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: 6 Years 11 months

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

Research Experience: 22 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.	2	1
	Ph.D. (Co-guide)	1	1
	M.Phil.	4	-
Project	PG	33	5

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
41	04	01	00	01

Cumulative Impact Factor (as per JCR) : 148.48
h-index : 19
i10 index : 24
Total Citations : 1114

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

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

Number of Seminars / Conferences / Workshops / Events organized: 01

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

Membership in

Academic Bodies (such as Board of Studies etc.,)

1. Board of Studies, School of Chemistry, Bharathidasan University, 2017-18.
2. Board of studies, Chemistry department, Mahendra Arts and Science College, Salem (2015- till date).

Resource persons in various capacities

Number of Invited / Special Lectures delivered: 26

Book chapter

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

Recent Publications

1. M. Mathivanan, B. Tharmalingam, O. Anitha,a 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: 6.482)**

2. 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: 3.982)**

3. 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: 4.098)**

4. 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: 4.098)**

5. 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: 3.361)**

6. M. Sathiyaraj, K. Pavithra, **V. Thiagarajan***, Azine based AIEgens with multi-stimuli response towards picric acid, *New. J. Chem.* **2020**, 84, 8402-8411. **(IF: 3.591)**

7. 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: 3.021)**
([≠] Equally contributed)

8. 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: 4.098)**

9. 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: 3.554)**

10. 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: 2.109)**

11. 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: 3.512)**

12. 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**).

13. 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: 8.198)**

14. 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: 2.109)**

15. 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: 3.207)**

16. 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: 2.217)**

17. 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: 3.591)**

18. 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: 3.361)**

19. 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: 3.240)**

20. 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: 6.988)**

21. 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: 3.240)**

22. 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: 4.101)**

23. 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: 3.240)**

24. **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: 11.205)**

25. **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: 3.164)**

26. **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: 3.162)**

27. 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: 2.780)**

28. 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: 3.770)**

29. 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: 1.523)**

30. 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: 3.770)**

31. 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: 4.291)**

32. **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: 5.488)**

33. **V. Thiagarajan**, P. Ramamurthy, Specific signaling of anions via charge transfer pathway based on acridinedione fluorophore. *J. Lumines.* **2007**, 126, 886-892. **(IF: 3.599)**

34. **V. Thiagarajan**, P. Ramamurthy, *Fluorescence sensing of anions with acridinedione based neutral PET chemosensor.* Spectrochim. Acta A. **2007**, 67, 772-777. **(IF: 4.098)**

35. **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: 1.633)**

36. **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: 6.005)**

37. **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: 3.102)**

38. 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: 2.328)**

39. **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: 4.291)**