V. THIAGARAJAN
UGC – Assistant Professor

Contact

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Academic Qualifications:

1999 – 2005 **National Centre for Ultrafast Processes and Department of Inorganic Chemistry, University of madras, India**
Ph. D. in Chemistry
Title of Thesis: *Investigation on the photophysical behaviour of novel bichromophoric systems: fluorogenic chemosensors for ions*

1997 – 1999 **Bharathidasan University, India**
M. Sc. in Chemistry

Teaching Experience: 9 Years

- Physical chemistry
- Biophysics
- Spectroscopy
- Group theory and quantum chemistry
- Photophysics, photochemistry and electrochemistry

Research Experience: 23 Years

2014- **Bharathidasan university, Trichy**

UGC-Assistant professor ; Research group : Photonics and biophotonics lab ; Studies :

- SNPs typing
- Nanomedicine
- Photonic cancer therapy

2012- 2013 **International Iberian Nanotechnology Laboratory (INL), Braga,Portugal**

INL Researcher; Research group: Nanomedicine; Studies:

- Ultrafast spectroscopy of biomolecules
- Photonic cancer therapy
- Nanomedicine

2010 – 2012 **Ecole Normale Supérieure (ENS), Paris, France**

CNRS Researcher ; Research group : Single molecule biophysics ; Studies :

- Enzymatic constructs and monitoring of conformational and activity fluctuations using fluorescence
- Investigation of conformational and activity fluctuations at different temperatures

2008 – 2010 **Atomic Energy Commission (CEA), Saclay, France**

Postdoctoral Researcher; Research group: Biophysics; Studies:

- Mechanism of photoactivation and photorepair reactions of photolyase
- Improvement of the time resolution of the real time set up (sub-ns)

2005 - 2008 **Tohoku University, Sendai, Japan**

Postdoctoral Researcher; Research group: Analytical chemistry; Studies:

- Gene Diagnosis based on self-assembled bio-molecular systems and fluorescent small Ligands
- Synthesis of different fluorescent ligands apt for nucleobase binding

1999-2005 **National Centre for Ultrafast Processes and Department of Inorganic Chemistry, University of Madras, India**

Junior and senior research fellow

- Fluorescent sensors
- Photophysical properties of fluorophores in heterogeneous medium
- Synthesis of different fluorescent probes

Additional Responsibilities

- M.Phil. Course Co-ordinator
- IQAC Member
- Coordinator for Chemistry Placement Cell

Areas of Research

- Photonics and Biophotonics
- Ultrafast spectroscopy of biomolecules
- Photonic cancer therapy
- Nanomedicine
- Fluorescent sensors
- Photochemistry, photophysics and Photobiology
- Iron oxide nanoparticles

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	3	2
	Ph.D. (Co-guide)	1	1
	M.Phil.	4	-
Project	PG	38	7

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
44	04	01	00	01

Cumulative Impact Factor (as per JCR) : 174
h-index : 21
i10 index : 30
Total Citations : 1437

Funded Research Projects

Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	UGC	2014	2016	Functions and mechanisms of biomolecules……..	6.0
2	DST-SERB	2015	2018	SNPs typing…	27.45

Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	DST-Nanomission	2019	2022	Detecting single…..	47.35
2	RUSA 2.0	2022	2023	Macrocycles as…..	16.04

Distinctive Achievements / Awards

2015 **DST Young Scientist Award**

2014 **UGC- Assistant Professor, UGC**

03/2012 – 12/2013 **INL Researcher**
International Iberian Nanotechnology Laboratory, Portugal

02/2010 – 02/2012 **CNRS Researcher**
Ecole Normale Supérieure, Paris, France

02/2010 – 12/2011 **External Scientific Collaborator,**
Atomic Energy Commission (CEA), Saclay, France

02/2008 – 01/2010 **CEA Postdoctoral Fellowship**
Atomic Energy Commission (CEA), Saclay, France

12/2005 – 12/2007 **JST Researcher**
Japan Science & Technology, Japan

Events organized in leading roles

1. Organizing secretary of International Conference on Sustainable Energy Technologies (i-SET 2018) held in Bharathidasan university, Trichy, June 27 & 28, 2018.

Membership in

1. Life time member, Indian Society for Radiation and Photochemical Sciences (ISRAPS).
2. Board of Studies, School of Chemistry, Bharathidasan University (2017- till date)
3. Board of studies, Chemistry department, Mahendra Arts and Science College, Salem (2015- till date).
4. Member in committee for National Institute Ranking Framework (NIRF), Bharathidasan University (2017 to 2019).
5. Interview Panel Member for Ph.D. selection committee, Purchase committee member and Doctoral research committee member of various departments
6. Member, Organizing Committee, Convocation Ceremony, Bharathidasan University (Responsibility: Gold medal distribution/Seating arrangement) (2020)

Resource persons in various capacities

Number of Invited / Special Lectures delivered: 26

Book chapter

1. R. Suhasini, **V. Thiagarajan***, Chapter 9. Magnetic nanomaterials for wastewater remediation in "Nanomaterials for Water Treatment and Remediation", CRC press, Taylor & Francis Group, USA. **2021**, p. 279-308.

Review Articles

1. S. Ravichandran, R. Suhasini, S. M. Deepa, D. B. Selvaraj, J. F. Vergil Andrews, **V. Thiagarajan*,** M. Kandasamy*, Intertwining Neuropathogenic Impacts of Aberrant Circadian Rhythm and Impaired Neuroregenerative Plasticity in Huntington's Disease: Neurotherapeutic Significance of Chemogenetics, *J. Mol. Pathol.* **2022**, 3(4), 355-371.
2. S. Natarajan, K. Harini, G. P. Gajula, B. Sermanto*, N. P. Maria Teresa, **V. Thiagarajan***, Multifunctional magnetic iron oxide nanoparticles: diverse synthetic approaches, surface modifications, cytotoxicity towards biomedical and industrial applications. *BMC Mat* **1,** 2 (**2019**).

Important Publications

1. O. Anitha, M. Mathivanan, B. Tharmalingam, T. Thiruppathiraja, S. Ghorai, R. Natarajan, **V. Thiagarajan**, S. Lakshmipathi, B. Murugesapandian, Multi-stimuli responsiveness of pyrimidine bishydrazone: AIE, tuneable luminescence, white light emission, mechanochromism, acidochromism and its anticounterfeiting applications, *Dyes Pigm.* **2023**, 212, 111091. **(IF: 5.122)**

2. M. Mathivanan, B. Tharmalingam, O. Anitha, C.-H. Lin, **V. Thiagarajan**, B. Murugesapandian, All-in-one Type ESIPT-Active Multi-Stimuli Responsive 7-Diethylamino-4-hydroxycoumarin-Rhodamine B Hydrazone as Molecular Switches and Reversible Photochromic Features of Its Zinc Ensemble, *Mater. Chem. Front.* **2021**, 5, 8183–8196. **(IF: 8.638)**

3. N. Dhenadhayalan, V. S. Angel Shaji, C. Selvaraju,* **V. Thiagarajan,*** Synergistic Dynamics of Photoionization and Photoinduced Electron Transfer Probed by Laser Flash Photolysis and Ultrafast Fluorescence Spectroscopy, *Photochem. Photobiol. Sci.* **2021**, 20, 1109–1124. **(IF: 4.328)**

4. R. Suhasini, R. Karpagam, K. Thirumoorthy, **V. Thiagarajan***, "Turn-on" unsymmetrical azine based fluorophore for the selective detection of Diethylchlorophosphate via photoinduced electron transfer to intramolecular charge transfer pathway, *Spectrochim. Acta Part A*. **2021**, 263. 120206. **(IF: 4.831)**

5. K. Anju, **V. Thiagarajan,** K. Kumaran, A fluorescence approach on the investigation of urea derivatives interaction with a non-PET based acridinedione dye-beta Cyclodextrin (β-CD) complex in water: Hydrogen-bonding interaction or hydrophobic influences or combined effect?, *Spectrochim. Acta Part A*. **2021**, 246. 118990. **(IF: 4.831)**

6. M. Sathiyaraj, **V. Thiagarajan***, D–π–A azine based AIEgen with solvent dependent response towards a nerve agent, RSC Adv., **2020,** 10, 25848-25855. **(IF: 4.036)**

7. M. Sathiyaraj, K. Pavithra, **V. Thiagarajan***, Azine based AIEgens with multi-stimuli response towards picric acid, *New. J. Chem.* **2020**, 84, 8402-8411. **(IF: 3.925)**

8. D. Tamilarasan[≠], R. Suhasini[≠], **V. Thiagarajan***, R. Balamurugan*, Reversible Addition of Cyanide to Triphenylamine Attached Difluoroboron β-Diketonate Facilitated Selective Colorimetric and Fluorimetric Detection of Cyanide Ion, *Eur. J. Org. Chem.* **2020**, 8, 993-1000. **(IF: 3.261)**
([≠] Equally contributed)

9. M. Mathivanan, B. Tharmalingam, K. Saravanamani, **V. Thiagarajan**, B. Murugesapandian, Simpe C3-symmetric triaminoguanidine-triphenylamine conjugate as an efficient colorimetric sensor for Cu(II) and fluorescent sensor for Fe(III) ions, *Spectrochim. Acta Part A*, **2020**, 234, 118235. **(IF: 4.831)**

10. M. Mathivanan, B. Tharmalingam, C.-H. Lin, B. V. Pandian, **V. Thiagarajan**, B. Murugesapandian, ESIPT-active multi-color aggregation-induced emission features of triphenylamine–salicylaldehyde-based unsymmetrical azine family, *CrysEngComm*, **2020**, 22, 213-218. **(IF: 3.756)**

11. S. Natarajan, R. Naresh, **V. Thiagarajan***, Removal of Anionic Dyes from Water using Polyethylene Glycol Modified Ni-Al-layered Double Hydroxide Nanocomposites, *ChemistrySelect*, **2020**, 5, 4165-4174. **(IF: 2.307)**

12. S. Natarajan, V. Anitha, G. P. Gajula, **V. Thiagarajan***, Synthesis and Characterization of Magnetic Superadsorbent Fe_3O_4-PEG-Mg-Al-LDH Nanocomposites for Ultrahigh Removal of Organic Dyes, *ACS Omega,* **2020***, 5, 7,* 3181-3193. **(IF: 4.132)**

13. S. Natarajan, K. Harini, G. P. Gajula, B. Sermanto*, N. P. Maria Teresa, **V. Thiagarajan***, Multifunctional magnetic iron oxide nanoparticles: diverse synthetic approaches, surface modifications, cytotoxicity towards biomedical and industrial applications. *BMC Mat* **1,** 2 (**2019**).

14. P. Senthilkumar, D. Arockiya Jency, T. Kavinkumar, D. Dhayanithi, S. Dhanuskodi, M. Umadevi, S. Manivannan, N. V. Giridharan, **V. Thiagarajan**, M. Sriramkumar, K. Jothivenkatachalam, Built-in Electric Field Assisted Photocatalytic Dye Degradation and Photoelectrochemical Water Splitting of Ferroelectric Ce Doped BaTiO3 Nanoassemblies, *ACS Sustainable Chem. Eng.* **2019**, 7, 12032-12043**. (IF: 9.224)**

15. C. Suresh Yadav, R. Suhasini, **V. Thiagarajan**, D. Velmurugan, S. Kannadasan, Environmentally Benign Neat Mechanochemical Synthesis and Photophysical Studies of Indolylquinolines via Silica gel Catalyzed Metal free A3-Coupling, *ChemistrySelect*, **2018**, 3, 12576-12581. **(IF: 2.307)**

16. C. M. Botelho, O. Gonçalves, R. Marques, **V. Thiagarajan**, H. Vorum, A. C Gomes and N. P. Maria Teresa, Photonic modulation of EGFR halts receptor activation and cancer cell migration, *Journal of Biophotonics***, 2018**, 11**,** e201700323. **(IF: 3.39)**

17. K. Duraimurugan, J. Sivamani, M. Sathiyaraj, **V. Thiagarajan** and A. Siva, Piezoflurochromism and Aggregation Induced Emission Properties of 9, 10-bis (trisalkoxystyryl) Anthracene Derivatives, *Journal of Fluorescence*, **2016**, 1-8. **(IF: 2.525)**

18. R. Balasaravanan, K. Duraimurugan, J. Sivamani, **V. Thiagarajan** and A. Siva, Synthesis and photophysical properties of triphenylamine-based multiply conjugated star-like molecules, *New Journal of Chemistry*, **2015**, 39, 7472. **(IF: 3.925)**

19. J. Beneto, **V. Thiagarajan**, A. Siva, A tubale ratiometric pH sensor based on phenanthro[9,10-d] imidazole covalently linked with vinylpyridine, *RSC Adv*, **2015**, 83, 67849-67852. **(IF: 4.036)**

20. M, Correia, T. Snabe, **V. Thiagarajan**, S.B. Petersen, S. R. R. Campos, A. M. Baptista, M. T. Neves-Petersen, Photonic Activation of Plasminogen induced by low dose UVB, *PLoS ONE*, **2015**, 10(1), e0116737. **(IF: 3.752)**

21. A. Costa, R. Machado, A. Ribeiro, T. Collins, **V. Thiagarajan**, M. T. Neves-Petersen, J. C. Rodríguez-Cabello, A. C. Gomes, M. Casal, Development of Elastin-like recombinamer films with antimicrobial activity, *Biomacromolecules*, **2015**, 16(2), 625-635. **(IF: 6.978)**

22. M, Correia, **V. Thiagarajan**, I. Coutinho, G. P. Gajula, S.B. Petersen, M. T. Neves-Petersen, Modulating the structure of EGFR with UV light: New possibilities in cancer therapy, *PLoS ONE*, **2014**, 9(11): e11161. **(IF: 3.752)**

23. C.M. Botelho, **V. Thiagarajan**, R. Marques, S.B. Petersen, A. Gomes, H. Vorum and N.V. Maria Teresa, Towards a new photonic cancer therapy: stopping cancer cell activation, migration and metastases using light, *International Journal of Molecular Medicine*, **2015**, 36, S81. **(IF: 5.314)**

24. H. Oliveira, **V. Thiagarajan**, M. Walmagh, S. Sillankorva, R. Lavigne, M. T. Neves-Petersen, L. D. Leon, J. Azeredo, A Thermostable Salmonella Phage Endolysin, Lys68, with Broad Bactericid Properties against Gram-Negative Pathogens in Presence of Weak Acids. *PLoS ONE*, **2014**, 9(9): e108376. **(IF: 3.752)**

25. **V. Thiagarajan**, M. Byrdin, A. P. M. Eker, P. Muller, K. Brettel, Kinetics of cyclobutane pyrimidine dimer splitting by DNA photolyase directly monitored in the UV, *Proc. Natl. Acad. Sci. USA*, **2011**, 108, 9402-9407. **(IF: 12.779)**

26. **V. Thiagarajan**, A. Rajendran, H. Satake, S. Nishizawa, N. Teramae, NBD-based Green Fluorescent Ligands for Typing of Thymine-related SNPs Using an Abasic Site-containing Probe DNA, *ChemBioChem*, **2010**, 11, 94-100. **(IF: 3.461)**

27. **V. Thiagarajan**, S. Villette, A. Espagne, A. P. M. Eker, K. Brettel, M. Byrdin, DNA repair by photolyase: A novel substrate with low background absorption around 265 nm for transient absorption studies in the UV, *Biochemistry*, **2010**, *49*, 297-303. **(IF: 3.321)**

28. M. Byrdin, A. Lukacs, **V. Thiagarajan**, A. P. M. Eker, K. Brettel, M. H. Vos, Quantum yield measurements of short-lived photoactivation intermediates in DNA photolyase: Towards a detailed understanding of the triple tryptophan electron transfer chain, *J. Phys. Chem. A*, **2010**, *114*, 3207-3214. **(IF: 2.944)**

29. A. Rajendran, C. Zhao, B. Rajendar, **V. Thiagarajan**, Y. Sato, S. Nishizawa, N. Teramae, Effect of the bases flanking an abasic site on the recognition of nucleobase by amiloride, *Biochimica et Biophysica Acta (BBA) - General Subjects*, **2010**, 1800, 599-610. **(IF: 4.117)**

30. M. Byrdin, **V. Thiagarajan**, S. Villette, A. Espagne, K. Brettel, Use of ruthenium dyes for subnanosecond detector fidelity testing in real time transient absorption. *Review*

of Scientific Instruments, **2009**, 80, 043102. (This article was selected for the May 2009 issue of Virtual Journal of Ultrafast Science). **(IF: 1.843)**

31. A. Rajendran, **V. Thiagarajan**, B. Rajendar, S. Nishizawa, N.Teramae, Simultaneous recognition of nucleobase and sites of DNA damage: effect of tethered cation on the binding affinity. *Biochim Biophys Acta*. **2009**, 90(2), 95-100. **(IF: 4.117)**

32. A. Ashokkumar, **V. Thiagarajan**, S. Vasanthi and P. Ramamurthy, Triple fluorescence of acridinedione: Locally excited, PET promoted charge transfer and anion induced charge transfer states, *J. Photochem. Photobiol. A; Chem.* **2009**, 208, 117-124. **(IF: 5.141)**

33. **V. Thiagarajan**, P. Ramamurthy, Dual Fluorescence in Schiff Base Derived from Acridinedione Dye: Excited State Intramolecular Proton Transfer. *Bull. Chem. Soc. Jpn*. **2007**, 80, 1307-1315. **(IF: 5.121)**

34. **V. Thiagarajan**, P. Ramamurthy, Specific signaling of anions via charge transfer pathway based on acridinedione fluorophore. *J. Lumines.* **2007**, 126, 886-892. **(IF: 4.171)**

35. **V. Thiagarajan**, P. Ramamurthy, *Fluorescence sensing of anions with acridinedione based neutral PET chemosensor.* Spectrochim. Acta A. **2007**, 67, 772-777. **(IF: 4.831)**

36. **V Thiagarajan**, V. K. Indirapriyadharshini, P. Ramamurthy, Fencing of photoinduced electron transfer in nonconjugated bichromophoric system by β-cyclodextrin nanocavity, J. Incl. Phenom. Macrocycl. Chem. 2006, 56 (3), 309-313. **(IF: 1.925)**

37. **V. Thiagarajan**, P. Ramamurthy, D. Thirumalai, V. T. Ramakrishnan, A Novel Colorimetric and Fluorescent Chemosensor for Anions Involving PET and ICT pathways. *Org. Lett.* **2005**, 7, 657-660. **(IF: 6.073)**

38. **V. Thiagarajan**, C. Selvaraju, E. J. Padma Malar, P. Ramamurthy, A Novel Fluorophore with Dual Fluorescence: LE State and PET Promoted CT State. *ChemPhysChem*. **2004**, 5, 1200-1209. **(IF: 3.52)**

39. C. Selvaraju, **V. Thiagarajan,** P. Ramamurthy, Interaction of 1,8-acridinedione dye with urea dimer in methanol, Chem. Phys. Lett. **2003**, 379, 437-442. **(IF: 2.719)**

40. **V. Thiagarajan**, C. Selvaraju, P. Ramamurthy, Excited state behaviour of acridinedione dyes in PMMA matrix: Inhomogeneous broadening and enhancement of triplet, *J. Photochem. Photobiol. A; Chem*. **2003**, 157, 23-32. **(IF: 5.141)**