-Japan Discussion Meeting on Frontiers in Molecular Spectroscopy: From Fundamentals to Applications on Material Science and Biology-2016	International	Poster Presenter
2	Real-time quantification of ultrafast bimolecular electron transfer reaction rate: Direct probing of transient intermediate	Bhabha Atomic Research Centre, Mumbai, India	Trombay Symposium on Radiation and Photochemistry-2016 incorporating Asia Pacific Symposium on Radiation Chemistry. (TSRP-APSRC-2016)	International	Poster Presenter
3	Real-time quantification of ultrafast bimolecular electron transfer reaction rate: Direct probing of transient intermediate	Indian Institute of Technology Kanpur, Kanpur, India	National Symposium on Radiation and Photochemistry-2015 (NSRP-2015)	International	Poster Presenter

4	Evidence of Barrier in the so-called Barrierless Twisted Intramolecular Charge Transfer of Thioflavin-T	Indian Association for the Cultivation of Science, Kolkata, India.	Advances in Spectroscopy and Ultrafast Dynamics-2014 (ASUD-2014)	International	Poster Presenter
5	Spectroscopic Investigation of DMF/Chloroform Binary Solvent Mixture	Bhabha Atomic Research Centre, Mumbai, India	Trombay Symposium on Radiation and Photochemistry-2014 (TSRP-2014).	International	Poster Presenter

PROGRAMMES COORDINATED/ ORGANISED AS CONVENER / ORGANISING SECRETARY AT NETAJI SUBHAS OPEN UNIVERSITY: [Last 5 Year]

Sl. No.	Programme Name	Sponsored by	Period
1	One day Workshop on "A Capacity Building Approach to Laboratory Based Programmes in ODL Mode"	NSOU	26 th September, 2022

TUTORIALS / PRACTICAL / PROJECT SUPERVISION & FIELD WORK: [Last 5 Year]

Sl. No.	Type of Work	Related Programme	Year
1	Practical Supervision	LCES UG CBCS 1 st Semester	2022

Declaration: *I assert that the details furnished above are all true to the best of my knowledge.*

Puspal Mukherjee
Signature

Date : 25/11/2022