Curriculum Vitae

Name: PRATIK SEN

Present Address: Department of Chemistry
Indian Institute of Technology Kanpur
Kanpur, UP, PIN – 208 016, India

Present Home Address: House No. 406, Type-4
IIT Kanpur, Kanpur, UP, PIN – 208 016, India

Permanent Address: c/o Kalyan Kumar Sen, Tin-Bazar, P.O. Suri, Dist. Birbhum
PIN – 731 101, WB, India

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Phone: +91-512-259-6312
Fax: +91-512-259-6806
Mobile: +91-94531-05194

Date of Birth: November 26, 1977

Nationality: Indian

Gender: Male

Education:

Class 10	1993	WBBSE	*First Division*, 71.5%
Class 12	1995	WBCHSE	*First Division*, 66.9%
B.Sc. (Chemistry)	1999	Visva-Bharati	*First Class*, 80.0%, RANK: First
M.Sc. (Chemistry)	2001	Visva-Bharati	*First Class*, 75.3%, RANK: 4th
GATE/NET	2001		*Qualified*
Ph.D.	2006	Jadavpur University	Study of Ultrafast Processes in Complex and Confined Systems

Honors and Awards:

2025: Elected Fellow of National Academy of Sciences, India
2025: Sanjay & Rachna Pradhan Chair Professorship at IIT Kanpur Sep 2025 – Aug 2028
2022: Poonam and Prabhu Goel Chair Professorship at IIT Kanpur Apr 2022 – Mar 2025
2021: Bronze Medal from Chemical Research Society of India (CRSI) for 2022
2021: Fellowship of the Royal Society of Chemistry, UK
2018: Young Faculty Research Fellowship, Ministry of Electronics & Information Technology, Government of India 2018-2020
2016: Member Indian National Young Academy of Science (INYAS) 2016-2020

2015: P. K. Kelkar Fellow, IIT Kanpur
2012: INSA Medal for Young Scientist in Chemical Sciences
2012: Bharat Jyoti Award by Indian International Friendship Society
2006: Selected for JSPS fellowship.
2004: Poster prize in Trombay Symposium on Radiation and Photochemistry, 2004
2004: Best Poster Prize of Indian Association for the Cultivation of Science
1999: First Class First in B.Sc. and selected for National Scholarship

Fields of Interest:

Ultrafast Laser Spectroscopy, Single Molecule Spectroscopy and Fluorescence Spectroscopy

Society Membership:

2006-continuing: Member, CRSI, India.
2009-continuing: Member, ISRAPS, India

Research Experience:

Professor (HAG)	Aug 2025 – Till date	Department of Chemistry Indian Institute of Technology Kanpur Kanpur, India
Professor	Nov 2018 – Jul 2025	Department of Chemistry Indian Institute of Technology Kanpur Kanpur, India
Visiting Professor,	Jun 2025 – June 2025	University of Lille, Lille, France
Senior Visiting Sci.,	Sep 2023 – Oct 2025	RIKEN, Wako, Saitama, Japan
Visiting Scientist,	May 2024 – June 2024	Tokyo Inst. of Technology, Tokyo, Japan
Visiting Scientist,	May 2023 – June 2023	RIKEN, Wako, Saitama, Japan
Associate Professor,	Jul 2014 – Oct 2018	Department of Chemistry Indian Institute of Technology Kanpur Kanpur, India
Assistant Professor,	Dec 2008 – Jun 2014	Department of Chemistry Indian Institute of Technology Kanpur Kanpur, India
Visiting Scientist,	Jun 2019 – Jul 2019	University of Warsaw, Warsaw, Poland
Visiting Scientist,	May 2016 – Jul 2016	Osaka University, Osaka, Japan
Visiting Scientist,	May 2015 – Jul 2015	University of Castilla La-Mancha Toledo, Spain

Visiting Researcher, May 2014 – Jul 2014	Max-Plank Institute for Polymer Research, Mainz, Germany
Visiting Researcher, May 2011 – Jul 2011	RIKEN, Wako, Japan
Post-Doc, Jun 2006 – Nov 2008 (**2 year 6 months**)	Molecular Spectroscopy Laboratory, RIKEN Japan (with Prof. T. Tahara)

Topic: In-situ observation of interface property by a novel nonlinear spectroscopy

Research Fellow, Apr 2002 – May 2006 (**4 years 2 months**)	Physical Chemistry Department Indian Association for the Cultivation of Science, Kolkata (with Prof. K. Bhattacharyya)

Topic: Picosecond & femtosecond study in biological & organized systems

Citation:

Scopus (as on February 13, 2025)
https://www.scopus.com/authid/detail.uri?authorId=7402918177
Total citation: 3,625
h-index: 35

Google Scholar (as on February 13, 2025)
https://scholar.google.co.in/citations?hl=en&user=74IKbUEAAAAJ&view_op=list_works&sortby=pubdate
Total citation: 4154
h-index: 36
i10 index: 112

List of research publications:
Peer reviewed journals: 161
Conference bulletin: 3 (indicated by §)
Book chapter: 1 (indicated by †)

165. Role of associated water in stabilizing human γ-D crystallin under shape-dependent macromolecular crowding
Bhupendra Singh and **Pratik Sen***
Protein Science **2026**, *35*, e70507.
https://doi.org/10.1002/pro.70507
As on Jan 2026: Impact factor: 5.2 Citation in Scopus: 0

164. Associated Water Stabilization Mechanism Reconciles the Enigmatic Differential Response of Proteins to a Single Osmolyte
Kuldeep Singh Negi, Tanmoy Khan and **Pratik Sen***
J. Phys. Chem. B **2026**, *130*, 1490–1502.
https://doi.org/10.1021/acs.jpcb.5c06943
As on Dec 2025: Impact factor: 2.9 Citation in Scopus: 0

163. Role of associated water in stabilizing human γ-D crystallin under crowded eye lens conditions
Bhupendra Singh, Shreya Ghosh, Akash Rana, Harshit Karnwal and **Pratik Sen***
Protein Science **2025**, *34*, e70393.
https://doi.org/10.1002/pro.70393
As on Nov 2025: Impact factor: 5.2, Citation in Scopus: 0

162. Site-specific water dynamics drives protein stability in hydrated deep eutectic solvents
Tanmoy Khan, Kuntal Debnath, Kuldeep Singh Negi and **Pratik Sen***
Biophysical J. **2025**, *124*, 4255-4272.
https://doi.org/10.1016/j.bpj.2025.10.019
As on Dec 2025: Impact factor: 3.1, Citation in Scopus: 0

161. Dissecting the Role of Substrate Folding in Enzymatic Digestion
Nilimesh Das, Tanmoy Khan, Soumya Chaudhury, Bhaswati Sengupta and **Pratik Sen***
Biointerphases **2025**, *20*, 051001.
https://doi.org/10.1116/6.0004803
As on Aug 2025: Impact factor: 1.9, Citation in Scopus: 0

160. Para-Substituent Effects on Interfacial Binding and Fast Hole Transfer Dynamics in $CsPbBr_3$ Nanocrystals for Perovskite-Based Photocatalysis
Patralekha Sarkar and **Pratik Sen***
ACS Appl. Nano Mater. **2025**, *8*, 16759–16769.
https://doi.org/10.1021/acsanm.5c02817
As on Aug 2025: Impact factor: 5.5, Citation in Scopus: 0

159. Unravelling γD-crystallin aggregation pathway to understand cataract formation using fluorescence correlation spectroscopy
Mangesh Bawankar, Bhaswati Sengupta, Sujata Malik, **Pratik Sen** and Ashwani K. Thakur*
Molecular Vision **2025**, *31*, 190−202.
http://www.molvis.org/molvis/v31/190
As on May 2025: Impact factor: 5.5, Citation in Scopus: 0

158. UV Mediated Thickness Control of Colloidal Blue-Emitting 2D $CsPbBr_3$ Nanoplatelets
Arghya Sen and **Pratik Sen***
ACS Appl. Nano Mater. **2025**, *8*, 13975−13980.
https://doi.org/10.1021/acsanm.5c02675
As on June 2025: Impact factor: 5.5, Citation in Scopus: 0

157. Interplay of Protein Fluctuation and Associated Water Dynamics in Osmolyte Induced Stabilization
Kuldeep Singh Negi, Subhajit Rana, Tanmoy Khan, Dipankar Mondal and **Pratik Sen***
Biophys. J. **2025**, *124*, 2082-2091.
https://doi.org/10.1016/j.bpj.2025.05.006
As on April 2025: Impact factor: 3.2, Citation in Scopus: 0

156. Effect of Hydrogen Bonding on Ultrafast Intersystem Crossing in 7-Diethylaminothiocoumarin
Abhijit Dutta, Suman Bhowmik, Sujit Kumar Ghosh, Vaidhyanathan Ramamurthy,* and **Pratik Sen***
J. Phys. Chem. A **2025**, *129*, 4414–4425.
https://doi.org/10.1021/acs.jpca.5c00901
As on April 2025: Impact factor: 2.7, Citation in Scopus: 0

155. Effect of halogenation on the photophysics of salicylideneimine-boron compound: An unusual behaviour with bromination (*This article is part of a special issue entitled: 'George S. Hammond'*)
Suman Bhowmik, Dipankar Mondal, Kiran Arora, Prakash P. Neelakandan* and **Pratik Sen***
J. Photochem. Photobiol. A: Chem. **2025**, *466*, 116361.
https://doi.org/10.1016/j.jphotochem.2025.116361
As on February 2025: Impact factor: 4.100, Citation in Scopus: 0

154. Synergistic Chloroform–Methanol Binary Solvent Mixture Is Inherently Spatially and Dynamically Heterogeneous
Ndege Simisi Clovis, Soumya Chaudhury and **Pratik Sen***
J. Phys. Chem. B **2025**, *129*, 998–1006.
https://doi.org/10.1021/acs.jpcb.4c07326
As on January 2025: Impact factor: 2.800, Citation in Scopus: 0

153. Pivotal Role of Binding in Ultrafast Hole Transfer from CsPbBr3 Nanocrystals to Isomeric Diaminobenzenes
Patralekha Sarkar, Arghya Sen, Abhijit Dutta, Rakesh Kumar and **Pratik Sen***
J. Phys. Chem. C **2025**, *129*, 1252–1259.
https://doi.org/10.1021/acs.jpcc.4c05682
As on November 2024: Impact factor: 3.300, Citation in Scopus: 0

152. Oleylammonium fluoride passivated blue-emitting 2D CsPbBr3 nanoplates with near-unity photoluminescence quantum yield: safeguarding against threats from external perturbations
Arghya Sen, Abhijit Dutta, Abir Lal Bose and **Pratik Sen***
Chem. Sci. **2025**, *16*, 735-752.
https://doi.org/10.1039/D4SC05565A
As on November 2024: Impact factor: 7.600, Citation in Scopus: 0

151. Critical Role of Water beyond the Media to Maintain Protein Stability and Activity in Hydrated Deep Eutectic Solvent
Tanmoy Khan, Nilimesh Das, Suman Bhowmik, Kuldeep S Negi and **Pratik Sen***
J. Phys. Chem. B **2025**, *129*, 162–175.
https://doi.org/10.1021/acs.jpcb.4c07039
As on December 2024: Impact factor: 2.800, Citation in Scopus: 0

150. Macromolecular crowding effects on protein dynamics
Nilimesh Das, Tanmoy Khan, Bisal Halder, Shreya Ghosh and **Pratik Sen***

Int. J. Biol. Macromol. **2024**, *281*, 136248 (1-20).
https://doi.org/10.1016/j.ijbiomac.2024.136248
As on October 2024: Impact factor: 7.700, Citation in Scopus: 0

149. Role of Associated Water Dynamics on Protein Stability and Activity in Crowded Milieu
Tanmoy Khan, Bisal Halder, Nilimesh Das* and **Pratik Sen***
J. Phys. Chem. B **2024**, *128*, 8672–8686.
https://doi.org/10.1021/acs.jpcb.4c04337
As on September 2024: Impact factor: 2.800, Citation in Scopus: 0

148. Suppression of Thermally Assisted Photoluminescence Quenching in $CsPbBr_3$ Nanocrystals via Surface Engineering: Implications for Optoelectronic Devices
Arghya Sen, Priyam Karmakar, Patralekha Sarkar and **Pratik Sen***
ACS Appl. Nano Mater. **2024**, *7*, 21036–21047.
https://doi.org/10.1021/acsanm.4c04098
As on September 2024: Impact factor: 5.300, Citation in Scopus: 0

147. Ultrafast Processes in Upper Excited Singlet States of Free and Caged 7-Diethylaminothiocoumarin
Abhijit Dutta, Sujit Kumar Ghosh, Satyajit Mandal, Varadharajan Srinivasan,* Vaidhyanathan Ramamurthy* and **Pratik Sen***
J. Phys. Chem. A **2024**, *128*, 6853–6863.
https://doi.org/10.1021/acs.jpca.4c03139
As on August 2024: Impact factor: 2.700, Citation in Scopus: 0

146. Ultrafast Intersystem Crossing in Benzanthrone: Effect of Hydrogen Bonding and Viscosity
Suman Bhowmik, Abhijit Dutta and **Pratik Sen***
J. Phys. Chem. A **2024**, *128*, 6864–6878.
https://doi.org/10.1021/acs.jpca.4c03224
As on August 2024: Impact factor: 2.700, Citation in Scopus: 0

145. Tracking heterogenous protein aggregation at nanoscale through fluorescence correlation spectroscopy (*This article is part of a Special Issue dedicated to the topic of Photosciences in India*)
Bisal Halder, Shreya Ghosh, Tanmoy Khan, Subhendu Pal, Nilimesh Das* and **Pratik Sen***
Photochem. Photobiol. **2024**, *100*, 989–999.
https://doi.org/10.1111/php.14004
As on June 2024: Impact factor: 2.600, Citation in Scopus: 0

144. Enhanced Photostability of the Colloidal Ruddlesden–Popper Perovskite Nanoplate through 4-Fluorobenzylammonium Iodide-Mediated Surface Engineering for Photoluminescent Application
Arghya Sen, Patralekha Sarkar and **Pratik Sen***
ACS Appl. Nano Mater. **2024**, *7*, 10408–10418.
https://doi.org/10.1021/acsanm.4c00744
As on April 2024: Impact factor: 5.300, Citation in Scopus: 0

143. Evidence of Short-Lived High-Energy Emissive State and Triplet Character of the Self-Trapped Exciton in $Cs_3Cu_2I_5$ Perovskite
Shovon Chatterjee, Puspal Mukherjee,* Arghya Sen and **Pratik Sen***
J. Phys. Chem. Lett. **2024**, *15*, 4191–4196.
https://doi.org/10.1021/acs.jpclett.4c00511
As on April 2024: Impact factor: 4.800, Citation in Scopus: 0

142. Triplet State Photophysics of Bis(dimethylphenanthroline)copper(I) Might Involve Volume-Changing Molecular Motion: Ultrafast Absorption and Emission Studies
Abhijit Dutta, Suman Bhowmik and **Pratik Sen***
Chem. Phys. Lett. **2024**, *839*, 141108.
https://doi.org/10.1016/j.cplett.2024.141108
As on January 2024: Impact factor: 2.800, Citation in Scopus: 0

141. The shift of excitation spectra at blue edge of emission (BEEmS) as a new methodology to probe heterogeneity
Nilimesh Das, Tanmoy Khan and **Pratik Sen***
Chem. Phys. **2024**, *577*, 112138
https://doi.org/10.1016/j.chemphys.2023.112138
As on January 2024: Impact factor: 2.300, Citation in Scopus: 0

§140. Perspective on Heterogeneity through Spectroscopic Approaches
Pratik Sen*
Israps Bull. **2024**, *36*, 1–9.

139. Kankan Bhattacharyya: A Pioneer of Experimental Research in Ultrafast Spectroscopy
Pratik Sen,* and Anunay Samanta*
Resonance **2023**, *28*, 1621-1636.
https://doi.org/10.1007/s12045-023-1702-5

138. Osmolyte induced protein stabilization: modulation of associated water dynamics might be a key factor
Kuldeep Singh Negi, Nilimesh Das, Tanmoy Khan and **Pratik Sen***
Phys. Chem. Chem. Phys. **2023**, *25*, 32602–32612
https://doi.org/10.1039/D3CP03357K
As on November 2023: Impact factor: 3.676, Citation in Scopus: 0

137. Understanding the intricacy of protein in hydrated deep eutectic solvent: Solvation dynamics, conformational fluctuation dynamics, and stability
Tanmoy Khan, Nilimesh Das, Kuldeep Singh Negi, Suman Bhowmik and **Pratik Sen***
Int. J. Biol. Macromol. **2023**, *253*, 127100
https://doi.org/10.1016/j.ijbiomac.2023.127100
As on October 2023: Impact factor: 8.200, Citation in Scopus: 0

136. Multiple Evidences for Molecular Level Heterogeneity in a Non-ionic Biocatalytic Deep Eutectic Solvent
Tanmoy Khan, Ejaj Tarif, Yuto Awano, Lou Serafin Lozada, Nilimesh Das,

Keisuke Tominaga, and **Pratik Sen***
J. Mol. Liq. **2023**, *389*, 122882 (1-11)
https://doi.org/10.1016/j.molliq.2023.122882
As on August 2023: Impact factor: 6.000, Citation in Scopus: 0

135. Does Viscosity Decoupling Guarantee Dynamic Heterogeneity? A Clue through Excitation and Emission Wavelength Dependent Time-resolved Fluorescence Anisotropy Study
Ejaj Tarif, Nilimesh Das and **Pratik Sen***
J. Phys. Chem. B **2023**, *127*, 7162–7173
https://doi.org/10.1021/acs.jpcb.3c00334
As on April 2023: Impact factor: 3.466, Citation in Scopus: 0

134. Proton-Mediated Structural and Optical Recovery of a UV-Degraded Colloidal Ruddlesden–Popper Perovskite Nanoplate for Prolonged Application
Arghya Sen, Shovon Chatterjee and **Pratik Sen***
ACS Appl. Nano Mater. **2023**, *6*, 9130–9136.
https://doi.org/10.1021/acsanm.3c01488
As on May 2023: Impact factor: 6.140, Citation in Scopus: 0

133. Associated Water Dynamics Might Be a Key Factor Affecting Protein Stability in the Crowded Milieu
Nilimesh Das, Ejaj Tarif, Abhijit Dutta and **Pratik Sen***
J. Phys. Chem. B **2023**, *127*, 3151–3163
https://doi.org/10.1021/acs.jpcb.2c09043
As on April 2023: Impact factor: 3.466, Citation in Scopus: 0

132. Kankan Bhattacharyya (1954-2022)
Puspendu Kumar Das,* and **Pratik Sen***
Current Science **2023**, *124*, 373–374.
https://ischolar.sscldl.in/index.php/CURS/article/download/220137/204690

131. Green Synthesis of 3D Cesium Lead Halide Perovskite Nanocrystals and 2D Ruddlesden-Popper Nanoplatelets in Menthol-based Deep Eutectic Solvents
Shovon Chatterjee, Arghya Sen and **Pratik Sen***
Mater. Chem. Front. **2023**, *7*, 753–764.
https://doi.org/10.1039/D2QM01188C
As on Jan 2023: Impact factor: 8.683, Citation in Scopus: 0

130. Ultrafast excited state relaxation of a model green fluorescent protein chromophore: Femtosecond fluorescence and transient absorption study
Basant K Rajbongshi, Shahnawaz Rafiq, Suman Bhowmik and **Pratik Sen***
J. Mol. Str. **2023**, *1275*, 134538.
https://doi.org/10.1016/j.molstruc.2022.134538
As on Dec 2022: Impact factor: 3.841, Citation in Scopus: 0

129. Viscosity decoupling does not guarantee dynamic heterogeneity: A way out
Nilimesh Das, Navin Subba and **Pratik Sen***
J. Photochem. Photobiol. A: Chem. **2023**, *436*, 114361
https://doi.org/10.1016/j.jphotochem.2022.114361

As on Nov 2022: Impact factor: 5.141, Citation in Scopus: 0

128. Site-specific Heterogeneity of Multi-domain Human Serum Albumin and its Origin: A Red Edge Excitation Shift Study
Nilimesh Das, Subhrasmita Sahu, Tanmoy Khan and **Pratik Sen***
Photochem. Photobiol. **2023**, *99*, 538–546.
https://doi.org/10.1111/php.13712
As on Sep 2022: Impact factor: 3.521, Citation in Scopus: 0

127. UV Assisted Conversion of 2D Ruddlesden-Popper Iodide Perovskite Nanoplates into Stable 3D $MAPbI_3$ Nanorod
Arghya Sen, Shovon Chatterjee and **Pratik Sen***
J. Phys. Chem. C **2022**, *126*, 18057–18066.
https://doi.org/10.1021/acs.jpcc.2c05987
As on Nov 2022: Impact factor: 4.177, Citation in Scopus: 0

126. Red-emitting polyaniline-based nanoparticle probe for pH-sensitive fluorescence imaging
Lokesh Yadav, Anjali Yadav, Shovon Chatterjee, Suhela Tyeb, Raju Kumar Gupta, **Pratik Sen**, Bushra Ateeq, Vivek Verma, Kanwar S. Nalwa
Biomaterials Advances **2022**, *140*, 213088
https://doi.org/10.1016/j.bioadv.2022.213088
As on Aug 2022: Impact factor: 7.328, Citation in Scopus: 0

125. Massive Amplification of Photoluminescence and Exceptional Water Stability of $MAPbBr_3$ Nanocrystals through Core-Shell Nanostructure formation in a Self-Defense Mechanism
Shovon Chatterjee, Tanmoy Khan, Arghya Sen, Nilimesh Das and **Pratik Sen***
Mat. Adv. **2022**, *3*, 7360–7369.
https://doi.org/10.1039/D2MA00684G
As on July 2022: Impact factor: N/A, Citation in Scopus: 0

124. Ultrafast Excited State Dynamics of Spatially Confined Organic Molecules (***Invited feature article and cover page***)
Vaidhyanathan Ramamurthy*, **Pratik Sen*** and Christopher G. Elles*
J. Phys. Chem. A **2022**, *126*, 4681–4699.
https://doi.org/10.1021/acs.jpca.2c03276
As on July 2022: Impact factor: 2.944, Citation in Scopus: 0

123. CdS/CuCo2S4 dots-on-rods boosting charge separation and hydrogen evolution
Amit Gautam, Saddam Sk, B. Moses Abraham, Abhijit Dutta, **Pratik Sen** and Ujjwal Pal*
Int. J. Hydrogen En. **2022**, *47*, 23632-23643.
https://doi.org/10.1016/j.ijhydene.2022.05.199
As on June 2022: Impact factor: 7.139, Citation in Scopus: 0

122. Macromolecular crowding: how shape and interaction affect the structure, function, conformational dynamics and relative domain movement of a multi-domain protein
Nilimesh Das and **Pratik Sen***

Phys. Chem. Chem. Phys. **2022**, *24*, 14242-14256.
https://doi.org/10.1039/D1CP04842B
As on May 2022: Impact factor: 3.676, Citation in Scopus: 0

121. Vibration-Assisted Intersystem Crossing in the Ultrafast Excited-State Relaxation Dynamics of Halocoumarins
Aritra Das, Sujit Kumar Ghosh, V. Ramamurthy* and **Pratik Sen***
J. Phys. Chem. A **2022**, *126*, 1475–1485.
https://doi.org/10.1021/acs.jpca.1c08489
As on March 2022: Impact factor: 2.781, Citation in Scopus: 0

120. Tracking Wormlike Micelle Formation in Solution: Unique Insight through Fluorescence Correlation Spectroscopic Study
Navin Subba, Nilimesh Das and **Pratik Sen***
Langmuir **2022**, *38*, 2486–2494.
https://doi.org/10.1021/acs.langmuir.1c02936
As on February 2022: Impact factor: 3.882, Citation in Scopus: 0

119. Does Microsecond Active-Site Dynamics Primarily control Proteolytic Activity of Bromelain? Clues from Single Molecular Level Study with a Denaturant, a Stabilizer and a Macromolecular Crowder
Nilimesh Das, Sandeep Yadav, Kuldeep Singh Negi, Ejaj Tarif and **Pratik Sen***
BBA Advances **2022**, *2*, 100041(1-11).
https://doi.org/10.1016/j.bbadva.2022.100041
As on January 2022: Impact factor: N/A, Citation in Scopus: 0

118. A Novel Quinoline Derivative for Selective and Sensitive Visual Detection of PPB Level Cu^{2+} in Aqueous Solution
Nilimesh Das, Tanmoy Khan, Aritra Das, Vipin Kumar Jain, Joydev Acharya, Md. Serajul Haque Faizi, Joseph Daniel and **Pratik Sen***
Curr. Anal. Chem. **2022**, *18*, 196–203.
https://doi.org/10.2174/1573411016999201123162027
As on April 2021: Impact factor: 1.365, Citation in Scopus: 0

117. Search for the origin of synergistic solvation in methanol/chloroform mixture using optical Kerr effect spectroscopy
Kamil Polok, Navin Subba, Wojciech Gadomski* and **Pratik Sen***
J. Mol. Liq. **2022**, *345*, 117013 (1-17).
https://doi.org/10.1016/j.molliq.2021.117013
As on July 2021: Impact factor: 6.165, As on July 2021: Citation in Scopus: 0

116. Green, economical synthesis of nitrogen enriched carbon nanoparticles from seaweed extract and their application as invisible ink and fluorescent film
Vikram Singh,* B. Gorbel, Shovon Chatterjee, **Pratik Sen** and Vivek Verma*
Materials Letters **2022**, *309*, 131446(1-4).
https://doi.org/10.1016/j.matlet.2021.131446
As on Dec 2021: Impact factor: 3.423, As on Dec 2021: Citation in Scopus: 0

115. Marcus Inversion is Observed for Excited State Proton Transfer in the Adiabatic Limit using Naphthol based Photoacids

Aritra Das, Pratyush Ghosh, Abhijit Dutta and **Pratik Sen***
Chem. Phys. Impact **2021**, *3*, 100044(1-6).
https://doi.org/10.1016/j.chphi.2021.100044
As on Sept 2021: Impact factor: N/A, As on Sept 2021: Citation in Scopus: 0

114. Dynamic Heterogeneity and Viscosity Decoupling: Its Origin and Analytical Prediction
Nilimesh Das and **Pratik Sen***
Phys. Chem. Chem. Phys. **2021**, *23*, 15749–15757.
https://doi.org/10.1039/D1CP01804C
As on July 2021: Impact factor: 3.676, Citation in Scopus: 0

113. Formamidinium containing tetra cation organic–inorganic hybrid perovskite solar cell
Harish Singha, Pritam Dey, Shovon Chatterjee, **Pratik Sen**, Tanmoy Maiti*
Solar Energy **2021**, *220*, 258–268.
https://doi.org/10.1016/j.solener.2021.03.031
As on April 2021: Impact factor: 4.608, Citation in Scopus: 0

112. Correlating Bromelain's Activity with its Structure, Active-site Dynamics and Media's Physical Properties in a Hydrated Deep Eutectic Solvent
Nilimesh Das, Tanmoy Khan, Navin Subba and **Pratik Sen***
Phys. Chem. Chem. Phys. **2021**, *23*, 9337–9346
https://doi.org/10.1039/D1CP00046B
As on April 2021: Impact factor: 3.430, Citation in Scopus: 0

111. Rational Design, Preparation and Characterization of a Ternary Non-ionic Room-temperature Deep Eutectic Solvent Derived from Urea, Acetamide and Sorbitol
Navin Subba, Pushpkant Sahu, Nilimesh Das and **Pratik Sen***
J. Chem. Sci. **2021**, *133*, 25(1–10).
https://doi.org/10.1007/s12039-020-01866-2
As on April 2021: Impact factor: 1.406, Citation in Scopus: 0

110. Dynamics of Anthracene Excimer Formation within a Water-Soluble Nanocavity at Room Temperature
Aritra Das, Ashwini Danao, Shubhojit Banerjee, A. Mohan Raj, Gaurav Sharma, Rajeev Prabhakar, Varadharajan Srinivasan*, V. Ramamurthy*, and **Pratik Sen***
J. Am. Chem. Soc. **2021**, *143*, 2025–2036.
https://doi.org/10.1021/jacs.0c12169
As on April 2021: Impact factor: 14.612, Citation in Scopus: 0

109. Chickpea peel waste as sustainable precursor for synthesis of fluorescent carbon nanotubes for bioimaging application
Vikram Singh,* Shovon Chatterjee, Mahendra Palecha, **Pratik Sen**, Bushra Ateeq, Vivek Verma*
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As on April 2021: Impact factor: 2.991, Citation in Scopus: 9

43. Quantitative estimate of the water surface pH using heterodyne-detected electronic sum frequency generation
Shoichi Yamaguchi, Achintya Kundu, **Pratik Sen** and Tahei Tahara*
J. Chem. Phys. **2012**, *137*, 151101.
https://doi.org/10.1063/1.4758805
As on April 2021: Impact factor: 2.991, Citation in Scopus: 50

42. Novel Chemosensor for the Visual Detection of Copper(II) in Aqueous Solution at the ppm Level
Vadapalli Chandrasekhar*, Sourav Das, Rajeev Yadav, Sakiat Hossain, Rashmi Parihar, Ganesh Subramaniam and **Pratik Sen***
Inorg. Chem. **2012**, *51*, 8664–8666.
https://doi.org/10.1021/ic301399a
As on April 2021: Impact factor: 4.825, Citation in Scopus: 86

41. Static and Dynamic Aspects of Supramolecular Interaction of Coumarin 153 and Fluorescein with Bovine Serum Albumin
Rajeev Yadav, Shyamashis Das and **Pratik Sen***
Aust. J. Chem. **2012**, *65*, 1305–1313.
https://doi.org/10.1071/CH12034
As on April 2021: Impact factor: 1.226, Citation in Scopus: 10

40. Origin of Strong Synergism in Weakly Perturbed Binary Solvent System: A Case Study of Primary Alcohols and Chlorinated Methanes
Shradhey Gupta, Shahnawaz Rafiq, Mainak Kundu and **Pratik Sen***
J. Phys. Chem. B **2012**, *116*, 1345–1355.
https://doi.org/10.1021/jp207741h
As on April 2021: Impact factor: 2.857, Citation in Scopus: 38

39. Excited State Relaxation Dynamics of Model Green Fluorescent Protein Chromophore Analogs: Evidence for Cis–Trans Isomerism
Shahnawaz Rafiq, Basanta K. Rajbongshi, Nisanth N. Nair, **Pratik Sen*** and Gurunath Ramanathan*
J. Phys. Chem. A **2011**, *115*, 13733–13742.
https://doi.org/10.1021/jp206815t
As on April 2021: Impact factor: 2.600, Citation in Scopus: 50

38. A Trinuclear Bright Red Luminophore Containing Cyclometallated Ir(III) Motifs
Vadapalli Chandrasekhar,* S. M. Wahidur Rahaman, Tanima Hajra, Dipak Das, Tapas Ghatak, Shahnawaz Rafiq, **Pratik Sen*** and Jitendra K. Bera*
Chem. Comm. **2011**, *47*, 10836–10838.
https://doi.org/10.1039/c1cc12830b
As on April 2021: Impact factor: 5.996, Citation in Scopus: 17

37. Femtosecond Excited State Dynamics of 4-Nitrophenyl Pyrrolidinemethanol: Evidence of Twisted Intramolecular Charge Transfer and Intersystem Crossing involving Nitro Group
Shahnawaz Rafiq, Rajeev Yadav and **Pratik Sen***
J. Phys. Chem. A **2011**, *115*, 8335–8343.
https://doi.org/10.1021/jp2005524
As on April 2021: Impact factor: 2.600, Citation in Scopus: 41

36. Two-photon absorption technique for selective detection of Cu^{2+} in aqueous solutions using a dansyl-pyrene conjugate
Vadapalli Chandrasekhar,* Mrituanjay D. Pandey, Sandeep Kumar Maurya, and **Pratik Sen*** and Debabrata Goswami*
Chem. Asian J. **2011**, *6*, 2246–2250.
https://doi.org/10.1002/asia.201100032
As on April 2021: Impact factor: 4.056, Citation in Scopus: 14

§35. 2nd order nonlinear spectroscopic study of orientation of molecules at the interface
Pratik Sen*
Israps Bull. **2010**, *22*, 67.

34. Microviscosity inside a Nanocavity: A Femtosecond Fluorescence Up-Conversion Study of Malachite Green
Shehnawaz Rafiq, Rajeev Yadav and **Pratik Sen***
J. Phys. Chem. B **2010**, *114*, 13988–13994.
https://doi.org/10.1021/jp1037238
As on April 2021: Impact factor: 2.857, Citation in Scopus: 34

33. Twisted intramolecular charge transfer in a model green fluorescent protein luminophore analog
Basanta K. Rajbongshi, **Pratik Sen** and Gurunath Ramanathan*
Chem. Phys. Lett. **2010**, *494*, 295–300.
https://doi.org/10.1016/j.cplett.2010.06.032
As on April 2021: Impact factor: 2.029, Citation in Scopus: 13

32. Physisorption Gives Narrower Orientational Distribution than Chemisorption on a Glass Surface: A Polarization-Sensitive Linear and Nonlinear Optical Study
Shoichi Yamaguchi, Haruko Hosoi, M. Yamashita, **Pratik Sen** and Tahei Tahara
J. Phys. Chem. Lett. **2010**, *1*, 2662.

31. Ultrafast Dynamics of Malachite Green at the Air/Water Interface Studied by Femtosecond Time-resolved Electronic Sum Frequency Generation (TR-ESFG): An Indicator for Local Viscosity
Pratik Sen, Shoichi Yamguchi and Tahei Tahara
Faraday Discuss. **2010**, *145*, 411.

30. New Insight into the Surface Denaturation of Proteins: Electronic Sum Frequency Generation Study of Cytochrome C at Water Interfaces
Pratik Sen, Shoichi Yamguchi and Tahei Tahara
J. Phys. Chem. B **2008**, *112*, 13473.

29. Excited State Proton Transfer from Pyranine to Acetate in Methanol
Sudip Kumar Mondal, Subhadip Ghosh, Kalyanasis Sahu, **Pratik Sen** and Kankan Bhattacharyya
J. Chem. Sci. **2007**, *119*, 1.

28. Excited-State Proton Transfer from Pyranine to Acetate in γ-Cyclodextrin and Hydroxypropyl γ-Cyclodextrin
Sudip Kumar Mondal, Kalyanasis Sahu, Subhadip Ghosh, **Pratik Sen** and Kankan Bhattacharyya
J. Phys. Chem. A **2006**, *110*, 13646.

27. A Femtosecond Study of Photoinduced Electron Transfer from Dimethylaniline to Coumarin Dyes in a Cetyltrimethylammonium Bromide Micelle
Subhadip Ghosh, Kalyanasis Sahu, Sudip Kumar Mondal, **Pratik Sen** and Kankan Bhattacharyya.
J. Chem. Phys. **2006**, *125*, 054509.

26. Ultrafast Fluorescence Resonance Energy Transfer (FRET) in a Micelle
Kalyanasis Sahu, Subhadip Ghosh, Sudip Kumar Mondal, Bankim Chandra Ghosh, **Pratik Sen,** Durba Roy and Kankan Bhattacharyya.

J. Chem. Phys. **2006**, *125*, 044714.

25. A Femtosecond Study of Excitation Wavelength Dependence of Solvation Dynamics in a Vesicle
Pratik Sen, Subhadip Ghosh, Sudip Kumar Mondal, Kalyanasis Sahu, Durba Roy, Kankan Bhattacharyya and Keisuke Tominaga.
Chem. Asian J. **2006**, *1-2*, 188.

24. A Femtosecond Study of Excitation Wavelength Dependence of Solvation Dynamics in a PEO-PPO-PEO Triblock Copolymer Micelle
Pratik Sen, Subhadip Ghosh, Kalyanasis Sahu, Sudip Kumar Mondal, Durba Roy and Kankan Bhattacharyya.
J. Chem. Phys. **2006**, *124*, 20490.

23. Femtosecond Study of Partially Folded States of Cytochrome C by Solvation Dynamics
Kalyanasis Sahu, Sudip Kumar Mondal, Subhadip Ghosh, Durba Roy, **Pratik Sen** and Kankan Bhattacharyya.
J. Phys. Chem. B **2006**, *110*, 1056.

22. Solvation Dynamics in Biological Systems and Organized Assemblies
Pratik Sen, Subrata Pal, Kankan Bhattacharyya and Biman Bagchi
J. Chinese Chem. Soc. **2006**, *53*, 169.

21. Fluorescence Anisotropy Decay and Solvation Dynamics in a Nanocavity: Coumarin 153 in Methyl β-Cyclodextrins
Pratik Sen, Durba Roy, Sudip Kumar Mondal, Kalyanasis Sahu, Subhadip Ghosh and Kankan Bhattacharyya.
J. Phys. Chem. A **2005**, *109*, 9716.

20. Optical Properties of CdS Nanoparticles and the Energy Transfer from CdS Nanoparticles to Rhodamine 6G
Paramita Saha Chowdhury, **Pratik Sen** and Amitava Patra.
Chem. Phys. Lett. **2005**, *413*, 311.

19. Temperature Dependence of Anisotropy Decay and Solvation Dynamics of Coumarin 153 in γ-Cyclodextrin Aggregates
Durba Roy, Sudip Kumar Mondal, Kalyanasis Sahu, Subhadip Ghosh, **Pratik Sen** and Kankan Bhattacharyya.
J. Phys. Chem. A **2005**, *109*, 7359.

18. Excited State Proton Transfer of Pyranine in a γ-Cyclodextrin Cavity
Sudip Kumar Mondal, Kalyanasis Sahu, **Pratik Sen**, Durba Roy, Subhadip Ghosh and Kankan Bhattacharyya.
Chem. Phys. Lett. **2005**, *412*, 228.

17. Hydration Dynamics of 4-Aminophthalimide in a Substituted β-Cyclodextrin nanocavity
Sudip Kumar Mondal, Durba Roy, Kalyanasis Sahu, **Pratik Sen**, Rana Karmakar and Kankan Bhattacharyya.

J. Photochem. Photobiol. A: Chemistry **2005**, *173*, 334.

16. Excitation Wavelength Dependence of Solvation Dynamics of Coumarin 480 in a Lipid Vesicle
Pratik Sen, Taku Satoh, Kankan Bhattacharyya and Keisuke Tominaga.
Chem. Phys. Lett. **2005**, *411*, 339.

15. Solvation Dynamics of DCM in DPPC Vesicle Entrapped in Sodium Silicate Derived Sol-Gel Matrix
Pratik Sen, Saptarshi Mukherjee, Amitava Patra and Kankan Bhattacharyya.
J. Phys. Chem. B **2005**, *109*, 3319.

14. Solvation Dynamics in a Wormlike CTAB Micelle
Pratik Sen, Saptarshi Mukherjee, Arnab Halder, Partha Dutta and Kankan Bhattacharyya.
Res. Chem. Inter. **2005**, *31*, 135.

13. Hydration Dynamics of a Protein in the Presence of Urea and Sodium Dodecyl Sulfate
Pratik Sen, Durba Roy, Kalyanasis Sahu, Sudip Kumar Mondal, and Kankan Bhattacharyya.
Chem. Phys. Lett. **2004**, *395*, 58.

12. Expanded graphite as an electrode material for an alcohol fuel cell
Arup Bhattacharya, Ashoke Hazra, Someswar Chatterjee, **Pratik Sen**, Soumi Laha, Indra N. Basumallick.
J. Power Sources **2004**, *136*, 208.

11. Temperature Dependence of Solvation Dynamics in a Micelle. 4-Aminophthalimide in Triton X-100
Pratik Sen, Saptarshi Mukherjee, Arnab Halder and Kankan Bhattacharyya.
Chem. Phys. Lett. **2004**, *385*, 357.

10. Solvation Dynamics of DCM in a Polypeptide-Surfactant Aggregate: Gelatin-Sodium Dodecyl Sulfate
Arnab Halder, **Pratik Sen**, Anupam Das Burman and Kankan Bhattacharyya.
Langmuir **2004**, *20*, 653.

9. Improved Catalyst for Methanol Fuel Cell
Pratik Sen, Soumi Laha and Indra N. Basumallick.
Bull. Electrochem. **2004**, *20*, 125.

8. Solvation Dynamics in the Molten Globule State of a Protein
Pratik Sen, Saptarshi Mukherjee, Partha Dutta, Arnab Halder, Debabrata Mandal, Rajat Banerjee, Siddhartha Roy and Kankan Bhattacharyya.
J. Phys. Chem. B **2003**, *107*, 14563.

7. Solvation Dynamics in DMPC Vesicle in the Presence of a Protein
Partha Dutta, **Pratik Sen**, Saptarshi Mukherjee and Kankan Bhattacharyya.
Chem. Phys. Lett. **2003**, *382*, 426.

6. Solvation Dynamics in a Protein-Surfactant Aggregate. TNS in HSA-SDS
   Saptarshi Mukherjee, **Pratik Sen**, Arnab Halder, Partha Dutta, Sobhan Sen and Kankan Bhattacharyya.
   Chem. Phys. Lett. **2003**, 379, 471.

5. Solvation Dynamics in the Water Pool of an Aerosol-OT Microemulsion. Effect of Sodium Salicylate and Sodium Cholate
   Partha Dutta, **Pratik Sen**, Saptarshi Mukherjee, Arnab Halder and Kankan Bhattacharyya.
   J. Phys. Chem. B **2003**, 107, 10815.

4. Solvation Dynamics in a Protein-Surfactant Complex
   Partha Dutta, **Pratik Sen**, Arnab Halder, Saptarshi Mukherjee, Sobhan Sen and Kankan Bhattacharyya.
   Chem. Phys. Lett. **2003**, 377, 229.

3. Excited State Proton Transfer of 1-Naphthol in Hydroxypropylcellulose/Sodium Dodecyl Sulfate System
   Partha Dutta, Arnab Halder, Saptarshi Mukherjee, **Pratik Sen**, Sobhan Sen and Kankan Bhattacharyya.
   Langmuir **2002**, *18*, 7867.

§2. Fabrication of flexible polymer based sensor for estimation of nitrate ion
   Pratik Sen and Indra N. Basumallick
   Proc. 9th WB State Sci. Tech. Congress **2002**

1. Modified hydrogel - An Unique Material for Electrochemical Studies
   Ashoke Hazra, **Pratik Sen** and Indra N. Basumallick.
   J. New Mat. Electrochem. Sys. **2001**, *4*, 89.

Patent

1. Designing Improvement and Implementing New Features to Conventional RO(reverse Osmosis) Water Purifier Systems
   Santosh Pramanik, Kaniska Biswas, **Pratik Sen**
   Indian Patent No. 304338
   Published: 05-Mar-19

Teaching Experience:

December 2008 – Till date	Department of Chemistry Indian Institute of Technology Kanpur Kanpur, India
Molecular Spectroscopy	2008-2009 Sem II
Physical Chemistry Lab	2009-2010 Sem I
Physical Photochemistry	2009-2010 Sem II
Laser in Chemistry and Biology	2010 Summer

Physical Chemistry Lab	2010-2011 Sem I
Basic Physical Chemistry	2010-2011 Sem II
Principle of Physical Chemistry	2011-2012 Sem I
Physical Photochemistry	2011-2012 Sem II
General Chemistry (Lab)	2012-2013 Sem I
General Chemistry (UG Level)	2012-2013 Sem II
Laser in Chemistry and Biology	2013 Summer
Physical Photochemistry	2013-2014 Sem I
Atoms, Molecules and Photons	2013-2014 Sem II
General Chemistry (UG Level)	2014-2015 Sem I
General Chemistry (UG Level)	2014-2015 Sem II
General Chemistry (Lab)	2015-2016 Sem I
Physical Photochemistry	2015-2016 Sem II
Physical Chemistry Lab	2016-2017 Sem I
Laser in Chemistry and Biology	2016-2017 Sem II
Atoms, Molecules and Photons	2017 Summer
Physical Chemistry I (Quantum Chemistry)	2017-2018 Sem I
Atoms, Molecules and Photons	2017-2018 Sem II
Physical Chemistry Lab	2018-2019 Sem I
Physical Photochemistry	2018-2019 Sem II
Molecule Radiation Interactions	2019-2020 Sem I
Laser in Chemistry and Biology	2019-2020 Sem II
General Chemistry (Lab)	2020-2021 Sem I
Atoms, Molecules and Photons	2020-2021 Sem II
Physical Photochemistry	2021 Summer
Physical Photochemistry	2021-2022 Sem I
Physical Chemistry (Lab)	2021-2022 Sem I
General Chemistry (Theory)	2022-2023 Sem I
Chemistry Communication	2022-2023 Sem I
General Chemistry (Theory)	2022-2023 Sem II
Photonics Lab Techniques (Lab)	2022-2023 Sem II
Physical Photochemistry	2023-2024 Sem II
Photonics Lab Techniques (Lab)	2023-2024 Sem II
Physical Chemistry (Lab)	2024-2025 Sem I
Principle of Physical Chemistry	2024-2025 Sem II
Chemistry Communication	2025-2026 Sem I
Physical Photochemistry	2025-2026 Sem II

Ph.D. students guided

Ongoing:	9
Thesis submitted:	1
Completed:	15

1. Name of Student: **Shahnawaz Rafiq Rather**
   Title: Ultrafast Excited State Twisting Dynamics of Molecular Systems in Condensed Phase
   Current Status: **Awarded (January 04, 2014)**
   Co-Supervisor: Nil
   Affiliation after graduation: Post-doctoral fellow, Princeton University, USA

2. Name of Student: **Rajeev Yadav**
Title: Domain Specific Interaction, Unfolding and Ultrafast Dynamics of Human and Bovine Serum Albumin: A Bulk and Single Molecular Level Study
Current Status: **Awarded (September 27, 2014)**
Co-Supervisor: Nil
Affiliation after graduation: Post-doctoral fellow, Michigan State Univ., USA

3. Name of Student: **Shradhey Gupta**
Title: Spectroscopic Investigation of Alcohol-Chlorinated Methane Synergistic Binary Solvent Mixtures and its Application
Current Status: **Awarded (February 13, 2015)**
Co-Supervisor: Nil
Affiliation after graduation: Post-doctoral fellow, Sagar University, India

4. Name of Student: **Bhaswati Sengupta**
Title: Single Molecular Level Study of Proteins: Insights from Conformational Fluctuation Dynamics and Structural Parameters
Current Status: **Awarded (March 06, 2018)**
Co-Supervisor: Nil
Affiliation after graduation: Post-doctoral fellow, Pennsylvania State U., USA

5. Name of Student: **Puspal Mukherjee**
Title: Modulation of Ultrafast Excited State Dynamics in SDS Micelle
Current Status: **Awarded (July 20, 2018)**
Co-Supervisor: Nil
Affiliation after graduation: Assistant Professor of Chemistry, School of Sciences, Netaji Subhas University, Kolkata, West Bengal

6. Name of Student: **Vaisakh Mohan K**.
Title: Elucidation of Solvation Dynamics in Proteins and its Environmental Dependence
Current Status: **Awarded (April 05, 2019)**
Co-Supervisor: Nil
Affiliation after graduation: Assistant Professor at St. Joseph's College (Calicut University), Irinjalakuda, Kerala

7. Name of Student: **Vipin Kumar Jain**
Title: Colorimetric and Fluorescent Chemosensors for Selective Detection of Biologically and Environmentally Important Metal Ions at PPM Level
Current Status: **Awarded (February 01, 2021)**
Co-Supervisor: Nil
Affiliation after graduation: Teaching job

8. Name of Student: **Navin Subba**
Title: Time-Resolved Spectroscopic Investigation of Structure and Dynamics of Deep Eutectic Solvents
Current Status: **Awarded (July 22, 2021)**
Co-Supervisor: Nil

Affiliation after graduation: Post-doctoral fellow, Humboldt University Berlin with Prof. Julia Stahler

9. Name of Student: **Aritra Das**
Title: Modulation of Excited State Processes inside Octa Acid Cavity
Current Status: **Awarded (August 12, 2022)**
Co-Supervisor: Nil
Affiliation after graduation: Post-doctoral fellow, University of Minnesota with Prof. Renee R. Frontiera

10. Name of Student: **Nilimesh Das**
Title: Mechanistic Insight of Protein Behaviour in Crowded Milieu AND New Methodologies to Interrogate Spatial and Dynamic Heterogeneity
Current Status: **Awarded (March 31, 2023)**
Co-Supervisor: Nil
Affiliation after graduation: Post-doctoral fellow, Harvard University with Prof. Sua Myong

11. Name of Student: **Shovon Chatterjee**
Title: Towards Sustainable Halide Perovskite Nanocrystals: Doping and Solvent Engineering
Current Status: **Awarded (April 12, 2023)**
Co-Supervisor: Nil
Affiliation after graduation: Post-doctoral fellow, IIT Guwahati with Prof. Arun Chattopadhyay

12. Name of Student: **Arghya Sen**
Title: Mechanistic Investigation on Photostability of Colloidal 2D Perovskite Nanoplate against UV Irradiation and its Potential Remedies
Current Status: **Awarded (December 16, 2024)**
Co-Supervisor: Nil
Affiliation after graduation: Alexander von Humboldt Fellow at the Institute of Physics, University of Rostock.

13. Name of Student: **Tanmoy Khan**
Title: Critical Role of Water to Maintain Protein Stability and Activity in Hydrated Deep Eutectic Solvent and Beyond
Current Status: **Awarded (November 25, 2025)**
Co-Supervisor: Nil
Affiliation after graduation: FARE Fellow IIT Kanpur

14. Name of Student: **Abhijit Datta**
Title: Ultrafast Intersystem Crossing in Heavy-atom-Free Molecules: Effect of Polarity, Viscosity, Hydrogen Bonding and Confinement
Current Status: **Awarded (November 24, 2025)**
Co-Supervisor: Nil
Affiliation after graduation: FARE Fellow IIT Kanpur

15. Name of Student: **Kuldeep Singh Negi**

Title: Deciphering Osmolyte-Protein Interaction through Associated Water Stabilization Mechanism
Current Status: **Awarded (December 03, 2025)**
Co-Supervisor: Nil
Affiliation after graduation: FARE Fellow IIT Kanpur

16. Name of Student: **Sandeep Yadav**
Title: Research Topic: Biophysical Chemistry
Current Status: **In Progress**
Co-Supervisor: Prof. Tahei Tahara, RIKEN, Japan

17. Name of Student: **Suman Bhowmik**
Title: Research Topic: Ultrafast Intersystem Crossing
Current Status: **In Progress**
Co-Supervisor: Nil

18. Name of Student: **Bhupendra Singh**
Title: Research Topic: Biophysical chemistry
Current Status: **In Progress**
Co-Supervisor: Nil

19. Name of Student: **Patralekha Sarkar**
Title: Research Topic: Hole-transfer dynamics in perovskite
Current Status: **In Progress**
Co-Supervisor: Nil

20. Name of Student: **Dipankar Mondal**
Title: Research Topic: Ultrafast spectroscopy
Current Status: **In Progress**
Co-Supervisor: Nil

21. Name of Student: **Akash Rana**
Title: Research Topic: Biophysical chemistry
Current Status: **In Progress**
Co-Supervisor: Nil

22. Name of Student: **Himanshu Singh**
Title: Research Topic: Ultrafast spectroscopy
Current Status: **In Progress**
Co-Supervisor: Nil

23. Name of Student: **Harshit Karnwal**
Title: Research Topic: Biophysical chemistry
Current Status: **In Progress**
Co-Supervisor: Nil

24. Name of the Student: **Subhajit Rana**
Title: Research Topic: Ultrafast spectroscopy
Current Status: **In Progress**
Co-Supervisor: Nil

25. Name of the Student: **Dibyendu Pramanik**
Title: Research Topic: Ultrafast spectroscopy
Current Status: **In Progress**
Co-Supervisor: Nil

M.Sc. students guided
Ongoing: 3
Completed: 33

1. Name of Student: **Shyamashis Das**
Title: Site Dependent Protein Surfactant Interaction: A Spectroscopic and Molecular Docking Study
Current Status: **Completed (April 2011)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, I.I.Sc. Bangalore, India

2. Name of Student: **Soumen Ghosh**
Title: Synthesis and Spectroscopic Studies of Ferrocene-(π-bridge)-Acceptor Systems
Current Status: **Completed (April 2011)**
Co-Supervisor: Dr. Ramesh Ramapanicker
Affiliation after graduation: Ph.D. student, Michigan State University, USA

3. Name of Student: **Mainak Kundu**
Title: Spectroscopic Investigation of Synergistic Chloroform-Methanol Binary Mixture
Current Status: **Completed (April 2011)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, Ohio State University, USA

4. Name of Student: **Arghya Chakraborty**
Title: Exploring Marcus Inverted Region in Binary Solvent Mixtures
Current Status: **Completed (April 2011)**
Co-Supervisor: Prof. Debabrata Goswami
Affiliation after graduation: Ph.D. Student, University of Basel, Switzerland

5. Name of Student: **Nirmal Das**
Title: Synthesis and Binding Characteristics of Coelenteazine Derivative with Bovine Serum Albumin
Current Status: **Completed (April 2012)**
Co-Supervisor: Prof. Sabyasachi Sarkar
Affiliation after graduation: Ph.D. Student, IISER Bhopal

6. Name of Student: **Sharmistha Karmakar**
Title: Mechanistic Investigation of Binding of Coumarin 152 with Human Serum Albumin: A Temperature Dependent Fluorescence Spectroscopic Approach
Current Status: **Completed (April 2012)**

Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, IACS, Kolkata

7. Name of Student: **Snigdha Ghosh**
Title: Determination of Orientation Parameters by Surface Second Order Non-Linear Spectroscopy
Current Status: **Completed (April 2012)**
Co-Supervisor: Nil
Affiliation after graduation:

8. Name of Student: **Ankur Jhaveri**
Title: Development of Surface Second Harmonic Generation Spectrometer to Study the Adsorption of Malachite Green at the Air/Water Interface
Current Status: **Completed (April 2013)**
Co-Supervisor: Nil
Affiliation after graduation:

9. Name of Student: **Ashish Jindal**
Title: Setting-up a Surface Second Harmonic Generation Spectrometer to Study the Adsorption of Paranitroaniline at the Air/Water Interface
Current Status: **Completed (April 2013)**
Co-Supervisor: Nil
Affiliation after graduation:

10. Name of Student: **Barun Kumar Maity**
Title: Spectroscopy Study of 1-dimethoxymethy-9H-pyrido(3,4-b)indol-3-yl-methanol: A new pH Indicator
Current Status: **Completed (April 2013)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, TIFR, Mumbai

11. Name of Student: **Sayoni Ray**
Title: Spectroscopic Investigation of DMF/Chloroform Binary Solvent Mixture
Current Status: **Completed (April 2013)**
Co-Supervisor: Nil
Affiliation after graduation: NA

12. Name of Student: **Shubhrangshu Pandit**
Title: Spectroscopic Investigation of a Potential Anticancer Drug with Human Serum Albumin
Current Status: **Completed (April 2013)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, University of Bristol, UK.

13. Name of Student: **Santosh Kumar**
Title: Effect of Double Denaturation in a Multi-domain Protein
Current Status: **Completed (April 2014)**
Co-Supervisor: Nil
Affiliation after graduation: NA

14. Name of Student: **Indrani Banerjee**
Title: Mechanistic Investigation of the Domain Specific Stabilization of Human Serum Albumin by Different Sugar Molecules
Current Status: **Completed (April 2014)**
Co-Supervisor: Nil
Affiliation after graduation: NA

15. Name of Student: **Anurag Kumar**
Title: Design and Control of a Setup for Data Acquisition in Laser Flash Photolysis using LabVIEW
Current Status: **Completed (April 2015)**
Co-Supervisor: Nil
Affiliation after graduation: NA

16. Name of Student: **Arusha Acharyya**
Title: Elucidating Domain Specific Double Denaturation of Human Serum Albumin by a New Blue Fluorescent Protein Tag
Current Status: **Completed (April 2015)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, University of Pennsylvania, USA

17. Name of Student: **Kuntal Chatterjee**
Title: Optical Sensing of Aprotic Solvents through Acidic Proton Removal from Azobenzene Derivative
Current Status: **Completed (April 2015)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. student, Tech. Univ. of Berlin, Germany

18. Name of Student: **Somnath Biswas**
Title: Real Time Quantification of Ultrafast Photo-induced Bi-molecular Electron Transfer Rate: Direct Probing of the Transient Intermediate
Current Status: **Completed (April 2015)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, Ohio State University, USA

19. Name of Student: **Apala Chaudhuri**
Title: Investigation of the Active-Site Dynamics of Papain: An Ultrafast and Single Molecule Spectroscopic Study
Current Status: **Completed (April 2016)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, Yale University, USA

20. Name of Student: **Nishith Maity**
Title: A Molecular Level Investigation of Synergistic solvation Characteristics of water- N,N-Dimethylformamide Binary Solvent System
Current Status: **Completed (April 2017)**
Co-Supervisor: Nil
Affiliation after graduation: Ph.D. Student, Iowa State University, USA

21. Name of Student: **Sukanta Shil**
Title: Dynamics and Structural Parameter of Protein in a Cell-mimic: Ultrafast and Single Molecular Level Investigation of Domain-III of HSA
Current Status: **Completed (April 2017)**
Co-Supervisor: Nil
Affiliation after graduation: ONGC, India

22. Name of Student: **Shakil Ahammad Chowdhury**
Title: Triplet-Triplet Annihilation Governed Photon Up-conversion in Carbon Quantum Dots Derived from Vitamin-C
Current Status: **Completed (April 2018)**
Co-Supervisor: Nil
Affiliation after graduation: N/A

23. Name of Student: **Pratyush Ghosh**
Title: Probing diastereomerism of ultrafast excited state proton transfer in the adiabatic regime
Current Status: **Completed (April 2019)**
Co-Supervisor: Nil
Affiliation after graduation: PhD student, Cambridge University, UK

24. Name of Student: **Sandeep Yadav**
Title: Structural, Dynamical and functional Response of a Plant Enzyme, Bromelain in GnHCl and Ficoll-70
Current Status: **Completed (April 2019)**
Co-Supervisor: Nil
Affiliation after graduation: PhD student, IIT Kanpur

25. Name of Student: **Mainak Ghosal**
Title: Detailed Charge Carrier Dynamics and Monovalent Cation Induced increment in Quantum Yield in Mixed Lead-Bismuth Perovskite Nanocrystal
Current Status: **Completed (2020)**
Co-supervisor: Nil
Affiliation after graduation: Ph.D. student, IISER Kolkata

26. Name of Student: **Ritwik Hazra**
Title: Contemplating Heterogeneity Through Spectroscopic Approach
Current Status: **Completed (2020)**
Co-supervisor: Nil
Affiliation after graduation: Ph.D. student, IIT Kharagpur

27. Name of Student: **Ambika Prasad Kar**
Title: Structural insight into DES from Vibrational (IR & Raman) Analysis
Current Status: **Completed (2021)**
Co-supervisor: Nil
Affiliation after graduation: N/A

28. Name of Student: **Bisal Halder**
Title: Tracking Heterogenous Protein Aggregation at Nanoscale through Fluorescence Correlation Spectroscopy

Current Status: **Completed (2022)**
Co-supervisor: Nil
Affiliation after graduation: PhD student, University of Michigan, USA

29. Name of Student: **Damini**
Title: Mechanistic Understanding of UV Induced Photo-degradation of Colloidal Ruddlesden-Popper Nanoplate
Current Status: **Completed (2023)**
Co-supervisor: Nil
Affiliation after graduation: Analyst, IIT Madras

30. Name of Student: **Kuntal Debnath**
Title: Effect of Hydrophobicity on the Synergism and the Associated Heterogeneity in Binary Solvent Mixtures
Current Status: **Completed (2024)**
Co-supervisor: Nil
Affiliation after graduation: Ph.D. student, IIT Kanpur

31. Name of Student: **Soumya Chaudhury**
Title: Does Hydrophobicity Play a Role in Synergism of Binary Solvent Mixture?
Current Status: **Completed (2024)**
Co-supervisor: Nil
Affiliation after graduation: Ph.D. student, IIT Kanpur

32. Name of Student: **Subhajit Rana**
Title: Interplay of Protein and Associated Water Dynamics in Osmolyte-Induced Thermal Stabilization
Current Status: **Completed (2025)**
Co-supervisor: Nil
Present affiliation: IITK

33. Name of Student: **Swagata Bhowmik**
Title: A Systematic Understanding of the Relationship between Viscosity and Dynamics in a Crowded Milieu via Size Variation
Current Status: **Completed (2025)**
Co-supervisor: Nil
Present affiliation: IITK

Post-doctoral Research Supervision
Ongoing: 0
Completed: 6

1. Name: **Dr. Md. Serajul Haque Faizi**
Title: Synthesis and Characterization of Fluorescent Active Compounds and Metal Complexes for Ultrafast Spectroscopic Studies
Current status: **Complete**
Duration: **March 2013 to March 2014**
Co-supervisor: Nil

Present affiliation: Assistant Professor, Department of Chemistry, Langat Singh College, B. R. A. Bihar University, Muzaffarpur, Bihar, India

2. Name: **Dr. Vijaykant Khorwal**
Title: Mechanistic Understanding of Perovskite Solar Cells
Current status: **Completed**
Duration: **July 2016 to June 2018**
Co-supervisor: Nil
Present affiliation: Assistant Professor, Lovely Professional University

3. Name: **Dr. Gulab Singh Maurya**
Title: Development of experimental probe for online analysis of composition of molten mixed metal using laser induced breakdown spectroscopy
Current status: **Completed**
Duration: **September 2018 to August 2021**
Co-supervisor: Nil
Present affiliation: Assistant Professor, Department of Physics, Nehru Gram Bharati (Deemed to be University), Jamunipur, Prayagraj, Uttar Pradesh 221505

4. Name: **Dr. Ejaj Tarif**
Title: Nature of molecular interaction in deep eutectic solvents
Current status: **Completed**
Duration: **October 2020 to December 2022**
Co-supervisor: Nil
Present affiliation: Assistant Professor, GLA University, Mathura

5. Name: **Dr. Ndege Simisi Clovis**
Title: Heterogeneity in mixed solvent system
Current status: **Completed**
Co-supervisor: Nil
Duration: **April 2023 to March 2025**

6. Name: **Dr. Ishfaq Ahmad Rather**
Title: Development of fluorescent bio-markers
Current status: **Completed**
Co-supervisor: Nil
Duration: **December 2023 to April 2024**

Project/Summer-Project Research Supervision

Ongoing:	To be added
Completed:	To be added

Sponsored Project:

Ongoing:	2
Completed:	17

1. 2008-2010 :: Spectroscopic Investigation of Nano-confined and Biological Environment. IIT Kanpur, Project Cost: Rs, 10,00,000/-
2. 2010-2013 :: Real time Detection of the Electronic and Structural Dynamics in molecules by Ultrafast Spectroscopy. BRNS, DAE, Govt. Of India, Project Cost: Rs 30,65,000/-
3. 2012 :: Establishment of Femtosecond Laboratory, IIT Kanpur, Project Cost: Rs, 95,00,000/-
4. 2012-2015 :: Femto-Second Study of Metal-Complexes, Green Fluorescent Proteins and related molecules, SERB, DST, Govt. of India, Project Cost: Rs. 101,00,000/-
5. 2012 :: Establishment of Femtosecond Transient Absorption Spectrometer, CARE, Project Cost: Rs. 22,77,000/-
6. 2013-2015 :: Molecular Level Understanding Between Wettability and Roughness of a Solid Surface, CSIR, Govt. of India, Project Cost: Rs. 6,00,000/-
7. 2014-2017 :: Development of Highly Selective Chemosensors for Cost-Effective Detection and Estimation of Biologically and Environmentally Important Metal Ions, INSA, Project Cost: Rs. 15,00,000/-
8. 2014 :: Elucidating the dynamics of water molecules associated with interfacial hydration of coumarin 337 by interface-selective nonlinear spectroscopy, INSA, Govt. of India and DFG, Germany, Project cost: ~3,00,000/-
9. 2015 :: Ultrafast itramolecular proton transfer, University of Castilla-La Mancha, Spain, Project cost: ~5,90,000/-
10. 2017-2019 :: Elucidation Of Synergistic Solvation In Alcohol Chlorinatedmethane Binary Solvent Mixture By Optical Kerr Effect Spectroscpy, DST, Govt. of India, Project cost: Rs. 10,93,000/-
11. 2017-2019 :: Development Of Ultrafast Photo-Functional Materials By Nano-Scale And Femtosecond Structural Dynamics, DST, Govt. of India, Project cost: Rs. 4,12,000/-
12. 2018-2021 :: Elucidation Of Active Site Dynamics, Function And Receptor Binding Of Insulin At The Single Molecular Level, SERB, Govt. of India, Project cost: Rs. 51,70,000/-
13. 2018-2020 :: Young Faculty Research Fellowship, MeitY, Govt. of India, Project cost: Rs. 14,80,000/-
14. 2021-2023 :: Ultrafast Laser Spectroscopic Investigation of Dynamics And Microscopic Structure Of Deep Eutectic Solvent, DST-JSPS, Govt. of India, Project cost: Rs. 7,02,000/-
15. 2022-2025 :: Towards Better Biocatalytic Media: A Combined Chemical And Biophysical Approach To Understand Why Enzymes Remain Stable And Active In Deep Eutectic Solvent, SERB, Govt. of India, Project cost: Rs. 33,26,400/-
16. 2023-2024 :: Basic Chemistry Lab I, MoE, Govt. of India, Project cost: Rs. 12,00,000/-

17. 2023-2024 :: Basic Chemistry Lab II, MoE, Govt. of India, Project cost: Rs. 12,00,000/-
18. 2023-2026 :: Non-Invasive Diagnosis Of Renal Amyloidosis Using Fluorescence Correlation Spectroscopy, STARS, MoE, Government of India, Project cost: Rs. 40,00,000/-
19. 2026-2029 :: Mechanistic Exploration of Vibration-Assisted Excited-State Dynamics, ANRF, Government of India, Project cost: Rs. 99,00,000/-

Conference/Workshop/Special Course organized

Planned: 0
Completed: 12

12. Convener, Physical Chemistry Symposium – 2023 (SoPhyC-2023), Inaugural symposium of the Society of Physical Chemistry, India, IIT Kanpur, October 29-31, 2023
11. Convener, Structure and Dynamics of Chemical and Biomolecular Systems (SDCBS23), IIT Kanpur, October 26-28, 2023
10. Summer workshop on "Recent Advances in Spectroscopy, Catalysis and Synthesis" Department of Chemistry, IIT Kanpur, June 14 – July 02, 2021
9. Convener, Indo-Japan Symposium on "Structural Dynamics at Different Time and Length Scale", IIT Kanpur, March 25, 2019
8. Coordinator, GIAN course on "Principle and Application of Ultrafast and Nonlinear Spectroscopy": IIT Kanpur, Feb 26 – Mar 05, 2019
7. Convener, QIP short term course on "Application of Fluorescence Spectroscopy": IIT Kanpur, February 05-09, 2019
6. Convener, QIP short term course on Fluorescence Spectroscopy and its Application: IIT Kanpur, November 13-19, 2017
5. Instructor for the NPTEL open course (20 hrs) on 'Basics of Fluorescence Spectroscopy', July-September 2017
4. Convener, QIP short term course on Fluorescence Spectroscopy and its Application: IIT Kanpur, November 23-27, 2015
3. Convener, National Symposium on Radiation and Photochemistry – 2015 (NSRP-2015), IIT Kanpur, March 9-11, 2015
2. Co-convener, Advances in Spectroscopy and Ultrafast Dynamics, IACS Kolkata, December 12-14, 2014
1. Convener, QIP short term course on Advance Fluorescence Spectroscopy: IIT Kanpur, November 10-15, 2014

Administrative/other responsibilities at IIT Kanpur

1. Dean, Students' Affairs, IIT Kanpur 01-06-2024 till date
2. Dean (Officiating), Students' Affairs, IIT Kanpur 23-12-2023 to 31-05-2024
3. Associate Dean, Hall Affairs, IIT Kanpur 01-05-2022 to 14-07-2024
4. Convener DPGC, Department of Chemistry, IIT Kanpur
5. Warden, RA Hostel, IIT Kanpur 01-01-2014 to 30-09-2020
6. Warden, Hall-11, IIT Kanpur
7. Member, CGBS, IIT Kanpur
8. Member, IRDC, IIT Kanpur
9. JEE Activity
10. GATE Activity
11. CSIR Activity

Participation in national/international level committees

1. Nominee Chairman, VMC, IIT Kanpur, September 16, 2025 to September 15, 2028
2. Chairman, Fact finding committee, RGIPT, Rae Bareli, May 2025
3. Co-convenor for the subject of Chemical Sciences for the CSIR exam, Year 2023
4. Sub-Committee Chair and Core Member of the Screening Committee of Chemical Sciences for "SERB-SURE" from Sept 2022 to Aug 2024
5. Member, National Advisory Committee (NAC) for Up-gradation of UG & PG Laboratories, of Department of Chemistry, BHU, Year 2022
6. Coordinator of Regional Convention of YuvaSangam, Government of UP, Year 2018

Invited Talks
81

81. Mechanistic Insights into Macromolecular Crowding Effect
    TSRP – 2024
    BARC, Mumbai
    11 January 2024

80. Principle of Fluorescence Correlation Spectroscopy (FCS)
    eSTC on Recent Trends in Applied Spectroscopy and Microscopy in Materials Research
    NIT Hamirpur
    Online
    03 December 2023

79. Introduction to Fluorescence Spectroscopy
Unlocking the Spectrum: Infrared & Fluorescence Spectroscopy
Guru Ghasidas University, Bilaspur
Online
23 November 2023

78. Fluorescence in Health, Energy, Environment and Materials
Chemistry in Health, Energy, Environment and Materials
SERB-Sponsored One-day Workshop, CHM,
IIT Kanpur
18 November 2023

77. Dynamic Heterogeneity: Origin, Prediction, and Artifacts
Physical Chemistry Symposium – 2023 (SoPhyC-2023)
IIT Kanpur
29 October 2023

76. Mechanistic Insight into Macromolecular Crowding Effect
BPS Virtual Networking Event
Crowd Control: Understanding the Role of Cellular Crowding
Online
15 September 2023

75. Mechanistic Insight into Macromolecular Crowding Effect
INST, Mohali
26 August 2023

74. How Dynamics Control Chemistry?
IIT Kanpur - La Trobe University Joint Online Symposium
Online
July 24, 2023

73. Principle of Fluorescence Correlation Spectroscopy (FCS)
Kumaun University, Nainital
08 April 2023

72. Physical Insight into how Dynamics Control Chemistry
National Conference in Chemistry, EDCS-23
Kalyani University
March 29, 2023

71. Heterogeneity in Dynamics and Structure: Origin, Prediction, and Artifacts
National Workshop on Fluorescence Correlation Spectroscopy XIII
IISER Thiruvananthapuram
January 10, 2023

70. Essential Elements for an Effective Scientific Presentation
Summer Workshop – 2022
Department of Chemistry

IIT Kanpur
July 22, 2022

69. From Small Molecule to Complex Bio-systems: Physical Insight into how Dynamics at Various Length and Timescale Control Chemistry
Department of Chemistry
Presidency University
July 18, 2022

68. From Small Molecule to Complex Bio-systems: Physical Insight into how Dynamics at Various Length and Timescale Control Chemistry
29th CRSI National Symposium in Chemistry
IISER Mohali
July 08, 2022

67. Facile Excited State Processes through Modified Reaction Coordinate
Department of Chemistry, Visva-Bharati, Santiniketan
14 May 2022

66. Vibration Assisted Modification of Reaction Coordinate for Facile Intersystem Crossing
Chemical Dynamics in Complex Systems (CDCS-2022)
Online during May 06-08, 2022
08 May 2022

65. Protein Fluorescence
PERKS Workshop - Module 1
IIT Delhi from April 25th to April 27th, 2022
27 April 2022

64. Steady state and time resolved spectrometers (Instrumentation)
PERKS Workshop - Module 1
IIT Delhi from April 25th to April 27th, 2022
26 April 2022

63. Principle of Fluorescence Correlation Spectroscopy (FCS)
FDP/Certificate Programme, Recent Advances in Chemistry
GAD-TLC, Ministry of Education, GoI, from March 30th to April 5th 2022
VIT Chennai
01 April 2022

62. Blue Edge of Emission Shift (BEEmS) as a Novel Method to Probe Heterogeneity
Phys Chem Section of 58th Annual Convention of Chemists (Indian Chemical Society), International Conference on Recent Trends in Chemical Sciences
22 December 2021

61. Introduction to Fluorescence Spectroscopy
Department of Chemistry, Vellore Institute of Technology Chennai
21 December 2021

60. Elucidation of Excimer Formation Dynamics and Vibration Assisted Intersystem Crossing
    FCS-2021 Conference
    03 December 2021

59. Blue Edge of Emission Shift (BEEmS) as a Novel Method to Probe Heterogeneity
    11th Asian Photochemistry Conference (APC 2021)
    01 November 2021

58. Additional Insight into the Mechanism of Macromolecular Crowding Effect
    Physical Chemistry Physical Biology (PCPB-2021) Conference
    25 September 2021

57. Blue Edge of Emission Shift (BEEmS) as a Novel Method to Probe Heterogeneity (Webinar)
    Department of Chemical, Biological & Macromolecular Sciences, S. N. Bose National Centre for Basic Sciences
    14 September 2021

56. Unique Approach to Estimate and Understand Spatial and Dynamic Heterogeneity (Webinar)
    Department of Chemical Sciences, IISER Mohali
    02 August 2021

55. Additional Insight into the Mechanism of Macromolecular Crowding Effect (Webinar)
    International Conference (Virtual) on Recent Advancements in Chemical Sciences – 2021 (ICRACS – 2021)
    Department of Chemistry, J. C. Bose University of Science & Technology, Faridabad, Haryana, India
    16 July 2021

54. Fluorescence Correlation Spectroscopy (Webinar)
    Summer Workshop: Recent Advances in Spectroscopy, Catslysis and Synthesis - 2021
    Department of Chemistry, IIT Kanpur
    17 June 2021

53. A New Approach to Estimate Spatial and Dynamic Heterogeneity (Webinar)
    Saturday Covid Seminar Series on Light
    University of Miami
    20 February 2021

52. Comparison of Standard Size Measuring Techniques (Webinar)
    Virtual International Conference on Energy, Environment and Health; VICEEH - 2020
    Sree Ayyappa College, Kerala, India
    11 September 2020

51. Principle of Resonance Energy Transfer (Webinar)
Week Online FDP on “Spectroscopic and Analytical Techniques: Applications”
Department of Chemistry, J. C. Bose University of Science & Technology
YMCA, Faridabad, Haryana
27 May 2020

50. Shift of Excitation Spectra at the Blue Edge of Emission (BEEmS): A New Methodology to Probe Heterogeneity
Indo-Japan Meeting, Department of Chemistry, IIT Kanpur
07 January 2020

49. A Story of Chloroform-Methanol Mixed Solvent System
InFemto
Department of Chemistry, University of Warsaw
12 June 2019

48. Ultrafast structural dynamics of thioflavin-T: Insight on amyloid fibril sensing
Indo-Japan Symposium on “Structural Dynamics at Different Time and Length Scale”
Department of Chemistry, Indian Institute of Technology Kanpur, Kanpur, March 25, 2019

47. Probing the Structural and Dynamical Behavior of Protein at the Single Molecular Level
National Symposium on Applied Spectroscopy: Biology and Medical Science
Udai Pratap College, Varanasi, Uttar Pradesh, February 18-20, 2019
February 19, 2019

46. Photo-induced Electron and Proton Transfer Reaction in Marcus Inverted Region
One-Day Symposium on Spectroscopic and computational studies of complex chemical systems at different time and length scales
Department of Chemistry, Indian Institute of Technology Kanpur, Kanpur, December 22, 2018

45. Probing the Structural and Dynamical Behavior of Protein at the Single Molecular Level
National Workshop on Fluorescence and Raman Spectroscopy – 2018 (FCS-2018)
Jawarharlal Nehru University, New Delhi, November 12-17, 2018
17 November 2018

44. Photo-induced Electron and Proton Transfer Reaction in Marcus Inverted Region
DAE-BRNS Theme Meeting on Ultrafast Science-2018 (UFS-2018)
RRCAT, Indore, October 22 - 24, 2018
23 October 2018

43. Ultrafast Photo-induced Bi-molecular Electron Transfer Reaction and Marcus Inversion
IACS Conference on Electronic Structure, Spectroscopy and Dynamics
Indian Association for the Cultivation of Science, Kolkata, February 22-25, 2018

24 February 2018

42. Absolute Rate of Ultrafast Photo-induced Bi-molecular Electron Transfer Reaction
Chemical Frontiers-2017, Holiday Inn Resort, South Goa, August 17-20, 2017
18 August 2017

41. Absolute Rate of Ultrafast Photo-induced Bi-molecular Electron Transfer Reaction and its Importance
Department of Chemistry, Tokyo Institute of Technology, Japan
23 June 2017

40. Microsecond Protein Dynamics Probed at the Single Molecular Level
Department of Chemistry, Presidency University, Kolkata, India
14 March 2017

39. Conformational Fluctuation Dynamics of Proteins Probed at the Single Molecular Level
Indo-Japan Discussion Meeting on Frontiers in Molecular Spectroscopy: From Fundamentals to Applications on Material Science and Biology, November 13-16, 2016
Department of Chemistry, IIT Kanpur, Kanpur, India
16 November 2016

38. Large Amplitude Vibration of Proteins at the Single Molecular Level
6th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS 2016), November 5-8, 2016
Department of Chemistry, Lucknow University, Lucknow, India
06 November 2016

37. Single Molecular Level Study of Microsecond Protein Dynamics
School of Chemistry, University of Hyderabad, Hyderabad, India
19 October 2016

36. Absolute Rate of Ultrafast Photo-induced Electron Transfer Reaction and its Importance
Department of Chemistry, Graduate School of Engineering Sciences, Osaka University, Toyonaka Campus, Osaka, Japan
20 May 2016

35. Molecular Dance under Light
Department of Chemistry, Visva-Bharati University, Santiniketan, India
26 March 2016

34. Molecular Dance under Light
INSA Local Chapter, IIT Kanpur, India
12 March 2016

33. Colorimetric and Turn-on Fluorescent Chemosensors for Low-cost Detection of Physiologically Important Ions

International Conference on Advanced Materials for Energy, Environment and Health (ICAM-2016), March 4-7, 2016
Indian Institute of Technology Roorkee, Roorkee, India
05 March 2016

32. First Hand Determination of Ultrafast Photo-induced Bi-molecular Electron Transfer Rate and its Importance
Recent Advances in Molecular Spectroscopy: Fundamentals and Applications in Materials and Biology (RAMS-2016), March 2-4, 2016
School of Chemistry, University of Hyderabad, Hyderabad, India
02 March 2016

31. Contemplating Discrete Protein Domains
13th DAE-BRNS Biennial Trombay Symposium on Radiation & Photochemistry (TSRP-2016), January 5-9, 2016
Bhaba Atomic Research Center, Mumbai, India
05 January 2016

30. Real Time Quantification of Ultrafast Photoinduced Bi-molecular Electron Transfer
DAE-BRNS Theme Meeting on Ultrafast Science – 2015 (UFS-2015), during November 19-21, 2015,
SN Bose National Center for Basic Sciences, Kolkata, India
20 November 2015

29. Advance Fluorescence Spectroscopy and its Application in Chemical Biology
Institute of Physics, University of Philippines Los Banos, Philippines
29 October 2015

28. Contemplating Molecules in Motion through Ultrafast Laser Spectroscopy
Institute of Physics, University of Philippines Los Banos, Philippines
28 October 2015

27. Greener Approach with Mixed Solvent Chemistry through Synergistic Solvation
UGC Level National Seminar on "The Biggest Challenge of Green Chemistry: To Use its rule in Practice", during October 8-9, 2015,
A.K.P.C.Mahavidyalaya, Bengai, Hooghly, W.B., India
08 October 2015

26. Contemplating Molecules in Motion: Mechanistic Evidence and Implication of Ultrafast Excited State Processes
Shiv Nadar University
27 March 2015

25. Advance fluorescence spectroscopy and its application in chemical biology (2 lectures)
Lecture Workshop – Spectroscopy in Chemical Biology, Department of Chemistry, Banaras Hindu University, Varanasi, India
22 March, 2014

24. Mechanistic Evidences and Implications of Ultrafast Excited State Processes in Molecules
    Light in Chemistry, Materials and Biology 2014, IIT Kharagpur, India
    24 February, 2014

23. Excited State Relaxation Dynamics of Model Green Fluorescence Protein Chromophore Analogs
    Dynamics of Complex Chemical and Biological Systems 2014, IIT Kanpur
    15 February, 2014

22. Unique Properties of Solvent Mixtures
    UGC Sponsored two-day National Seminar on Relating UG-level Chemistry to Current Advances
    Krishnagar Women's College, India
    29 September, 2013

21. Introduction to Raman and Fluorescence Spectroscopy
    AICTE sponsored course on "Advanced Nanoengineering Materials"
    Materials Science Engineering Department, IIT Kanpur, India
    20 February 2013

20. Structure and Property of Synergistic Binary Solvent Mixture
    New Directions in Chemical Sciences (NDCS-2012)
    IIT Delhi, New Delhi, India
    09 December 2012

19. Observation of Activation Barrier in the Otherwise Barrierless Excited State of Auranime-O
    National Fluorescence Workshop (FCS 2012) : Fluroscence Methods in Single Molecule Spectroscopy
    Saha Institute of Nuclear Physics, Kolkata, India
    03 December 2012

18. Structure and Properties of Mixed Solvents
    Third International Collaborative and Cooperative Chemistry Symposium,
    Zhejiang University, Hangzhou, China.
    31 October 2012

17. Contemplating the Discrete Protein Sub-domains
    ChemFeast, IIT Kanpur
    01 September 2012

16. Possible Greener Chemistry using Binary Solvent Mixture
    Tata Institute of Fundamental Research, Mumbai, India
    23 July 2012

15. Greener Approach in Chemistry using Binary Solvent Mixture
    Kobe University, Kobe, Japan
    11 June 2012

14. Seeing the Unseen with Laser Spectroscopy
    UGC Sponsored National Seminar
    ABN Seal College, Coochbehar, West Bengal, India
    01 March 2012

13. Evidence and Implication of Ultrafast Excited State Dynamics
    Department of Chemistry, IIT Guwahati, India
    28 February 2012

12. Femtosecond Excited State Dynamics in Molecules and Materials
    National Fluorescence Workshop FCS-2011, ICGEB, New Delhi, India
    18 November 2011

11. Mechanistic Evidences and Implications of Ultrafast Excited State Processes
    Indo-Europian Symposia on Frontiers of Chemistry, NISER, Bhubaneswar, India
    11 November 2011

10. Relaxation Mechanism of Excited Molecules using Femtosecond Laser Spectroscopy
    Second International Collaborative and Cooperative Chemistry Symposium, The University of Queensland, Australia.
    31 October 2011

9. Why GFP Chromophore Analogs are Non-fluorescent?
    Symposium of Chemical Research Society of India, Kolkata Chapter, Department of Chemistry, Visva-Bharati, India
    06 August 2011

8. Seeing the Unseen of Nanothick Interface by Laser Spectroscopy
    Department of Chemistry, Visva-Bharati University, India
    20 March 2011

7. Ultrafast Excited State Dynamics of Malachite Green and its Application
    Samtel Centre of Display Technology, IIT Kanpur, India
    26 October 2010

6. Viscosity inside a Nano-Cavity: A Femtosecond Fluorescence Up-Conversion Study of Malachite Green
    IUPAC Conference on Photochemistry 2010, Ferrara, Italy
    14 July 2010

5. Hydration Dynamics in Nano and Interfacial Environment
    International Congress of Chemistry and Environment (ICCE – 2009), Thailand
    22 January 2010

4. Study of Interfacial Molecules using Novel Nonlinear Electronic Spectroscopy,
    National Symposium on Radiation and Photochemistry, Kumayun University, Nainital, India
    13 March 2009

3. Unique Property of Nano-thick Interface Revealed by Novel Nonlinear Electronic Spectroscopy.
   Department of Nanoscience, Chiba University, Chiba, Japan.
   21 November 2008.

2. Study of Interfacial Molecules using Novel Nonlinear Electronic Spectroscopy
   Chemistry Department, University of California at Berkeley, USA
   06 October 2008.

1. Study of Interfacial Molecules using Novel Nonlinear Electronic Spectroscopy
   FACSS Conference, Reno, USA
   01 October 2008.

Conference/Workshop/Seminar/Symposium Attended (2009 Onwards)
40

40. Indo-Japan Meeting, Department of Chemistry, IIT Kanpur, 07 January 2020 (Invited talk)

39. DAE-BRNS Theme Meeting on Ultrafast Science-2019 (UFS-2019), IIT Bombay, Mumbai, India, November 07-09, 2019 (Session Chair)

38. Indo-Japan Symposium on "Structural Dynamics at Different Time and Length Scale", Department of Chemistry, Indian Institute of Technology Kanpur, Kanpur, March 25, 2019 (Invited Talk)

37. National Symposium on Applied Spectroscopy: Biology and Medical Science, Udai Pratap College, Varanasi, Uttar Pradesh, February 18-20, 2019 (Invited Talk)

36. One-Day Symposium on Spectroscopic and computational studies of complex chemical systems at different time and length scales, Department of Chemistry, Indian Institute of Technology Kanpur, Kanpur, December 22, 2018 (Invited Talk)

35. National Workshop on Fluorescence and Raman Spectroscopy – 2018 (FCS-2018), Jawarharlal Nehru University, New Delhi, November 12-17, 2018 (Invited Talk)

34. DAE-BRNS Theme Meeting on Ultrafast Science-2018 (UFS-2018), RRCAT, Indore, October 22 - 24, 2018 (Invited Talk)

33. IACS Conference on Electronic Structure, Spectroscopy and Dynamics, February 22-25, 2018, Indian Association for the Cultivation of Science, Kolkata, India (Invited Talk)

32. Chemical Frontiers – 2017, Holiday Inn Resort, South Goa, August 17-20, 2017, Department of Chemistry, IIT Bombay, India (Invited Talk)

31. Indo-Japan Discussion Meeting on Frontiers in Molecular Spectrscopy: From Fundamentals to Applications on Material Science and Biology, November 13-16, 2016, Department of Chemistry, IIT Kanpur, Kanpur, India (Invited Talk)

30. 6th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS 2016), November 5-8, 2016, Department of Chemistry, Lucknow University, Lucknow, India (Invited Talk)

29. Application of Cooperative-Excitation into Innovative Molecular Systems with High-Order Photofunctions: 1st International Symposium on Photosynergetics, June 2-4, 2016, Osaka University, Toyonaka Campus, Osaka, Japan (Poster)

28. International Conference on Advanced Materials for Energy, Environment and Health (ICAM-2016), March 4-7, 2016, Indian Institute of Technology Roorkee, Roorkee, India (Invited Talk)

27. Recent Advances in Molecular Spectroscopy: Fundamentals and Applications in Materials and Biology (RAMS-2016), March 2-4, 2016, School of Chemistry, University of Hyderabad, Hyderabad, India (Invited Talk)

26. 13th DAE-BRNS Biennial Trombay Symposium on Radiation & Photochemistry (TSRP-2016), January 5-9, 2016, Bhaba Atomic Research Center, Mumbai, India (Invited Talk)

25. DAE-BRNS Theme Meeting on Ultrafast Science – 2015 (UFS-2015), during November 19-21, 2015, SN Bose National Center for Basic Sciences, Kolkata, India (Invited Talk)

24. UGC Level National Seminar on "The Biggest Challenge of Green Chemistry: To Use its rule in Practice", during October 8-9, 2015, A.K.P.C. Mahavidyalaya, Bengai, Hooghly, W.B., India (Invited Talk)

23. Science Academies' Lecture Workshop on Spectroscopy in Chemical Biology, March 21-22, 2014, Department of Chemistry, Banaras Hindu University, Varanasi, India (Invited Talk 2)

22. Light in Chemistry, Materials and Biology (LCMB-2014), February 23-25, 2014, IIT Kharagpur, India (Invited Talk)

21. Dynamics of Complex Chemical and Biological Systems (DCCBS-2014), February 13-15, 2014, IIT Kanpur, Kanpur, India (Invited Talk)

20. DAE-BRNS Twelfth Biennial Trombay Symposium on Radiation & Photochemistry (TSRP-2014), January 06-09, 2014, BARC, Mumbai, Inida (Session Chair)

19. UGC Sponsored two-day National Seminar on Relating UG-level Chemistry to Current Advances, September 28-29, 2013, Krishnagar Women's College, India (Invited Talk)

18. New Directions in Chemical Sciences (NDCS-2012), December 07-09, 2012, IIT Delhi, New Delhi, India (Invited Talk)

17. National Fluorescence Workshop (FCS 2012) : Fluroscence Methods in Single Molecule Spectroscopy, December 03-07, 2012, Saha Institute of Nuclear Physics, Kolkata, India (Invited Talk)

16. Third International Collaborative and Cooperative Chemistry Symposium (ICCCS-3), October 31 – November 01, 2012, Zhejiang University, Hangzhou, China (Invited Talk)

15. UGC Sponsored National Level Seminar on "A Journey Through Recent Developments in Chemistry", March 01 – 02, 2012, ABN Seal College, Coochbehar, West Bengal, India (Invited Talk)

14. DAE-BRNS Biennial Trombay Symposium on Radiation & Photochemistry (TSRP-2012), January 04-07, 2012, BARC, Mumbai, India (Session Chair)

13. National Fluorescence Workshop (FCS 2011), November 14-18, 2011, ICGEB and JNU, New Delhi, India (Invited Talk)

12. Indo-European Symposia on Frontiers of Chemistry, November 10-12, 2011, NISER, Bhubaneswar, India (Invited Talk)

11. Second International Collaborative and Cooperative Chemistry Symposium (ICCCS-2), October 31 – November 02, 2011, University of Queensland, Australia (Invited Talk)

10. IXth CRSI (Kolkata Chapter) Symposium on Chemical Research, August 06, 2011, Department of Chemistry, Visva-Bharati, Santiniketan, W. B., India (Invited Talk)

9. National symposia on Radiation & Photochemistry (NSRP-2011), March 10-12, 2011, JNV University, Jodhpur, Rajasthan, India (Session Chair)

8. 13th CRSI National Symposium in Chemistry and 5th CRSI-RSC Symposium in Chemistry, February 04-06, 2011, NISER and KIT University, Bhubaneswar, India (Participant)

7. 23rd IUPAC Symposium on Photochemistry, July 11-16, 2010, Ferrara, Italy (Oral presentation)

6. 12th CRSI National Symposium in Chemistry, February 04-07, 2010, IICT, Hyderabad, India (Participant)

5. DAE-BRNS Biennial Trombay Symposium on Radiation & Photochemistry (TSRP-2010), September 14-17, 2010, BARC, Mumbai, India (Participant)

4. International Congress of Chemistry and Environment (ICCE-2009), January 21-23, 2010, Ubonratchathani University, Thailand (Invited Talk)

3. International Symposium on Ostwald's 100 Years of Catalysis in Chemical Research, November 03-04, 2009, Allahabad Agricultural Institute, Allahabad, India (Participant)

2. National Symposium on Radiation and Photochemistry (NSRP-2009), March 12-14, 2009, Kumaun University, Nainital, India (Invited Talk)

1. 11th CRSI National Symposium in Chemistry and 3rd CRSI-RSC Symposium, February 05-08, 2009, National Chemical Laboratory, Pune, India (Poster)