

## Department of Chemistry

<b>Name</b>	<b>DR. SUTAPA MONDAL ROY</b>
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<b>Designation and Current Position</b>	<b>ASSISTANT PROFESSOR</b>
<b>Email</b>	<a href="mailto:sutapa.roy@utu.ac.in">sutapa.roy@utu.ac.in</a> ; <a href="mailto:sutapamroy@gmail.com">sutapamroy@gmail.com</a>
<b>Qualification</b>	<b>NET (CSIR), Ph.D.</b>
<b>Area of interest</b>	<ul style="list-style-type: none"> <li>• <b>Lipid membranes and its interactions with drugs and proteins</b></li> <li>• <b>Membrane vesicles as drug delivery agents</b></li> <li>• <b>Nanoparticles as drug delivery agents</b></li> <li>• <b>Host-guest complexation</b></li> <li>• <b>Fluoremetric and colorimetric sensing of ions using organic ligands</b></li> <li>• <b>Density Functional Theory calculations on nanoparticles and drugs, nanoparticles and drug interactions, organic ligand cation and/or anion interactions etc.</b></li> <li>• <b>Density Functional Theory calculations on finding toxicity of various molecules to predict Quantitative Structure Activity Relationship (QSAR)</b></li> </ul>
<b>Teaching Experience</b>	<ul style="list-style-type: none"> <li>• <b>01 Yesrs as Part-Time Lecturer in Inorganic Chemistry at SDI (College), West Bengal</b></li> <li>• <b>03 months (from 23<sup>rd</sup> March 2017) as Assistant Professor at Department of Chemistry, Uka Tarsadia University, Gujarat</b></li> </ul>
<b>Current Position</b>	<b>ASSISTANT PROFESSOR</b>
<b>Achievements</b>	<ul style="list-style-type: none"> <li>• <b>National Scholarship Award</b> for the result in Secondary examination, 1999, Ministry of Higher Education, Govt. of WB.</li> <li>• <b>National Scholarship Award</b> for the result in Higher Secondary examination, 2001, Ministry of Higher Education, Govt. of WB.</li> <li>• <b>Award of CSIR NET 2006</b> for Junior Research Fellowship in Ph.D. and Lecturership in colleges &amp; universities.</li> <li>• <b>Best Poster Award</b> in the ‘International Symposium on Recent Trends in Surface and Colloid Science (ISSCS-2007)’, November 15-16, 2007.</li> <li>• <b>Award of CSIR Research Associateship – 2013.</b></li> <li>• <b>Article in News: <i>Biophysical Chemistry</i> 2008, 137(1), 28-34.</b> Title: <b>Pain killers find new use in Nature India</b> doi:10.1038/nindia.2008.265; Published online <b>28 August 2008</b></li> <li>• <b>Article in News: <i>J. Phys. Chem. B</i> 2009, 113, 16323-16331.</b> in <b>VerticalNews</b> under <b>Physical Chemistry</b> section on <b>31.01.2010</b> and in <b>NewsRX: Biotech Law Weekly</b> under section <b>Antiinflammatory</b> on <b>12.03.2010.</b></li> <li>• <b>Article in News: <i>Langmuir</i> 2010, 26, 18967–18975.</b> in <b>Goliath:Business Knowledge on Demand</b> under <b>Biotech Week</b> section on <b>12.01.2011.</b></li> </ul>

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	<ul style="list-style-type: none"><li>• <b>Reviewer of Journals:</b> <b>Arabian Journal of Chemistry (Elsevier BV), Molecular Graphics and Modelling (Elsevier BV), Spectrochimica Acta A (Elsevier BV), etc.</b></li></ul>
<b>List of Publications</b>	<p><b><u>Total Citations: 134 ; h-index: 07 ; i10-index: 05</u></b> <b>In SCI Journals:</b></p> <ol style="list-style-type: none"><li><b>1. Membrane fusion: A new function of non steroidal anti-inflammatory drugs</b> Authors: H. Chakraborty*, <b>Sutapa Mondal*</b> and Munna Sarkar <i>Biophys. Chem.</i> <u>2008</u>, <i>137</i>, 28-34; [*contributed equally] ISSN No.: 0301-4622 [2008 IF = 2.362]</li><li><b>2. Non-Steroidal Anti-Inflammatory Drug Induced Membrane Fusion: Concentration and Temperature Effects</b> Authors: <b>Sutapa Mondal</b> and Munna Sarkar <i>J. Phys. Chem. B</i> <u>2009</u>, <i>113</i>, 16323-16331; ISSN No.: 1520-6106 [2009 IF = 3.471]</li><li><b>3. Effect of Increase in Orientational Order of Lipid Chains and Head Group Spacing on Non Steroidal Anti-Inflammatory Drug Induced Membrane Fusion.</b> Authors: <b>Sutapa Mondal Roy</b>, A. S. Bansode and Munna Sarkar <i>Langmuir</i> <u>2010</u>, <i>26</i>, 18967-18975; ISSN No.: 0743-7463 [2010 IF = 4.268]</li><li><b>4. Effect of Lipid Molecule Head Group Mismatch on Non Steroidal Anti-Inflammatory Drugs Induced Membrane Fusion</b> <b>Sutapa Mondal Roy</b> and Munna Sarkar <i>Langmuir</i> <u>2011</u>, <i>27</i>, 15054-15064; ISSN No.: 0743-7463 [2011 IF = 4.186]</li><li><b>5. Membrane Fusion Induced by Small Molecules and Ions.</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar <i>Journal of Lipids</i> <u>2011</u>, 1-14; <a href="http://dx.doi.org/10.1155/2011/528784">http://dx.doi.org/10.1155/2011/528784</a></li><li><b>6. Anion selective chromogenic and fluorogenic chemosensor and its application in breast cancer live cell imaging</b> Authors: D. Sharma, A. Moirangthem, Suban K. Sahoo, A. Basu, <b>Sutapa Mondal Roy</b>, R. K. Pati, A. Kumar SK, J. P. Nandre and U. D. Patil <i>RSC Advances</i> <u>2014</u>, <i>4</i>, 41446-41452; ISSN No.: 2046-2069 [2014 IF = 3.840]</li><li><b>7. Anion recognition ability of a novel azo dye derived from 4-Hydroxy coumarin</b> Authors: M. Chandel, <b>Sutapa Mondal Roy</b>, D. Sharma, Suban K. Sahoo, A. Patel, P. Kumari, R. Dhale, A. Kumar SK, J. P. Nandre and U. D. Patil <i>Journal of Luminescence</i> <u>2014</u>, <i>154</i>, 515-519; ISSN No.: 0022-2313 [2014 IF = 2.719]</li></ol>

	<p><b>8. Toxicity Prediction of PHDDs and Phenols in the Light of Nucleic Acid Bases and DNA Base Pair Interaction</b> Authors: <b>Sutapa Mondal Roy*</b>, D. R. Roy and Suban K. Sahoo <i>J. Mol. Graph. Model.</i> <u>2015</u>, <i>62</i>, 128-137; ISSN No.: 1093-3263 [2015 IF = 2.002]</p> <p><b>9. Bioimaging application of a novel anion selective chemosensor derived from vitamin B6 cofactor</b> Authors: D. Sharma, A. Moirangthem, <b>Sutapa Mondal Roy</b>, A. Kumar SK, J. P. Nandre, U. D Patil, A. Basu and Suban K. Sahoo <i>J. Photochem. Photobiol. B</i> <u>2015</u>, <i>148</i>, 37-42; ISSN No.: 1011-1344 [2015 IF = 2.495]</p> <p><b>10. Pyridoxal derived chemosensor: Its application in anion sensing and molecular logic gate building</b> Author: Suban K. Sahoo, D. Sharma, S. Bothra, <b>Sutapa Mondal Roy</b>, R. Kumar, A. Kumar SK, J. P. Nandre, U. D Patil and J. F. Callan <i>Ind. J. Chemistry</i> <u>2016</u>, <i>55A</i>, 44-50; ISSN No.: 0376-4710 [2016 IF = 0.729]</p> <p><b>11. Levofloxacin Capped Ag-Nanoparticles: A New Highly Selective Sensor for Cations under Joint Experimental and DFT Investigation</b> Authors: <b>Sutapa Mondal Roy*</b> and D. R. Roy <i>Spectrochim. Acta A</i> <u>2017</u>, <i>179</i>, 178-187; ISSN No.: 1386-1425 [2016 IF = 2.477]</p> <p><b>12. A Critical DFT Investigation on the IR, Raman and Optical Spectroscopy of TM Doped Porphyrin (TM=Fe, Ni, Co) Series</b> Authors: Debesh R. Roy, E. V. Shah and <b>Sutapa Mondal Roy</b> <b>Manuscript under Revision (Spectrochim. Acta A)</b></p> <p><b>13. <math>\beta</math>-cyclodextrin Inclusion Complexes with Oxicam NSAIDs: An Improved Drug Delivery System</b> Authors: <b>Sutapa Mondal Roy</b>, S. Goswami and Munna Sarkar <b>Manuscript under Revision (Spectrochim. Acta A)</b></p> <p><b>14. Physico-chemical characterization of ciprofloxacin stabilized silver-nanoparticles: A Joint experimental and DFT venture to elucidate modified anti-bacterial activity</b> Authors: <b>Sutapa Mondal Roy*</b>, B. K Sharma and D. R Roy <b>Manuscript under Preparation</b></p> <p><b>[* Corresponding Author]</b></p> <p><b>In Conference Proceedings:</b></p> <p><b>1. Application of Fluorescence Spectroscopy in Characterization of Membrane Fusion</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar In "Proceedings of the UGC sponsored National seminar" on <b>Modern Trends in Spectroscopy: Its application in Chemistry</b></p>
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	<p><b>and Biology</b>, Eds: Bhattacharyya, S. and Guria, D. C. <b>2011</b>, pp. 77 – 88. ISBN: 13-978-81-928246-1-1</p> <p><b>In Book Chapter:</b></p> <ol style="list-style-type: none"><li><b>Title:</b> Polymers as Biomaterials for Controlled Drug Delivery <b>Book:</b> Encyclopedia of Biomedical Polymers and Polymeric Biomaterials <b>Authors:</b> <b>Sutapa Mondal Roy</b> and Suban K. Sahoo <b>Editors:</b> Munmaya Mishra <b>Taylor and Francis: New York, 2016</b>, pp. 2135-2146.</li></ol>
<b>Seminar/ Conference</b>	<ol style="list-style-type: none"><li><b>1. International Symposium on Recent Trends in Surface and Colloid Science (ISSCS-2007)</b>, November 15-16, 2007; Organizer: Indian Statistical Institute (ISI), Kolkata; Purpose: <b>Poster presentation</b> Topic: <b>Membrane fusion induced by small molecules: Non Steroidal Anti- Inflammatory Drugs (NSAIDs)<sup>†</sup></b> Authors: <b>Sutapa Mondal</b>, Hirak Chakraborty, Munna Sarkar <i>[<sup>†</sup> Selected for the Best Poster Award]</i></li><li><b>2. Acharya Prafulla Chandra Ray Memorial Symposium on Chemistry Today (2008)</b>, August 01-02, 2008; Organizer: University College of Science and Technology, Kolkata; Purpose: <b>Oral Presentation</b> Topic: <b>Membrane fusion induced by small molecules: Non Steroidal Anti- Inflammatory Drugs (NSAIDs)</b> Authors: <b>Sutapa Mondal</b>, Hirak Chakraborty, Munna Sarkar</li><li><b>3. National Symposium on Cellular and Molecular Biophysics (NCMB-2009)</b>, January 22-24, 2009; Organizer: Centre for Cellular and Molecular Biophysics, Hyderabad; Purpose: <b>Poster Presentation</b> Topic: <b>New function for painkillers: Membrane fusion; its kinetic and thermodynamic aspects</b> Authors: <b>Sutapa Mondal</b> and Munna Sarkar</li><li><b>4. Symposium on Recent Trends in Biophysics (IBS-2010)</b>; February 13-15, 2010; Organizer: Banaras Hindu University, Varanasi; Purpose: <b>Poster Presentation</b> Topic: <b>Membrane Fusion Induced by Non Steroidal Anti-Inflammatory Drugs: Effect of Low Concentration of Cholesterol</b> Authors: <b>Sutapa Mondal</b>, Amol S. Bansode and Munna Sarkar</li><li><b>5. International Symposium on Facets of Weak Interactions in Chemistry</b>, January 13-15, 2011; Organizer: Department of Chemistry, University of Calcutta; Purpose: <b>Poster Presentation</b> Topic: <b>Membrane Fusion Induced by Small Drug Molecules: Oxicam Group of Non Steroidal Anti-Inflammatory Drugs (NSAIDs)</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar</li></ol>

<p>6. <b>7<sup>th</sup> Asian Biophysical Society Symposium &amp; Annual Meeting of the Indian Biophysical Society</b>, January 30-February 2, 2011; Organizer: All India Institute of Medical Sciences AIIMS, New Delhi; Purpose: <b><u>Poster Presentation</u></b> Topic: <b>Interaction of Oxicam NSAIDs with Membranes: Effect of Head Group Size and Chain Length</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar</p> <p>7. <b>National Seminar on Modern Trends in Spectroscopy: Its Application in Chemistry &amp; Biology</b>, February 3-4, 2011; Organizer: Department of Chemistry &amp; Microbiology, Moulana Azad College, Kolkata; Purpose: <b><u>Oral Presentation</u></b> Topic: <b>Application of Fluorescence Spectroscopy in Characterization of Membrane Fusion</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar</p> <p>8. <b>National Seminar on Inorganic Chemistry - 2011</b>, July 8 - 9, 2011; Organizer: Inorganic Chemistry section, Department of Chemistry, Jadavpur University, Kolkata; Purpose: <b><u>Oral Presentation</u></b> Topic: <b>Non Steroidal Anti-Inflammatory Drugs Induced Membrane Fusion: Effect of Lipid Molecule Head Group Mismatch</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar</p> <p>9. <b>17<sup>th</sup> International Biophysics Congress (IUPAB)</b>, October 30 - November 3, 2011; Organizer: International Union of Pure and Applied Biophysics (IUPAB), Biophysical Society of China (BSC) and Institute of Biophysics, Chinese Academy of Science (IBP); Held at: <b>Beijing, China</b>; Purpose: <b><u>Poster Presentation</u></b> Topic: <b>Effect of various membrane parameters on oxicam groups of Non Steroidal Anti-Inflammatory Drugs (NSAIDs) induced membrane fusion.</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar.</p> <p>10. <b>National Fluorescence Workshop: Fluorescence Methods in Single Molecule Spectroscopy (FCS 2012)</b>; December 03 - 07, 2012; Organizer: Saha Institute of Nuclear Physics and Indian Institute of Chemical Biology; Purpose: <b><u>Poster Presentation</u></b> Topic: <b>Characterization of Oxicam Non Steroidal Anti-Inflammatory Drugs (NSAIDs) Induced Membrane Fusion: Application of Fluorescence Spectroscopy.</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar.</p> <p>11. <b>National Symposium on Frontiers of Biophysics, Biotechnology &amp; Bioinformatics</b>, January 13 - 16, 2013; Organizer: University of Mumbai Held at: Department of Chemistry, University of Mumbai; Purpose: <b><u>Poster Presentation</u></b> Topic: <b>Membrane Fusion Induced by Small Drug Molecules: A New</b></p>
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	<p><b>and Alternate Function of NSAIDs.</b> Authors: <b>Sutapa Mondal Roy</b> and Munna Sarkar.</p> <p><b>12. National Level Workshop on Application of Atomic Clusters towards Novel Materials;</b> September 02 – 06, 2013; Organizer: Department of Applied Chemistry, S. V. National Institute of Technology, Surat, Gujarat; Purpose: <b><u>Invited Lecture</u></b> Topic: <b>Bio-Degradable Materials and Their Application as Drug Delivery Agent: Scope and Future Possibilities</b> Authors: <b>Sutapa Mondal Roy</b></p> <p><b>13. ICABB 2015: 17th International Conference on Applied Bio materials and Biomechanics;</b> December 17-18, 2015; Organizer: World Academy of Science, Engineering and Technology; Held at: <b>Bangkok, Thailand;</b> Purpose: <b><u>Oral Presentation</u></b> Topic: <b>Green Synthesis (Using Environment Friendly Bacteria) of Silver-Nanoparticles and Their Application as Drug Delivery Agents</b> Authors: <b>Sutapa Mondal Roy</b> and Suban K. Sahoo</p> <p><b>14. ICOPVS 2016: International Conference on Perspectives in Vibrational Spectroscopy;</b> November 05-08, 2016; Organizer: University of Lucknow, Purpose: <b><u>Poster Presentation</u></b> Topic: <b>Alternate Function of Antibiotic Drug to form Drug-Nanoparticles Assembly for Highly Selective Sensing of Cations: Spectrophotometric, FTIR and Theoretical Characterization Approach</b> Authors: <b>Sutapa Mondal Roy</b> and Debesh R. Roy</p> <p>For more details: <a href="https://sites.google.com/site/sutapamroy/">https://sites.google.com/site/sutapamroy/</a></p>
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