Curriculum vitae (CV)

Name : **Dr. Tandrima Chaudhuri**

Designation : Associate Professor in Chemistry

Date of Birth : 20th March 1976

Academic Qualification : Ph.D in Chemical Science

Area of Specialization : Physical Chemistry

E-mail Id : tanchem_bu@yahoo.co.in

Address for Correspondence:

Office: -
Dr. Bhupendranath Dutta Smriti Mahavidyalaya
P.O. – Hatgobindapur
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2, Ramprasad Road
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Employment History (including post-doc)

Period (Year)	Name of the examination/Degree/ Post as applicable	Area of specialization/ Subjects	Name of Institute/ University/	Number of Journal Publications
2001 – 2003	JRF in an Indo-German Collaborative Project	Material Science	Central Glass & Ceramic Research Centre, Jadavpur	2
2003 – 2005	Assistant Mistress in Chemistry	Chemistry	Govt. Girls' High School, Purulia	-
2005 – till date	Assistant Professor in Chemistry Went for doctoral degree within this period (see below)	Physical Chemistry	Dr. B. N. Dutta Smriti Mahavidyalaya, Burdwan	10 + 31
2006 - 2012	Ph.D.	Photochemistry & Theoretical Chemistry	University of Burdwan	10

A. Research Experience

1) Carrying out collaborative works with Centre for Surface Science, University of Jadavpur, Kolkata since 2013.
2) Carrying out collaborative works with Synthetic Organic Chemistry Section (Heterocyclic Synthesis), Chemistry Department of University of Calcutta, Kolkata since 2011.
3) Prepared a Monograph for PhD degree in the Department of Chemistry, the University of Burdwan as a part-time research fellow for a period of five years from 18.10.06; and is awarded the degree on 22.05.12.
4) Carrying out collaborative works with Bio-organic Division, Laser-Plasma Division and Radiation & Photochemistry Division of Bhaba Atomic Research Centre, Trombay, Mumbai since 2006.
5) Worked as JRF in Sol-Gel Division, Central Glass and Ceramic Research Institute, Jadavpur, in the field of Material Science to develop "Heat reflecting coating on glass and plastic surfaces by sol-gel technique" for 2 years (from February, 2001 to June,2003).

B. Undertaken projects (major/minor):

Minor Project

- Project title: Exploration of Optical and …… by experimental and theoretical techniques.
- Name of the funding agency: UGC (ERO); Ref. No.: PSW-097/06-07 (ERO).
- Duration: 2007 to 2009.

Major Projects

1) DST (FAST TRACK)

- Project title: Interaction of DNA with ……. Study.
- Name of the funding agency: DST, (INDIA); Ref. No.SB/FT/CS-121/2012 dated 22.11.2013.
- Duration: December, 2013 to November, 2016.

2) UGC (MRP)

- Project title: Recognition of molecules ……. Study.
- Name of the funding agency: UGC, (INDIA); Ref. No. F.No. 42 – 390/2013(SR) dated 25/03/2013
- Duration: April, 2013 to March, 2016. Extended upto March 2017.

C. Teaching Experience

1) More than 18 years of Undergraduate teaching experience.
2) More than two years of teaching experience as Assistant Mistress in Govt. Girls' High School, Purulia, West Bengal.

D. Publications

Book: " Solvatochromism, Molecular & Ionic Recognition: Photophysical Study" having **ISBN: 978-3-659-33779-6**, published by LAP LAMBERT Academic Publishing, Germany on 2013.

Book chapters:

1. "β-Diketone: A Comparative Excited State Interaction with Mg^{2+} and Ca^{2+}" in Innovation in Technologies: Challenges of Basic Research, published by Narosa Publishing House, India, pp. 71 – 85, 2015.
2. "-NH Protons Containing Heterocycles: Colorimetric Chemosensor for Fluoride Ion" in Emerging Trends in advanced Spectroscopy, Published by River Publishers Series in Optics and Photonics, Denmark, Netherland, pp. 93 – 98, 2019

Papers:

1) *"Theoretical Desiging of Smart Materials", **T. Chaudhuri**. Orientum-Occidentum. 1(**2022**) 19 – 26.*
2) *"*Molecular selectivity of indenopyridines for fullerenes: A comparative study", C Pal, T Chaudhuri, C Mukhopadhyay, M Banerjee, J. Ind. Chem. Soc. 98 (10) (**2021**) 100145.
3) *"*Synthesis of quinoline functionalized fluorescent chemosensor for Cu (II), DFT studies and its application in imaging in living HEK 293 cells", K. Mal, B. Naskar, **T. Chaudhuri**, C. Prodhan, S. Goswami, K. Chaudhuri, C. Mukhopadhyay. J. Photochem. Photobiol. A: Chem. 389 *(**2020**)* 112211 – 112223.
4) "Interaction of Indenopyridines with [60]-fullerene: A spectroscopic and computational study", C. Pal, **T. Chaudhuri**, C. Mukhopadhyay, M. Banerjee. *Indian J. Chem. Sec. A*, *58A (**2019**) 561 – 566.*
5) *"*Determination of vertical ionization potential of nitroso-benzoimidazothiazole using charge transfer interaction with a series of acceptors", **T. Chaudhuri**, S. Santra, S. Jana and A. Hajra, *Spectrochim Acta A 204 (**2018**)403 – 408.*
6) *"*A Facile, Convenient and Catalyst-Free One-Pot Route to Fluorescent Pyrrolo[3,4-c]pyridines via Multicomponent Strategy in Aqueous Medium", P. Maity, **T. Chaudhuri**, C. Mukhopadhyay, *Chemistry Select, 3 (**2018**) 2080 – 2087.*

7) "Ratiometric Interactions of Anionic Surfactants with Calf Thymus DNA Bound Cationic Surfactants: Study II", **T. Chaudhuri**, A. Pan, S. Das, S. P. Moulik, *J. Surfact. Deterg. 21 (**2018**)* 127.
8) "Benzimidazole: A solid state colorimetric chemosensor for fluoride and acetate", **T. Chaudhuri**, A. Mondol, C. Mukhopadhyay, *J. Mol. Liquids., 251 (**2018**) 35 – 39.*
9) "Non-covalent interaction between Cu-phthalocyanine and methanato borondifluoride derivatives in two different medium", C. Pal, **T. Chaudhuri**, S. Chattopdhyay, M. Banerjee, *J. Mol. Struct. 1133 (**2017**) 95 – 100.*
10) "Fluorescent Bis(benzimidazolium)ethaneborontetrafluoride: A ppb level sensor for Picric acid explosives." **T. Chaudhuri**, C. Mukhopadhyay, S. Ghosh, A. Karmakar; *Int. J. Photo. Opt. Tech. 3 (**2017**) 4 – 12.*
11) "Fluorescent Bis(benzimidazolium) ethaneborontetrafluoride: A ppb Level Sensor for Picric Acid Explosives" T. Chaudhuri, C. Mukhopadhyay, Sabari Ghosh and A. Karmakar, *Int. J. Photo. Opt. Tech.3, (**2017**) 4 – 12.*
12) "Novel Rearrangement Followed by Ring Contraction of Highly Selective and Sensitive Turn-On Chromogenic and Fluorescent Chemodosimeters for Cu^{2+} Ions", P.Das, **T. Chaudhuri**, A. Karmakar, S. Saha, S. S. Bandyopadhyay and C. Mukhopadhyay, *Asian J. Org. Chem. 5 (**2016**) 1492 – 1498*.
13) "Non-Covalent Interaction Between Tetraphenylporphyrin and Indenopyridine", C. Pal, **T. Chaudhuri**, M. Banerjee, P. Tapaswi, C. Mukhopadhyay, *Int. J. Photo. Opt. Tech. 2 (**2016**) 32 – 38.*
14) "Bodipy recognizes polyaromatic hydrocarbons via C–H/F type weak H-bonding", **T. Chaudhuri**, N. Shivran, S. Mula, A.Karmakar, S. Chattopadhyay, S. Chattopadhyay and D. Bandyopadhyay, *RSC Adv. 6 (**2016**) 59237–59241.*
15) "Recognition of steric factor in external association of xanthenocrown-5 and bis-napthalenocrown-6 with bis(benzimidazolium)propane borontetrafluoride", A. Karmakar, K. Kundu, S. Ghosh, C. Mukhopadhyay, S. K. Nayak and **T. Chaudhuri**, *Spectrochim Acta A 159 (**2016**) 141 –145.*
16) "Internal Charge Transfer based ratimetric interaction of anionic surfactant with calf thymus DNA bound cationic surfactant: Study I", A. Mukherjee, **T. Chaudhuri**, S. P. Moulik, M. Banerjee, *Spectrochim Acta A 152 (**2016**) 1 –7.*
17) "Chemical physics of non-covalent interaction between tetraphenylporphyrin and (dibenzoylmethanato) borondifluoride in methylene chloride", C. Pal, **T. Chaudhuri**, S.K Nayak, M. Banerjee, *J. Ind. Chem. Soc. 93 (**2016**) 1095 – 1102*.
18) "Synthesis and photophysics of selective functionalized π- conjugated, blue light emitting highly fluorescent C7-imidazo indolizine derivatives" R. Sarkar, **T. Chaudhuri**, A. Karmakar and C. Mukhopadhyay, *Org. Biomol. Chem., 13 (**2015**)11674 - 11686.*
19) "Quinone–Bodipy H-bonding interaction over π-stacking in toluene", A. Karmakar, S. Mula, K. Ghosh, **T. Chaudhuri**, N. Shivran, M. Banerjee and S. Chattopadhyay, *Photochem. Photobiol. Sci.,14 (**2015**) 1207 – 1212.*
20) "The idiosyncrasies of (BBIM-alkane)DB30C10 MIMs", S. Ghosh, **T. Chaudhuri**, E. Padmanaban, C. Mukhopadhyay, *J. Mol. Struc*. *1097 (**2015**) 6 – 14.*
21) "Molecular recognition of 4'-Nitrobenzo-15-crown-5 by bis(benzimidazolium)propaneborontetra fluoride in acetonitrile", **T. Chaudhuri**, A.

Karmakar, S. Ghosh, C. Mukhopadhyy, S. Pal and M. Banerjee, *J. Lumin*. *161 (**2015**)164 – 173.*

22) "ICT based molecular recognition of 2,5-dinitrophenol in methanol", S. Chattopadhyay, **T. Chaudhuri** and M. Banerjee, *J. Lumin*. *158 (**2015**) 286 – 293.*
23) "Charge transfer in the electron donor–acceptor complexes of ameso-phenol BODIPY dye with chloranils and fullerenes" A. Karmakar, **T. Chaudhuri**, S. Mula and S. Chattopadhyay, *Spectrochim Acta A 137 (**2015**) 1258 –1264.*
24) "Pseudo-Five-Component Domino Strategy for the Combinatorial Library Synthesis of [1,6] Naphthyridines:An On-Water Approach", P. Das, **T. Chaudhuri** and C. Mukhopadhyay, *ACS Comb. Sci., 16 (**2014**) 606 – 613.*
25) "Anomalous behaviour of the bis(benzimidazolium)butane [2]pseudorotaxanes of dibenzo-24-crown-8: a comparative study of methane, ethane, propane and butane bis(benzimidazolium)alkane]dibenzo-24-crown-8 systems with variable spacers" S. Ghosh, A. M. Schmiedekamp, E. Padmanaban, R. J. Butcher, **T. Chaudhuri**, Nina Rao, C. Mukhopadhyay, *J. Incl. Phenom. Macrocycl. Chem. (**2014**) DOI 10.1007/s10847-014-0459-6.*
26) "A 2, 2'-bis(benzimidazolium) - dibenzo[24]crown[8] rigidpseudorotaxane system", S. Ghosh, **T. Chaudhuri**, A. M. Schmiedekamp, E. Padmanaban and C. Mukhopadhyay, *Tetrahedron, 70 (**2014**) 6885 – 6893.*
27) "The new threading system 2-benzyl-5,6-dimethyl-1H-benzo[d]imidazolium – dibenzo-24-crown-8: a model for Monte Carlo calculations incorporating an anion for the first time in threaded structures", S. Ghosh, **T. Chaudhuri** and C. Mukhopadhyay, *RSC Advances, 4 (**2014**) 18835*.
28) "Molecular Recognition of C_{70}-fullerene by meso-phenyl bodipy dye", **T. Chaudhuri**, K. Ghosh, S. Mula, S. Chattopadhyay, M. Banerjee, *J. Lumin. 147 (**2014**) 253 – 258.*
29) "Photorearrangement of acyclic nitrones: A Luminescent Study", **T. Chaudhuri**, T. K. Das, S. Salampuria, C. Pal and M. Banerjee, *J. Lumin. 145 (**2014**)525 -530.*
30) "Charge transfer energies of the complexes of (dibenzoylmethanato)boron difluoride with indeno-pyridines and polynuclear aromatic hydrocarbons" **T. Chaudhuri**, S. Salampuria, P. Kr. Tapaswi, C. Mukhopadhyay, and M. Banerjee, *Spectrochim Acta A 108 (**201**3) 181 –185.*
31) "Molecular Recognition of Anthracene and Indeno-pyridine by (Dibenzoylmethanato)boron difluoride in Ethanol", **T. Chaudhuri**, S. Salampuria, C. Mukhopadhyay, P. Kr. Tapaswi and M. Banerjee, *J. Photochem. Photobiol. A: Chem., 248 (**2012**) 55 – 62*.
32) "Solvent effect and molecular selectivity of C-(4-chlorophenyl)-N-phenylnitrone: A Photophysical study", S. Salampuria, **T. Chaudhuri**, M. Banerjee, *Optics and Photonics Journal 2 (**2012**) 30 – 39*.
33) "Catalytic effects of Lewis acids on 1,3-DC reaction: A Luminescent study", **T. Chaudhuri**, M. Banerjee *J. Lumin. 132 (**2012**) 1456 – 1461.*
34) "Solvent effect on photo physical properties and Zn^{2+} binding of (dibenzoylmethanato)boron difluoride", **T. Chaudhuri**, P. Sukla, M. Mahapatra, B. Rooj, S. K. Nayak, S. Chattopadhyay, and M. Banerjee, *J. Solution Chem. 41 (**2012**) 143 – 155*.

35) "Sorts of interactions of meso-Tetraphenylporphyrin with alkali and alkaline-earth metal ions", **T. Chaudhuri**, M. Banerjee, A. Ghosh, A. Pan and S. G. Neogi, *Luminescence,* 26 ***(2011)*** 747 – 753.
36) "Zinc ion –Tetraphenylporphyrin interactions in the ground and excited states", **T. Chaudhuri**, D. Goswami and M. Banerjee, *Spectrochim Acta A* 79 (***2011***) *131 – 136.*
37) "β-Diketone: Mg^{2+} ground and excited state interaction", **T. Chaudhuri** and M. Banerjee, *J. Lumin. 131 (**2011**) 994 – 1001*.
38) "Solvent effect on photophysical properties and Mg2+ binding of 1,3-diphenyl-propane-1,3-dione", **T. Chaudhuri**, P. Shukla, S. K. Nayak, S. Chattopadhyay, M. Banerjee, *J. Photochem. Photobiol. A: Chem. 215 (**2010**) 31 – 37*.
39) "Supramolecular selectivity of [60]-fullerene among equivalently photoactive porphyrins", **T. Chaudhuri**, D. Goswami, M. Banerjee, S. Chattapadhya, S. K.Nayak, *J. Lumin.130 (**2010**) 1750 – 1755.*
40) "Environmental effects on luminescence of meso-tetra-2-chlorophenylporphyrin", **T. Chaudhuri**, S. K. Nayak, S. Chattopadhyay, M. Banerjee, *Spectrochim Acta A 76 (**2010**) 230 – 238*.
41) "Supramolecular interactions of meso-tetra-2-chlorophenylporphyrin with fullerenes: A luminescence study", **T. Chaudhuri**, S. Nath, S. Chattopadhyay, M. Banerjee, S. K. Nayak, *J. Lumin. 130 (**2010**) 507 – 511*.
42) "Photophysical properties of the 8-phenyl analogue of PM567: A theoretical rationalization", **T. Chaudhuri**, S. Mula, S. Chattopadhyay, M. Banerjee, *Spectrochim.Acta A 75 (**2010**) 739 – 744*.
43) "Design and Development of a New Pyrromethene Dye with Improved Photostability and Lasing Efficiency: Theoretical Rationalization of Photophysical and Photochemical Properties", S. Mula, A. K. Ray, M. Banerjee, **T. Chaudhuri**, K. Dasgupta, S. Chattopadhyay, *J. Org. Chem. 73, (**2008**) 2146 – 2154*.
44) "Aquo-organic sol-based F-doped SnO2 (Sn:F = 90:10) coatings on glass", P. K. Biswas, S. Medda, A. De, , **T. Chaudhuri**, *Mat. Sci. Pol. 24 (**2006**) 367 – 374*.
45) "Development of sol-gel fluorine doped tin oxide film on glass", **T. Chaudhuri**, P. K. Biswas, *Trans. Ind. Cer. Soc*. *62 (**2003**) 208 – 212*.

E. Article Reviewed:

As assigned reviewer reviewed journal articles of

1. *Spectrochim. Acta, Part A:Molecular and Biomolecular Spectroscopy, Journal of Hazardous Materials, Phusica Acta B, Molecular Structure* etc. ELSEVIER Journals.

2. New Journal of Chemistry, RSC Advances, Chemical Communications, Crystal Engineering etc. of Royal Society Journals.

3. Phosphorus, Sulphur and Silicon etc Taylor and Francis journals.

F. Paper presentation AT SEMINAR/SYMPHOSIUM:

- ***Invited Talk*: "**Molecular & ionic Recognition: Photophysical Aspect" International Conference on Molecular Spectroscopy, Dept. of Nano Science, Mahatma Gandhi University, Kerala, 8 – 10th Dec' 2017.
- ***Poster presentation*: "**Interaction of anionic surfactant with Calf thymus DNA bound cationic surfactant: Effect of aromatic head group- Study -II" International Science Seminar, Burdwan Raj College and Indian Chemical Society, 10th Oct' 2017.
- ***Invited Talk*:** "Molecular recognition: A voyage to Solvent polrity" National Level seminar on 'Trends in Surface Science and Related Areas (TSSRA-2017)', Indian Society for Surface Science and Technology, July 28th, 2017.
- ***Poster presentation*: "**Interaction of anionic surfactant with Calf thymus DNA bound cationic surfactant: Effect of aromatic head group" National level seminar on Design, Synthesis, Interactions, Chemical and Biochemical Activities of Different Functional Molecules, University of Burdwan, Feb 4 - 6, 2016.
- ***Poster Presentation***: "Molecular recognition of H-bonding interaction in presence of π-stacking in Quinone-BODIPY type interacting system" Workshop on challenges in analytical Chemistry: Education, community and outreach. India Roadshow and Symposium Series on 10th November 2014, at Indian Institute of Technology (IIT) Madras, Chennai, RSC.
- ***Oral presentation:*** "Computation explaining molecular functionality" National Conference on Chemistry for Better tomorrow-Current Trends and Opportunity, Sidhu Kanho Birsha University, Purulia, Dec 2 – 3, 2014.
- ***Oral presentation***: "Non-covalent molecular assemblies of Fullerenes" 5th Asian Conferance on
  Colliod and Interface Science, Department of Chemistry, North Bengal University, Nov 20 – 23, 2013.
- ***Oral presentation***: "Theoretical designing for smart material development" Interdisciplinary Symposium of Materials Chemistry, Bhaba Atomic Research Centre, Mumbai, Dec 11 – 15, 2012.
- ***Poster presentation***: "Photo-rearrangement of acyclic nitrones: A Luminescent Study", Trombay Symposium on Radiation and Photochemistry, 2012, Bhaba Atomic Research Centre, Mumbai, Jan 4 – 7, 2012.
- ***Oral presentation***: "β-Diketone : A Luminescent Chemosensor for Mg^{2+}", International year of Chemistry: Chemistry in our lives, Department of Chemistry, University of Burdwan, March 15–17, 2011.
- ***Oral presentation***: "Supramolecular selectivity of similarly photoactive porphyrins with [60]-fullerene". Advanced Spectroscopy, Theoretical Chemistry, Synthesis, Reactivity & Structure Evaluation, Department of Chemistry, University of Burdwan, Feb 20–22, 2009.

G. Administrative / Organizing Experience

1) Serving as Departmental head since joining.
2) Served as a member of the College Governing Body of Dr. B. N. Dutta Smriti Mahavidyalaya, Hatgobindapur, Burdwan, as a teacher representative from July, 2006 to December, 2012.
3) Served as Bursur of the Dr. B. N. Dutta Smriti Mahavidyalaya, Hatgobindapur, Burdwan, since Dec, 2013 - August, 2014.
4) Serving as Assistant Centre in Charge in B.A (Part – I, II and III) examination on 2006; in B. A. Part–II examination on 2011, in BA Part – III examination of 2013 and B.A, B. Sc., B. Com.Part II exam of 2016 of University of Burdwan held at Dr. B. N. Dutta Smriti Mahavidyalaya, Hatgobindapur, Burdwan.
5) As Convener organized an UGC Sponsored National Seminar on "*Journey of Chemistry through Life*" at Dr. B. N. Dutta Smriti Mahavidyalaya, Hatgobindapur, Burdwan, in collaboration with M. P. Birla Institute of Fundamental Research, Kolkata on and from Feb 23 – 25, 2012.

H. Other Academic Information

1. Qualified UGC-CSIR National Eligibility Test (NET), 2002 for Lectureship.
2. Life member of Indian Society for Surface Science and Technology, Jadavpur, Kolkata.
3. Life member of Society for Material Chemistry, BARC, Mumbai.
4. Life member of Indian Society for Radiation and Photochemical Sciences, Mumbai.
5. Life member of the Library of Indian Institute of Cultivation of Science, Jadavpur, Kolkata.

6. Awards/ Prizes**:**

(i) "***Professor Sadhan Basu Memorial Award, 1999***"- for excellence in Chemistry, from the Department of Chemistry, Calcutta University.

(ii) "***Best Oral Presentation, 2009***" – in a National Seminar organized by Department of Chemistry, University of Burdwan.

(iii) "***Best Oral Presentation, 2011***" – in a National Seminar celebrating International Year of Chemistry organized by Department of Chemistry, University of Burdwan.

(iv)"**Summer Research Fellowship award – 2014**" from Sciences Academis of India to work at IISER, Kolkata.

(v) "***Best Poster Presentation, 2016***" - in a National Seminar organized by Department of Chemistry, University of Burdwan.

TC, 04/08/2023