



Dr. Kundu received his M.Sc. degree in Chemistry in 2009 from University of Calcutta. He received Ph.D. degree from the Jadavpur University (IACS) in 2015. He has more than 11 years of teaching and research experience and published more than 29 research papers in reputed International Journals with ~2850 citations. Presently he is working as an Assistant Professor of Department of Chemistry at Shibpur Dinobundhoo Institution (College), Howrah, affiliated to University of Calcutta.

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DEPARTMENT OF CHEMISTRY
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DR. SIMANTA KUNDU

Assistant Professor, Department of Chemistry,

Shibpur Dinobundhoo Institution (College), University of Calcutta.

M.Sc, Ph.D

TEACHING AND RESEARCH EXPERIENCE

1. **Shibpur Dinobundhoo Institution (College), Howrah, Assistant Professor.**
19-07-2017– till date
2. **Tata Institute of Fundamental Research (TIFR), Mumbai, Visiting Fellow.**
03-03-2016 to 16-06-2017
3. **Indian Association for the Cultivation of Science (IACS), Kolkata, Research Associate.**
18-02-2015 to 29-02-2016

AWARDS AND SCHOLARSHIPS

1. **Senior Research Fellowship**, 2011, CSIR–UGC, Government of India.
2. **Junior Research Fellowship**, 2009, Joint CSIR–UGC Test, Government of India.
3. **Merit Cum Means Scholarship**, 2004-2007, West Bengal Higher Education Department (WBHED) for academic excellence.

RESEARCH INTERESTS

Light Harvesting Nanomaterials, Materials Characterization, Quantum Dots, Graphene, Carbon Dots, Photocatalysis, Water splitting, Photoluminescence, Spectroscopy, Ionic liquid, Solution Chemistry, Solubility, Amino acids.

ADMINISTRATIVE EXPERIENCE

1. Head, Department of Chemistry, Shibpur Dinobundhoo Institution (College), Howrah from July, 2022 – June, 2024.
2. Member, NAAC Steering Committee, Shibpur Dinobundhoo Institution (College) from 2021-2023.
3. Member, Service cell and E-pension committee, Shibpur Dinobundhoo Institution (College) from 2019- till date.
4. Convener, Exam and Evaluation Committee, Shibpur Dinobundhoo Institution (College), 2019-till date.

UG & PG TEACHING ASSIGNMENTS

1. **UG teaching** assignments under CU performed ~9 years from 2017 to till date.
2. **UG teaching** assignments performed for IGNOU from 2023 to till date.
3. **UG teaching** assignments performed for NSOU (Practical) from 2023 to till date.
4. **PG teaching** assignments performed for Vidyasagar University in ODL mode: 2017 to 2022.
5. **PG teaching** (Theory & Practical) assignment performed as guest lecturer at Lady Brabourne College, University of Calcutta: August, 2019 to till date.
6. **PG teaching** (Theory) assignment performed as guest lecturer at Behala College (Autonomous): January, 2025 to till date.

ACADEMIC QUALIFICATION

Examination	Board/Council	Name of the Specialized subject	Division/Class	Year of Passing
PhD	Jadavpur University	Chemistry	-	2015
MSc	University of Calcutta	Inorganic Chemistry	1 st	2009
BSc	Ramakrishna Mission Residential College, Narendrapur, University of Calcutta	Chemistry (Hons)	1 st	2007

ELIGIBILITY TEST CLEARED (NET/SET/GATE)

Sl. No.	Details
1.	Graduate Aptitude Test for Engineering (GATE), 2008 – AIR 112
2.	Council of Scientific and Industrial Research (JRF-NET) Dec, 2008

DETAILS OF PUBLICATIONS (RESEARCH PAPERS/REVIEW)

Sl. No.	Title of the paper, authors, vol. No., Issue No., Page No	First author (Yes/No)	Journal (Publisher)	Year of publication	ISSN/ ISBN	Impact Factor (2025)
29.	“Solubility and thermodynamic interactions of L-aspartic acid in aqueous organic solvent systems” N. Sing, J. Chakraborty, P. Alam, K. Mahali, Simanta Kundu , S. Roy; 212 (2025), 1521-1532. https://doi.org/10.1080/00986445.2025.2478626	No	<i>Chemical Engineering Communications</i> (Taylor & Francis)	2025	ISSN: 0098-6445	2.0
28.	"Solvation and related thermochemical behavior of DL-valine in aqueous univalent electrolytes for temperatures from 288.15 K to 323.15 K" Simanta Kundu , J.Chakraborty, P. Alam, A. Saha, S. Ganai, P. Mukherjee, K. Mahali, Sanjay Roy 46(2025), 63. https://link.springer.com/article/10.1007/s10765-025-03534-4	Yes	<i>International Journal of Thermophysics</i> (Springer US)	2025	ISSN: 0195-928X	2.5
27.	“Solubility Properties of Glycine in Aqueous NH ₄ Cl and (NH ₄) ₂ SO ₄ Solutions from T = 288.15 K to 308.15 K” A. Saha, J. Chakrabortya, A. Abualreish, Simanta Kundu , K.Mahali, S. Ganai, P. Mukherjee, S. Roy 12(2024) 1049-1064.	No	<i>Physical Chemistry Research</i> (Iranian Chemical Society)	2024	ISSN: 2322-5521	1.4
26.	“Effects of calcium and barium chloride salts on the solubility and dissolution thermodynamics of glycine and DL-alanine from 288.15 K to 328.15 K”; S. Ghosh, A. Saha, M. J.A. Abualreish, S. Ganai, P. Mukherjee, K. Mahali, A.M.A. Henaish, B. Saha, Simanta Kundu , S. Roy; 404, (2024) 124976. https://doi.org/10.1016/j.molliq.2024.124976	No	Journal of Molecular Liquids (Elsevier)	2024	ISSN: 0167-7322	5.3
25.	“Probing coumarin solubility and solvation energetics in diverse aqueous–organic solutions across a temperature range: A debut exploration”, S. Ganai, P. Mukherjee, K. Mahali, B.Saha, AMA Henaish, Simanta Kundu , J. Ahmed, A. Hussain, S. Roy; 395, (2024),123832. https://doi.org/10.1016/j.molliq.2023.123832	No	Journal of Molecular Liquids (Elsevier)	2024	ISSN: 0167-7322	5.3
24.	“Solubility and the solution thermodynamics of l-proline in the aqueous binary mixture of NaCl and KCl solution”; A. Saha, K. Mahali, S. Ganai, Puspall Mukherjee, N. K. Shrestha, A.M.A. Henaish, J. Ahmed, Simanta Kundu , S. Roy, [391 (2023) 123352] https://doi.org/10.1016/j.molliq.2023.123352	No	Journal of Molecular Liquids (Elsevier)	2023	ISSN: 0167-7322	5.3
23.	“Solubility and solvation energetics of L-histidine in aqueous NaCl/KCl electrolyte media”; A. Saha, K. Mahali, Simanta Kundu , A.M.A. Henaish, J. Ahmed, A.H.S. Rana, S. Roy; [391 (2023) 123240] https://doi.org/10.1016/j.molliq.2023.123240	No	Journal of Molecular Liquids (Elsevier)	2023	ISSN: 0167-7322	5.3
22.	“Solubility and dissolution thermodynamics of L-histidine and L-tryptophan in aqueous ethanol solution at five equidistant temperatures”; A. Saha, K. Mahali, P. Mukherjee, S. Ganai, A. Hossain, A.M.A. Henaish, Simanta Kundu , J. Ahmed, S. Roy; 389 (2023) 122852; https://doi.org/10.1016/j.molliq.2023.122852	No	Journal of Molecular Liquids (Elsevier)	2023	ISSN: 0167-7322	5.3
21.	“Solvation Thermodynamics of Four Amino Acids in Electrolytic Solutions of Sodium and Potassium Iodide salts at 298.15 K”, Simanta Kundu , K Mahali, S Roy, 101, (2022) 224–234; https://doi.org/10.1139/cjc-2022-0251	Yes	Canadian Journal of Chemistry (Canadian Science)	2022	ISSN: 000840 42, 148032 91	1.1

20.	“Carbon-based nanomaterials: in the quest of alternative metal-free photocatalysts for solar water splitting” Simanta Kundu , K. Bramhaiah, S. Bhattacharyya; (Vol. 2, Issue 11, pp.5130-5151, 2020) https://doi.org/10.1039/D0NA00569J	Yes	Nanoscale Advances (RSC)	2020	ISSN: 2516-0230	4.6
19.	“Hydrothermal Crystallization of Nano-Titanium Dioxide for Enhanced Photocatalytic Hydrogen Generation” Simanta Kundu , V. Polshettiwar, [Vol. 02, Issue 9, pp. 796-800,2018] (Cover Page) https://doi.org/10.1002/cptc.201800101	Yes	ChemPhotoChem (Wiley)	2018	ISSN: 2367-0932	3.0
18.	“Design of a CdS/CdSe Heterostructure for Efficient H ₂ Generation and Photovoltaic Applications” R. Bera, A. Dutta, Simanta Kundu , V. Polshettiwar, A. Patra; [Vol. 122, Issue 23, pp. 12158-12167, 2018] https://pubs.acs.org/doi/abs/10.1021/acs.jpcc.8b02108	No	The Journal of Physical Chemistry C (ACS)	2018	ISSN: 1932-7447	3.3
17.	“Nanoscale Strategies for Light Harvesting” Simanta Kundu , Amitava Patra, [117 (2), 712-757, 2017]. https://doi.org/10.1021/acs.chemrev.6b00036	Yes	Chemical Reviews (ACS)	2017	ISSN: 1520-6890	55.8
16.	“Photoinduced Energy Transfer in Dye Doped Polymer Nanoparticle-CdTe Quantum Dot Light-Harvesting Assemblies” Simanta Kundu , S. Bhattacharyya, A. Patra. [2015, 2, 60-67] https://doi.org/10.1039/C4MH00138A	Yes	Materials Horizon (RSC)	2015	ISSN: 2051-6355	12.2
15.	“2D hybrid nanostructure of reduced graphene oxide–CdS nanosheet for enhanced photocatalysis” R. Bera, Simanta Kundu , A. Patra; [7 (24), 13251-13259] https://doi.org/10.1021/acscami.5b03800	No	ACS Applied Materials & Interfaces (ACS)	2015	ISSN: 1944-8252	8.3
14.	“Influence of size and shape on the photocatalytic properties of SnO ₂ nanocrystals” A. Kar, S. Sain, Simanta Kundu , A. Bhattacharyya, S. Kumar Pradhan, A. Patra; [16 (5), 1017-1025] https://doi.org/10.1002/cphc.201402864	No	ChemPhysChem (Wiley)	2015	ISSN:1 439-7641	2.3
13.	“Lanthanide-Doped Nanocrystals: Strategies for Improving the Efficiency of Upconversion Emission and Their Physical Understanding” A. Kar, Simanta Kundu , A. Patra, [2015, 16, 505-521] (Minireview) https://doi.org/10.1002/cphc.201402668	No	ChemPhysChem (Wiley)	2014	ISSN:1 439-7641	2.3
12.	“Core Size Dependent Catalytic Properties of Bimetallic Au/Ag Core-Shell Nanoparticles” K. K. Haldar, Simanta Kundu , A.Patra, [2014, 6 (24), 21946–21953] https://doi.org/10.1021/am507391d	No	ACS Applied Materials & Interfaces (ACS)	2014	ISSN: 1944-8252	8.3
11.	“Non-radiative relaxation and rectification behavior of metal/semiconductor tetrapod heterostructures” K. K. Haldar, Simanta Kundu , A. Patra, [2014, 104, 063110]. https://doi.org/10.1063/1.4865398	No	Applied Physics Letter (AIP)	2014	ISSN: 1077-3118	3.5
10.	“Aggregation Behavior and Photophysical Properties of Ionic Liquid Assisted Porphyrin Nanoparticles-Nickel Phthalocyanine Conjugates and Singlet Oxygen Generation” S. Mandal, Simanta Kundu , S. Bhattacharyya, A. Patra, [2014, 2 (41), 8691-8699]. https://doi.org/10.1039/C4TC01543F	No	Journal Materials Chemistry C (RSC)	2014	ISSN: 2050-7534	5.7
9.	“Fluorescence Dynamics and Stochastic Model for Electronic Interaction of Graphene Oxide with CdTe QD in Graphene Oxide-CdTe QD Composite” Simanta Kundu , S. Sadhu, R. Bera, B. Paramanik, A. Patra, 2013, 117, 23987–23995. (Cover Page) https://doi.org/10.1021/jp405712p	Yes	The Journal of Physical Chemistry C (ACS)	2013	ISSN: 1932-7447	3.3

8.	“Band Gap Tuning of ZnO/In ₂ S ₃ Core/Shell Nanorod Arrays for Enhanced Visible-Light-Driven Photocatalysis” S. Khanchandani, Simanta Kundu , A. Patra, A. K. Ganguli, [2013, 117, 5558-5567] https://doi.org/10.1021/jp310495j	No	The Journal of Physical Chemistry C (ACS)	2013	ISSN: 1932-7447	3.3
7.	“Shell Thickness Dependent Photocatalytic Properties of ZnO/CdS Core-Shell Nanorods” S. Khanchandani, Simanta Kundu , A. Patra, A. K. Ganguli, [2012, 116, 23653-23662] https://doi.org/10.1021/jp3083419	No	The Journal of Physical Chemistry C (ACS)	2012	ISSN: 1932-7447	3.3
6.	“Energy/Hole Transfer Phenomena in Hybrid α -Sexithiophene (α -STH) Nanoparticle–CdTe Quantum-Dot Nanocomposites” S. Bhattacharyya, B. Paramanik, Simanta Kundu , A. Patra, [2012, 13, 4155-4162] https://doi.org/10.1002/cphc.201200694	No	ChemPhysChem (Wiley)	2012	ISSN:1 439-7641	2.3
5.	“Ionic Liquid Assisted Synthesis of Lanthanide Doped LaF ₃ Hierarchical Microstructures and Their Luminescence Properties” Simanta Kundu , A. Kar, A. Patra. [2012, 132, 1400-1406] https://doi.org/10.1016/j.jlumin.2012.01.037	Yes	Journal of Luminescence (Elsevier)	2012	ISSN: 1872-7883	3.3
4.	“Photocatalytic Properties of Semiconductor SnO ₂ /CdS Heterostructure Nanocrystals” A. Kar, Simanta Kundu , A. Patra, [2012, 2, 10222] https://doi.org/10.1039/C2RA21065G	No	RSC Advances (RSC)	2012	ISSN: 2046-2069	3.9
3.	“A simple approach to generate efficient white light emission from a ZnO– ionic liquid complex” A. Kar, Simanta Kundu , A. Patra, [2012, 2, 4879-4885]. https://doi.org/10.1039/C2RA20150J	No	RSC Advances (RSC)	2012	ISSN: 2046-2069	3.9
2.	“Surface defect related luminescence properties of SnO ₂ nanorods and nanoparticles” A. Kar, Simanta Kundu , A. Patra, [2010, 115, 118-124]. https://doi.org/10.1021/jp110313b	No	The Journal of Physical Chemistry C (ACS)	2011	ISSN: 1932-7447	3.3
1.	“Synthesis and Characterization of Different Shaped Sm ₂ O ₃ Nanocrystals” P. Ghosh, Simanta Kundu , A. Kar, K. V. Ramanujachary, S. Lofland, A. Patra, [2010, 43, 405401]. https://iopscience.iop.org/article/10.1088/0022-3727/43/40/405401/meta	No	Journal of Physics D: Applied Physics (IOP Science)	2010	ISSN: 1361-6463	3.1

Contribution to Self-Learning Material (SLM)

Year	Name of the University	Name of the Course	Name of the Programme	Worked as
2021	Netaji Subhas Open University	Honours in Chemistry	GE-CH-11 (Basic Physical Chemistry)	Course writer
2022	Netaji Subhas Open University	Honours in Chemistry	GE-CH-41 (Application Oriented Chemistry)	Course Writer
2023	Netaji Subhas Open University	Honours in Chemistry	GE-CH-21 (Basic Inorganic Chemistry)	Course Translator

SEMINARS, CONFERENCES, WORKSHOPS, ETC (Paper presenter/ invited talk/ Coordinator/chairperson)

Sl. No.	Title of Paper/ Lecture	Organizing Institute	Conference, Seminar, workshop etc.	International (Within Country)/ International (Abroad)/National	Role
13.	Solvation of Amino Acids and Related Thermochemical Behaviour in Presence of Univalent Electrolytes in Aqueous Medium	Tata Institute of Fundamental Research, Mumbai	Conference on Advances in Catalysis for Energy and Environment, 16-20Dec, 2024.	International	Poster Presentation
12.	Solubility and solvation energetics of L-histidine and L-proline in aqueous NaCl/KCl electrolyte media	Department of Chemistry & IQAC, Bankura Sammilani College	International Conference on Chemistry at the Frontier, 10 th February, 2024	International	Oral Presentation
11.	Light Harvesting Nanomaterials for Renewable Energy Generation	Department of Science Milli Al-Ameen College	Webinar on 03.05.2023	Local	Invited webinar lecture
10.	High Surface Area Supported Photocatalyst for UV and Visible Light Active Photocatalytic Hydrogen Generation	Tata Institute of Fundamental Research	Conference on Advances in Catalysis for Energy and Environment, 10-12 Jan 2018.	International	Poster Presentation
9.	Modification of Semiconducting Nanocrystals in Graphene Hybrids for Efficient Light Harvesting	INST, Mohali	Australia-India Strategic Research Fund (AISRF) Meeting-2015	International	Poster Presentation
8.	Ionic Liquid Assisted Synthesis of Re ³⁺ Ion Doped LaF ₃ Hierarchical Microstructures and Their Luminescence Properties	CSIR-CGCRI, Kolkata	1st International Conference on Alumina and Other Functional Ceramics (AOFC-2015)	International	Poster Presentation
7.	Photoinduced energy Transfer in Dye Encapsulated Polymer Nanoparticle-CdTe Light Harvesting Assemblies	Indian Association for the Cultivation of Science, Kolkata	International Symposium on Polymer Science and Technology (MACRO 2015)	International	Poster Presentation
6.	Graphene Oxide-CdTe QD Composites: Electronic Interactions and Photovoltaic Applications	IIT Bombay, Mumbai	16th CRSI National Symposium in Chemistry, 2014	National	Poster Presentation
5.	Graphene Oxide-CdTe QDs Composite: Electronic Interactions and Photovoltaic Applications	Jadavpur University, Kolkata	Young Scientist Colloquium 2013" under MRSI (Kolkata Chapter)	National	Oral Presentation
4.	Ionic liquid assisted synthesis of Re ³⁺ ion doped LaF ₃ hierarchical microstructures and their luminescence properties	IIT Guwahati, Guwahati	International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2011)	International	Poster Presentation
3.	SnO ₂ -a novel semiconductor material-it's properties, doping effect and core-shell formation effect	Indian Association for the Cultivation of Science, Kolkata	Meeting on Chemistry and Physics of Advanced Materials, 2011	National	Poster Presentation
2..	Synthesis of different size and shaped SnO ₂ nanocrystals and their physical properties	Indian Association for the Cultivation of Science, Kolkata	International Symposium on Chemistry and Complexity, 2011	International	Poster Presentation
1.	Fabrication and optical properties of core-shell CdS/LaPO ₄ : Eu nanorods	CSIR-Central Glass and Ceramic Research Institute, Kolkata	International Symposium on Advances in Nanomaterials (ANM 2010)	International	Poster Presentation