

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 IV
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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Date of Birth: November 26, 1977

Nationality: Indian

Gender: Male

Education:

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

Honors and Awards:

2021: Bronze Medal of 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	Nov 2018 – till	Department of Chemistry Indian Institute of Technology Kanpur Kanpur, India
Associate Professor,	July 2014 – Oct 2018	Department of Chemistry Indian Institute of Technology Kanpur Kanpur, India
Assistant Professor,	Dec. 2008 – June 2014	Department of Chemistry Indian Institute of Technology Kanpur Kanpur, India
Visiting Scientist,	June 2019 – July 2019	University of Warsaw Warsaw, Poland
Visiting Scientist,	May 2016 – July 2016	Osaka University Osaka, Japan
Visiting Scientist,	May 2015 – July 2015	University of Castilla La-Mancha, Toledo, Spain
Visiting Scientist,	May 2014 – July 2014	Max-Plank Institute for Polymer Research, Mainz, Germany
Post-Doc, (2 year 6 months)	June 2006 – Nov. 2008	Molecular Spectroscopy Laboratory, RIKEN Japan (with Prof. T. Tahara) <i>Topic: In-situ observation of interface property by a novel nonlinear spectroscopy</i>
Research Fellow, May 2006 (4 years 2 months)	April 2002-	Physical Chemistry Department Indian Association for the Cultivation of Science, Kolkata (with Prof. K. Bhattacharyya) <i>Topic: Picosecond & femtosecond study in biological & organized systems</i>

Citation:

Scopus (as on May 25, 2022)

Total citation: 2225

h-index: 27

Google Scholar (as on May 25, 2022)

Total citation: 2524

h-index: 29

i10 index: 73

List of research publications:

Peer reviewed journals: 119

Conference bulletin: 2 (indicated by §)

Book chapter: 1 (indicated by †)

122. Macromolecular Crowding Effect on the Structure, Function, Conformational Dynamics and Relative Domain Movement of a Multi-Domain Protein as a function of Crowder Shape and Interaction

Nilimesh Das and **Pratik Sen***

Phys. Chem. Chem. Phys. **2022**, *In press*.

<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.bbadv.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. Gorbil, 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*
Carbon Letters, **2021**, *31*, 117–123.
<https://doi.org/10.1007/s42823-020-00156-8>
As on April 2021: Impact factor: 1.992, Citation in Scopus: 0
108. Potassium-Induced Passivation of Deep Traps in Bismuth-Doped Hybrid Lead Bromide Perovskite Nanocrystals: Massive Amplification of Photoluminescence Quantum Yield
Shovon Chatterjee, Mainak Ghosal, Khushubo Tiwari, and **Pratik Sen***
J. Phys. Chem. Lett. **2021**, *12*, 546–551.
<https://doi.org/10.1021/acs.jpcllett.0c03092>
As on April 2021: Impact factor: 6.710, Citation in Scopus: 0
107. Fluorescence Correlation Spectroscopy as a Tool to Investigate the Directionality of Proteolysis
Bhaswati Sengupta, Nilimesh Das, Virender Singh, Ashwani K. Thakur and **Pratik Sen***
Int. J. Biol. Macromol. **2020**, *164*, 2524–2534.
<https://doi.org/10.1016/j.ijbiomac.2020.08.103>
As on April 2021: Impact factor: 5.162, Citation in Scopus: 1
106. Yellowish-orange phosphorescent iridium(III) complexes of bis-cyclometalated ligand with pyrazolone derivatives: synthesis, characterization, photophysical and thermal properties
Meha J. Prajapati, Jaydip D. Solanki, Hiren K. Machhi, Saurabh S. Soni, **Pratik Sen**, and Kiran R. Surati*
J. Mat. Sci. Mat. Electro. **2020**, *31*, 13778–13786.
<https://doi.org/10.1007/s10854-020-03937-z>
As on April 2021: Impact factor: 2.220, Citation in Scopus: 0
105. A Review of the LIBS Analysis for the Plasma-facing Components Diagnostics
Gulab Singh Maurya, Alicia Marín Roldán, Pavel Veis, Ashok Kumar Pathak and **Pratik Sen**
J. Nucl. Mat. **2020**, *541*, 152417 (1–19).
<https://doi.org/10.1016/j.jnucmat.2020.152417>

As on April 2021: Impact factor: 2.485, Citation in Scopus: 3

104. Highly Selective and Sensitive (PPB Level) Quinolin-Based Colorimetric Chemosensor for Cu(II)

Vaisakh Mohan, Nilimesh Das, Vipin K. Jain, Tanmoy Khan, Sarvesh K. Pandey, Md. Serajul H. Faizi, Joseph Daniel and **Pratik Sen***

ChemistrySelect **2020**, 5, 9435–9442.

<https://doi.org/10.1002/slct.202001814>

As on April 2021: Impact factor: 1.811, Citation in Scopus: 0

103. Partial Viscosity Decoupling of Solute Solvation, Rotation and Translation in Lauric Acid/Menthol Deep Eutectic Solvent: Modulation of Dynamic Heterogeneity with Length Scale

Navin Subba, Nilimesh Das and **Pratik Sen***

J. Phys. Chem. B **2020**, 124, 6875–6884.

<https://doi.org/10.1021/acs.jpcc.0c04379>

As on April 2021: Impact factor: 2.857, Citation in Scopus: 1

102. Shape-Dependent Macromolecular Crowding on the Thermodynamics and Microsecond Conformational Dynamics of Protein Unfolding Revealed at the Single-Molecule Level

Nilimesh Das and **Pratik Sen***

J. Phys. Chem. B **2020**, 124, 5858–5871.

<https://doi.org/10.1021/acs.jpcc.0c03897>

As on April 2021: Impact factor: 2.857, Citation in Scopus: 3

101. Marcus Relationship Maintained During Ultrafast Electron Transfer Across a Supramolecular Capsular Wall

Aritra Das, N. Kamatham, A.R. Mohan Raj, **Pratik Sen**,* V. Ramamurthy*

J. Phys. Chem. A **2020**, 124, 5297–5305.

<https://doi.org/10.1021/acs.jpca.0c03944>

As on April 2021: Impact factor: 2.600, Citation in Scopus: 2

100. Donor-acceptor architectures of tetraphenylethene linked aza-BODIPYs: Synthesis, crystal structure, energy transfer and computational studies

Naresh Balsukuri, Neha Manav, Mohsin Y. Lone, Shigeki Mori, Aritra Das, **Pratik Sen**, Iti Gupta*

Dyes and Pigments **2020**, 176, 108249 (1–17).

<https://doi.org/10.1016/j.dyepig.2020.108249>

As on April 2021: Impact factor: 4.613, Citation in Scopus: 5

99. Subpicosecond Solvation Response and Partial Viscosity Decoupling of Solute Diffusion in Ionic Acetamide Deep Eutectic Solvents: Fluorescence Up-Conversion and Fluorescence Correlation Spectroscopic Measurements

Navin Subba, Ejaj Tarif, **Pratik Sen***, Ranjit Biswas*

J. Phys. Chem. B **2020**, 124, 1995–2005.

<https://doi.org/10.1021/acs.jpcc.0c00061>

As on April 2021: Impact factor: 2.857, Citation in Scopus: 5

98. Reversible Ultra-Slow Crystal Growth of Mixed Lead Bismuth Perovskite

Nanocrystal – Presence of Dynamic Capping
Shovon Chatterjee, Pritam Dey, Nilimesh Das, Khushubo Tiwari, Tanmoy Maiti,
Pratik Sen*

Chem. Eur. J. **2020**, *26*, 1506–1510.

<https://doi.org/10.1002/chem.201904905>

As on April 2021: Impact factor: 4.857, Citation in Scopus: 1

97. Polyethylene glycols affect electron transfer rate in phenosafranin-DNA complex
Partha Pyne, Nirnay Samanta, Animesh Patra, Aritra Das, **Pratik Sen***, Rajib
Kumar Mitra*

Spectrochim. Acta Part A: Mol. Biomol. Spec. **2020**, *225*, 117464 (1–7).

<https://doi.org/10.1016/j.saa.2019.117464>

As on April 2021: Impact factor: 3.232, Citation in Scopus: 0

96. Chiral Induction on the Ultrafast Event of Excited State Proton Transfer Can
Probe Its Mechanism

Pratyush Ghosh, Aritra Das and **Pratik Sen***

ChemistrySelect **2019**, *4*, 12197-12201.

<https://doi.org/10.1002/slct.201903249>

As on April 2021: Impact factor: 1.811, Citation in Scopus: 0

95. Temperature Dependent Ultrafast Solvation Response and Solute Diffusion in
Acetamide–Urea Deep Eutectic Solvent

Navin Subba, Kamil Polok, Piotr Piatkowski, Bożena Ratajska-Gadomska, Ranjit
Biswas, Wojciech Gadomski* and **Pratik Sen***

J. Phys. Chem. B **2019**, *123*, 9212-9221.

<https://doi.org/10.1021/acs.jpcc.9b07794>

As on April 2021: Impact factor: 2.857, Citation in Scopus: 4

94. Thiazolothiazole-Based Fluorescence Probe towards Detection of Copper and
Iron Ions through Formation of Radical Cations

Govindasamy Sathiyam, Shovon Chatterjee, **Pratik Sen**, Ashish Garg, Raju
Kumar Gupta, Anand Singh

ChemistrySelect **2019**, *4*, 11718-11725.

<https://doi.org/10.1002/slct.201902994>

As on April 2021: Impact factor: 1.811, Citation in Scopus: 2

93. Ultrafast Solvation Dynamics Reveal the Octa Acid Capsule's Interior Dryness
Depends on the Guest

Aritra Das, Gaurav Sharma, Nareshbabu Kamatham, Rajeev Prabhakar,
Pratik Sen*, Vaidhyanathan Ramamurthy*

J. Phys. Chem. A **2019**, *123*, 5928-5936.

<https://doi.org/10.1021/acs.jpca.9b04626>

As on April 2021: Impact factor: 2.600, Citation in Scopus: 4

92. Size-dependent macromolecular crowding effect on the thermodynamics of
protein unfolding revealed at the single molecular level

Nilimesh Das and **Pratik Sen***

Int. J. Biol. Macromol. **2019**, *141*, 843-854.

<https://doi.org/10.1016/j.ijbiomac.2019.09.029>

As on April 2021: Impact factor: 5.162, Citation in Scopus: 2

91. β -Carboline-based Turn-On Fluorescence Chemosensor for Quantitative Detection of Fluoride at PPB Level
Aritra Das, Shashikant U Dighe, Nilimesh Das, Sanjay Batra*, **Pratik Sen***
Spectrochim. Acta Part A: Mol. Biomol. Spec. **2019**, 220, 117099(1-7).
<https://doi.org/10.1016/j.saa.2019.05.004>
As on April 2021: Impact factor: 3.232, Citation in Scopus: 6
90. Crystal structure and Hirshfeld surface analysis of (E)-2-[1-hydroxy-2-(pyridin-2-yl) ethyl]-4-[2-(4-methoxyphenyl) diazen-1-yl] phenol
Md Serajul Haque Faizi, * **Pratik Sen**, GK Saxena, IA Golenya*
Acta Crystallographica Sec. E, **2019**, 75, 600–603.
<https://doi.org/10.1107/S2056989019004377>
As on April 2021: Impact factor: x.xxx, Citation in Scopus: 0
89. Spectroscopic Insight on Ethanol-Induced Aggregation of Papain
Vaisakh Mohan, Nilimesh Das, Aritra Das, Vipin Mishra, and **Pratik Sen***
J. Phys. Chem. B **2019**, 123, 2280–2290.
<https://doi.org/10.1021/acs.jpcc.8b12063>
As on April 2021: Impact factor: 2.857, Citation in Scopus: 1
88. A novel star shaped triazine-triphenylamine based fluorescent chemosensor for the selective detection of picric acid
Govindasamy Sathiyam,* Bhuvaneshwari Balasubramaniam, Sudhir Ranjan, Shovon Chatterjee, **Pratik Sen**, Ashish Garg,* Raju Kumar Gupta,* and Anand Singh*
Materials Today Chem. **2019**, 12, 178–186.
<https://doi.org/10.1016/j.mtchem.2019.01.002>
As on April 2021: Impact factor: x.xxx, Citation in Scopus: 10
87. Domain-Specific Stabilization of Structural and Dynamic Responses of Human Serum Albumin by Sucrose
Vaisakh Mohan, Bhaswati Sengupta, Nilimesh Das, Indrani Banerjee and **Pratik Sen***
Prot. Pept. Lett. **2019**, 26, 287–300.
<https://doi.org/10.2174/0929866526666190122115702>
As on April 2021: Impact factor: 1.156, Citation in Scopus: 0
86. Sucrose-induced stabilization of domain-II and overall human serum albumin against chemical and thermal denaturation
Sukanta Shil, Nilimesh Das*, Bhaswati Sengupta and **Pratik Sen***
ACS Omega **2018**, 3, 16633–16642.
<https://doi.org/10.1021/acsomega.8b01832>
As on April 2021: Impact factor: 2.870, Citation in Scopus: 2
85. Structural, Functional, and Dynamical Responses of a Protein in a Restricted Environment Imposed by Macromolecular Crowding
Nilimesh Das, **Pratik Sen***
Biochemistry **2018**, 57, 6078–6089.

<https://doi.org/10.1021/acs.biochem.8b00599>

As on April 2021: Impact factor: 2.865, Citation in Scopus: 13

84. Region-Specific Double Denaturation of Human Serum Albumin: Combined Effects of Temperature and GnHCl on Structural and Dynamical Responses
Vaisakh Mohan, Bhaswati Sengupta, Arusha Acharyya, Rajeev Yadav, Nilimesh Das, **Pratik Sen***
ACS Omega **2018**, *3*, 10406–10417.
<https://doi.org/10.1021/acsomega.8b00967>
As on April 2021: Impact factor: 2.870, Citation in Scopus: 6
83. Solvation Dynamics in SDS Micelle Revisited with Femtosecond Time Resolution to Reveal the Probe and Concentration Dependence
Puspall Mukherjee, Aritra Das, **Pratik Sen***
Chem. Phys. **2018**, *513*, 141–148.
<https://doi.org/10.1016/j.chemphys.2018.07.034>
As on April 2021: Impact factor: 1.711, Citation in Scopus: 4
82. Calmidazolium chloride and its complex with serum albumin prevent Huntingtin exon1 aggregation
Virender Singh, Rama Nagesh Venkata Krishna Deepak, Bhaswati Sengupta, Abhayraj S Joshi, Hao Fan, **Pratik Sen**, Ashwani Kumar Thakur*
Mol. Pharmaceutics **2018**, *15*, 3356–3368.
<https://doi.org/10.1021/acs.molpharmaceut.8b00380>
As on April 2021: Impact factor: 4.321, Citation in Scopus: 3
81. Elucidation of active site dynamics of papain and the effect of encapsulation within cationic and anionic reverse micelles
Vaisakh Mohan and **Pratik Sen***
Spectrochim. Act. A: Mol. Biomol. Spec. **2018**, *200*, 202–211.
<https://doi.org/10.1016/j.saa.2018.04.033>
As on April 2021: Impact factor: 3.232, Citation in Scopus: 1
80. Solvent Relaxation Accompanied Ultrafast Excited State Proton Transfer Dynamics Revealed in a Salicylideneaniline Derivative
Puspall Mukherjee, Aritra Das, Md. Serajul Haque Faizi and **Pratik Sen***
ChemistrySelect **2018**, *3*, 3787–3796.
<https://doi.org/10.1002/slct.201800380>
As on April 2021: Impact factor: 1.811, Citation in Scopus: 15
79. Spectral Studies of Lead-Free Organic-Inorganic Hybrid Solid-State Perovskites $\text{CH}_3\text{NH}_3\text{Bi}_{2/3}\text{I}_3$ and $\text{CH}_3\text{NH}_3\text{Pb}_{1/2}\text{Bi}_{1/3}\text{I}_3$: Potential Photo Absorbers
Pritam Dey, Vijaykant Khorwal, **Pratik Sen**, Krishanu Biswas, Tanmoy Maiti*
ChemistrySelect **2018**, *3*, 794–800.
<https://doi.org/10.1002/slct.201702745>
As on April 2021: Impact factor: 1.811, Citation in Scopus: 4
78. Direct Observation of Intermediate State(s) in the Mechanistic Investigation of Domain Specific Protein-Surfactant Interaction
Rajeev Yadav, Bhaswati Sengupta, Shyamashis Das and **Pratik Sen***

Prot. Pept. Lett. **2018**, 25, 339–349.
<https://doi.org/10.2174/0929866525666180212111823>
As on April 2021: Impact factor: 1.156, Citation in Scopus: 2

77. Monomerization and Aggregation of β -Lactoglobulin under Adverse Condition: A Fluorescence Correlation Spectroscopic Investigation
Bhaswati Sengupta, Nilimesh Das, **Pratik Sen***
BBA- Proteins and Proteomics **2018**, 1866, 316–326.
<https://doi.org/10.1016/j.bbapap.2017.11.007>
As on April 2021: Impact factor: 2.371, Citation in Scopus: 7
- †76. Detail Modes of Binding Assessed by Bulk and Single Molecular Level Fluorescence, MD Simulation and its Temperature Dependence: Coumarin 152 with Human Serum Albumin Revisited
Rajeev Yadav, Bhaswati Sengupta, and **Pratik Sen***
Selected Topics in Photonics, Springer, Singapore, **2018**, 1–12.
https://doi.org/10.1007/978-981-10-5010-7_1
75. Dynamical Response in Methanol-Chloroform Binary Solvent Mixture over fs- μ s Time Regime
Shradhey Gupta, Puspall Mukherjee, Bhaswati Sengupta and **Pratik Sen***
Phys. Chem. Liq. **2018**, 56, 496–507.
<https://doi.org/10.1080/00319104.2017.1346649>
As on April 2021: Impact factor: 1.707, Citation in Scopus: 4
74. Ultrafast Electron Transfer from Upper Excited State of Encapsulated Azules to Acceptors across an Organic Molecular Wall
Mohan Raj Anthony Raj, Mintu Porel, Puspall Mukherjee, Xiuyuan Ma, Rajib Choudhury, Elena Galoppini*, **Pratik Sen*** and Vaidhyanathan Ramamurthy*
J. Phys. Chem. C **2017**, 121, 20205–20216.
<https://doi.org/10.1021/acs.jpcc.7b07260>
As on April 2021: Impact factor: 4.189, Citation in Scopus: 8
73. Ultrafast Excited State Deactivation Channel of Thioflavin T Adsorbed on SDS Micelle: A Combined Femtosecond Fluorescence and Transient Absorption Study
Puspall Mukherjee, Arita Das and **Pratik Sen***
J. Photochem. Photobiol. A: Chemistry **2017**, 348, 287–294.
<https://doi.org/10.1016/j.jphotochem.2017.08.059>
As on April 2021: Impact factor: 3.306, Citation in Scopus: 1
72. Single Molecular Level Probing of Structure and Dynamics of Papain under Denaturation
Bhaswati Sengupta, Apala Chaudhury, Nilimesh Das and **Pratik Sen***
Prot. Pept. Lett. **2017**, 24, 1073–1081.
<https://doi.org/10.2174/0929866524666170811145838>
As on April 2021: Impact factor: 1.156, Citation in Scopus: 4
71. Multi-mode Hydrogen Storage in Nanocontainers
Suboohi Shervani, Puspall Mukherjee, Anshul Gupta, Gargi Mishra, Kavya Illath,

- T. G. Ajithkumar, Sri Sivakumar, **Pratik Sen**, Kantesh Balani, and Anandh Subramaniam*
Int. J. Hydrogen Energy **2017**, *42*, 24256–24262.
<https://doi.org/10.1016/j.ijhydene.2017.07.233>
As on April 2021: Impact factor: 4.939, Citation in Scopus: 19
70. Ultrafast Excited State Intermolecular Proton Transfer Dynamics of 2-(4'-Pyridyl)benzimidazole inside the Nanocavity of Reverse Micelles
Vijaykant Khorwal and **Pratik Sen***
J. Photochem. Photobiol. A: Chemistry **2017**, *347*, 86–92.
<https://doi.org/10.1016/j.jphotochem.2017.07.017>
As on April 2021: Impact factor: 3.306, Citation in Scopus: 3
69. Decoupling the diffusion from bimolecular photoinduced electron transfer reaction: A Combined Ultrafast Spectroscopic and Kinetic Analysis
Puspal Mukherjee and **Pratik Sen***
Phys. Chem. Chem. Phys. **2017**, *19*, 11220–11229.
<https://doi.org/10.1039/C7CP01387F>
As on April 2021: Impact factor: 3.430, Citation in Scopus: 1
68. Bimolecular Photoinduced Electron Transfer in Static Quenching Regime: Illustration of Marcus Inversion in Micelle
Puspal Mukherjee, Aritra Das, Arunava Sengupta and **Pratik Sen***
J. Phys. Chem. B **2017**, *121*, 1610–1622.
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Patent

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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

Ph.D. students guided

Ongoing: 9

Thesis submitted: 0

Completed: 8

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
Present affiliation: 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
Present affiliation: Post-doctoral fellow, Michigan State University, 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
Present affiliation: 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
Present affiliation: Post-doctoral fellow, Pennsylvania State University, 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
Present affiliation: 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

Present affiliation: Assistant Professor at St. Joseph's College (Calicut University), Irinjalakuda, Kerala

7. Name of Student: **Vipin Kumar Jain**
Title: Colorimetric and Fluorescent Chemo- sensors for Selective Detection of Biologically and Environmentally Important Metal Ions at PPM Level
Current Status: **Awarded (February 01, 2021)**
Co-Supervisor: Nil
Present affiliation: 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
Present affiliation: 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: **Thesis submitted**
Co-Supervisor: Nil
10. Name of Student: **Nilimesh Das**
Title: Research Topic: Protein Conformational Dynamics
Current Status: **In Progress**
Co-Supervisor: Nil
11. Name of Student: **Shovon Chatterjee**
Title: Research Topic: Ultrafast Spectroscopy of Nano-Materials
Current Status: **In Progress**
Co-Supervisor: Nil
12. Name of Student: **Arghya Sen**
Title: Research Topic: Perovskite nanomaterials
Current Status: **In Progress**
Co-Supervisor: Nil
13. Name of Student: **Abhijit Datta**
Title: Research Topic: Ultrafast Spectroscopy of Protein Chromophores
Current Status: **In Progress**
Co-Supervisor: Nil
14. Name of Student: **Kuldeep Singh Negi**
Title: Research Topic: Fluorescence Correlation Spectroscopy
Current Status: **In Progress**
Co-Supervisor: Nil
15. Name of Student: **Sandeep Yadav**
Title: Research Topic: Biophysical Chemistry

Current Status: **In Progress**
Co-Supervisor: Prof. Tahei Tahara, RIKEN, Japan

16. Name of Student: **Tanmoy Khan**
Title: Research Topic: Bio-physical Chemistry
Current Status: **In Progress**
Co-Supervisor: Nil

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

18. Name of Student: **Arnab Raha**
Title: Research Topic:
Current Status: **In Progress**
Co-Supervisor: Nil

19. Name of Student: **Subhendu Pal**
Title: Research Topic:
Current Status: **In Progress**
Co-Supervisor: Nil

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

21. Name: **Arnab Raha**
Title: Research Topic:
Current Status: **In Progress**
Co-Supervisor: Nil

22. Name: **Patralekha Sarkar**
Title: Research Topic:
Current Status: **In Progress**
Co-Supervisor: Nil

M.Sc. students guided

Ongoing: 0
Completed: 27

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
Present affiliation: 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
Present affiliation:
3. Name of Student: **Mainak Kundu**
Title: Spectroscopic Investigation of Synergistic Chloroform-Methanol Binary Mixture
Current Status: **Completed (April 2011)**
Co-Supervisor: Nil
Present affiliation: 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
Present affiliation:
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
Present affiliation:
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
Present affiliation:
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
Present affiliation:
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
Present affiliation:
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
Present affiliation:
10. Name of Student: **Barun Kumar Maity**
Title: Spectroscopy Study of 1-dimethoxymethyl-9H-pyrido(3,4-b)indol-3-yl-methanol: A new pH Indicator
Current Status: **Completed (April 2013)**
Co-Supervisor: Nil
Present affiliation:
11. Name of Student: **Sayoni Ray**
Title: Spectroscopic Investigation of DMF/Chloroform Binary Solvent Mixture
Current Status: **Completed (April 2013)**
Co-Supervisor: Nil
Present affiliation:
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
Present affiliation:
13. Name of Student: **Santosh Kumar**
Title: Effect of Double Denaturation in a Multi-domain Protein
Current Status: **Completed (April 2014)**
Co-Supervisor: Nil
Present affiliation:
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
Present affiliation:
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
Present affiliation:
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
Present affiliation: 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
Present affiliation:
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
Present affiliation: 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
Present affiliation: 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
Present affiliation: 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
Present affiliation: 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
Present affiliation: 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
Present affiliation: N/A

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
Present affiliation: 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
Present affiliation: N/A
26. Name of Student: **Ritwik Hazra**
Title: Contemplating Heterogeneity Through Spectroscopic Approach
Current Status: **Completed (2020)**
Co-supervisor: Nil
Present affiliation: PhD student at 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
Present affiliation: N/A
28. Name of Student: **Bisal Halder**
Title:
Current Status: On going
Co-supervisor: Nil
Present affiliation: N/A

Post-doctoral Research Supervision

Ongoing: 1
Completed: 3

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**
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**

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**
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: **In progress**
Co-supervisor: Nil
Present affiliation:

Project/Summer-Project Research Supervision

Ongoing: To be added

Completed: To be added

Sponsored Project:

Ongoing: 1

Completed: 13

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 intramolecular 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 Spectroscopy, 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/-

Conference/Workshop/Special Course organized

Planned: 0
Completed: 10

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-convenor, 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

1. Associate Dean, Hall Affairs, IIT Kanpur 01-05-2022 to 31-04-2025
2. Convener DPGC, Department of Chemistry, IIT Kanpur
3. Warden, Hall-11, IIT Kanpur
4. Warden, RA Hostel, IIT Kanpur
5. Member, CGBS, IIT Kanpur
6. Member, IRDC, IIT Kanpur
7. JEE Activity
8. GATE Activity
9. UGC-CSIR Activity

Invited Talks

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62. Blue Edge of Emission Shift (BEEemS) 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 (BEEemS) 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, Catalysis 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)
Jawaharlal 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) : Fluorescence 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-European 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 Spectroscopy: 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) : Fluorescence 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)