Curriculum Vitae

NAME: **Dr. SRINIVASAN SAMPATH**

Corresponding Address
Assistant Professor,
Department of Materials Science,
Central University of Tamil Nadu
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http://www.researcherid.com/rid/C-6704-2008
http://scholar.google.com/citations?user=XeM52eQAAAAJ
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srinivasansampath@cutn.ac.in Contact No : +91-8870534823
Date of Birth : 28-10-1981 ; Age : 41 Years

EDUCATIONAL DETAILS:

QUALIFICATION	UNIVERSITY / BOARD	YEAR	% MARKS
Assistant Professor	Central University of Tamil Nadu, Thiruvarur, India	Aug-2016 – Till date	-
DST-INSPIRE Faculty	CSIR-CLRI, Chennai, India	April-2014 – Aug 2016	-
Post Doctoral Fellow	KAIST, Daejeon, Korea	Feb-2013– March-2014	-
Post Doctoral Fellow	Northwestern University, Illinois, USA	May-2012– Oct-2012	-
Post Doctoral Fellow	KAIST, Daejeon, Korea	Nov-2011– May-2012	-
Post Doctoral Fellow	Northwestern University, Illinois, USA	Nov-2010– Nov-2011	-
Ph D (Chemistry)	National Institute for Interdisciplinary Science and Technology (NIIST), CSIR, Trivandrum, India. Kerala University	Aug-2005– Nov-2010	-
M Sc (Chemistry)	Indian Institute of Technology, Madras (IITM), India	2005	7.94 (CGPA)
B Sc (Chemistry)	Madras University, India	2003	87.7 (%)
Higher Secondary	Tamil Nadu State Board	2000	85.4 (%)
S S L C	Tamil Nadu State Board	1998	90.8 (%)

ADVISORS:

Graduate Advisor	Professor **A. Ajayaghosh**, FASc, FNASc**,** FNA
Postdoctoral Advisor	Professor Sir **Fraser Stoddart**, **Nobel Laureate** (2016)
Postdoctoral Advisor	Professor **Ali Coskun**

List of Publications

Total Papers	: **30**
Sum of times cited	: **2355**
Aggregate Impact Factor	: **315.8**
h-index	: **19**
i-10 index	: **25**
i-50 index	: **12**

Journal Publications

1. P. Ramar, P. Supraja, N. P. Lobo, **Srinivasan Sampath***, D. Samanta, Polyphenyltriazoles on Kombucha-Derived Bacterial Cellulose: Synthesis, Structural Evaluation and Hydrophobicity, (Wiley) Chemistry Select, 8, e202301420, 2023.
2. P.V. Navya, V. Gayathri, D. Samanta, **Srinivasan Sampath***, Bacterial cellulose: A promising biopolymer with interesting properties and applications, International Journal of Biological Macromolecules, 220, 435, 2022 (IF: **8.025**).
3. Incorporations of gold, silver and carbon nanomaterials to kombucha-derived bacterial cellulose: Development of antibacterial leather-like materials V.G. Ayyappan, S.S. Vhatkar, S. Bose, Srinivasan Sampath, S.K. Das, D. Samanta, A. B. Mandal, *Journal of the Indian Chemical Society* 99, 100278, 2022.
4. A. Murali, **S. Srinivasan**, Boopathi A. A., M. Sakar, S. Chandrasekaran, N S. Vanitha, R J. Bensingh, M A. Kader, S. N Jaisankar, Copper (0) Mediated Single Electron Transfer-Living Radical Polymerization of Methyl Methacrylate: Functionalized Graphene as a Convenient Tool for Radical Initiator, Polymers, 12, 874, 2020. (IF: **4.967,** CI: 2).
5. AA Boopathi, **S. Srinivasan***, T. Narasimhaswamy, Isothermal and non-isothermal cold crystallization of tetrabenzofluorene (TBF) molecules, New Journal of Chemistry, 43, 4500, 2019. (IF: **3.925,** CI: 9).

6. N. Pentela, S. Rainu, N. Duraipandy, A. A. Boopathi, M. S. Kiran, **S. Srinivasan**, D. Samanta Microcapsules responsive to pH and temperature: synthesis, encapsulation and release study, SN Appl. Sci 51:448, 2019. (CI: 2).
7. T.A. Revathy, T. Sivaranjani, A.A. Boopathi, **S. Srinivasan**, V. Narayanan, A. Stephen Pd–Co alloy as an efficient recyclable catalyst for the reduction of hazardous 4-nitrophenol, Research on Chemical Intermediates, 45, 815, 2018. (IF: **3.134,** CI: 13).
8. N. Pentela, V. G. Ayyappan, M. Krishnamurthy, A. A. Boopathi, S. Rainu, **S. Srinivasan**, A. B. Mandal, D. Samanta, A comparative study of pH-responsive microcapsules from different nanocomposites, Green Materials 5, 1-10, 2017. (IF: **3.564,** CI: 5)
9. S. K. R. Yanati, N. P. Lobo, **S. Srinivasan**, and T. Narasimhaswamy, Morphology, Mesophase and Molecular Order of 3-Hexyl Thiophene Based π-Conjugated Mesogens. ***J. Phys. Chem. C,*** 120, 17960–17971 2016 (IF: **4.177,** CI: 10).
10. **S. Srinivasan***, A. A. Boopathi, A. B. Mandal*, ‘‘Bottom-up’’ self-assembly and ‘‘cold crystallization’’ of butterfly shaped tetrabenzofluorene molecules ***Phys. Chem. Chem. Phys.,*** 18, 21251-21258, 2016 (IF: **3.945,** CI: 18).
11. S. N. Talapaneni, O. Buyukcakir, S. H. Je, **S. Srinivasan**, Y. Seo, K. Polychronopoulou, A. Coskun, Nanoporous Polymers Incorporating Sterically Confined N-Heterocyclic Carbenes for Simultaneous CO2 Capture and Conversion at Ambient Pressure, ***Chem. Mater.,*** 27, 6818-6826, 2015 (IF: **10.508,** CI: **115**).
12. M. Fathalla, N. L. Strutt, **S. Srinivasan**, K. Katsiev, K. J. Hartlieb, O. M. Bakr J. F. Stoddart

    Porphyrinic supramolecular daisy chains incorporating pillar[5]arene-viologen host-guest interactions, ***Chem. Commun.,*** 51, 10455-10458, 2015 (IF: **6.065,** CI: **47**).
13. **S. Srinivasan**, W. H. Shin, S. Back. G. Barin, O. Buyukcakir, R. Guliyev, Y. Jung, Ali Coskun, Ordered Supramolecular Gels Based on Graphene Oxide and Tetracationic Cyclophanes, ***Adv. Mater.***, 26, 2725–2729, 2014 (IF: **32.086,** CI: **28**).
14. **S. Srinivasan**, A. N. Basuray, K. J. Hartlieb, T. Aytun, S. I. Stupp, J. F. Stoddart, Direct Exfoliation of Graphite to Graphene in Aqueous Media with Diazaperopyrenium Dications, ***Adv. Mater.*** 25, 2740-2745, 2013 (IF: **32.086,** CI:**100**).

15. **S. Srinivasan**, W. H. Shin, J. W. Choi, Ali Coskun, A bifunctional approach for the preparation of graphene and ionic liquid-based hybrid gels, ***J. Mater. Chemistry A*****,** 1, 43-48, 2013 (IF: **14.511**, CI:**31**)
16. J. C. Barnes, A. C. Fahrenbach, D. Cao, S. M. Dyar, M. Frasconi, M. A. Giesener, D. Benítez, E. Tkatchouk, O. Chernyashevskyy, W. H. Shin, H. Li, **S. Srinivasan**, C. L. Stern, A. A. Sarjeant, K. J. Hartlieb, Z. Liu, R. Carmieli, Y. Y. Botros, J. W. Choi, A. M. Z. Slawin, J. B. Ketterson, M. R. Wasielewski, W. A. Goddad III, J. F. Stoddart,, A Radically Configurable Six-State Compound, ***Science*****,** 339, 429-433, 2013 (IF: **63.714,** CI:**147**).
17. J. C. Barnes, M. Juríček, N. L. Strutt, M. Frasconi, **S. Srinivasan**, M. A. Giesener, P. L. McGrier, C. J. Bruns, C. L. Stern, A. A. Sarjeant, J. F. Stoddart, ExBox: A Polycyclic Aromatic Hydrocarbon Scavenger, ***J. Am. Chem. Soc*****.** 135, 183-192, 2013 (IF: **16.383,** CI:**247**).
18. A. C. Fahrenbach,* **S. Srinivasan**,* D. J. Late, J. C. Barnes, S. L. Kleinman, N. Valley, K.J. Hartlieb, Z. Liu, V. P. Dravid, G. C. Schatz, R. P. Van Duyne, J. F. Stoddart, A Semiconducting Organic Radical Cationic Host-Guest Complex, ***ACS Nano*****.** 6, 9964-9971, 2012 (*Equal contribution) (IF: **18.027,** CI:**44**).
19. S. Grunder, C. Valente, A. C. Whalley, **S. Srinivasan**, J. Portmann, Y. Y. Botros, J. F. Stoddart, Molecular Gauge Blocks for Building on the Nanoscale, ***Chem. Eur. J.*** 18, 15632-15649, 2012 (IF: **5.02,** CI:**30**).
20. D. J. Kim, S. H. Je, **S. Srinivasan**, J. W. Choi, A. Coskun, Effect of N-substitution in Naphthalenediimides on the Electrochemical Performance of Organic Rechargeable Batteries, ***RSC Advances,*** 2, 7968–7970, 2012 (IF: **4.036,** CI:**90**).
21. K. K. Kartha, S. S. Babu, **S. Srinivasan**, A. Ajayaghosh, Attogram Sensing of Trinitrotoluene with a Self-Assembled Molecular Gelator, ***J. Am. Chem. Soc.*** *134,* 4834-4841, 2012 (IF: **16.383,** CI:**478**).
22. D. Dasgupta, **S. Srinivasan**, C. Rochas, A. Ajayaghosh, J. M. Guenet, Solvent-Mediated Fiber Growth in Organogels, ***Soft. Matter.*** 7, 9311-9315, 2011 (IF: **4.046,** CI:**42**).
23. D. Dasgupta, **S. Srinivasan**, C. Rochas, A. Thierry, A. Schröder, A. Ajayaghosh, J. M. Guenet, Insight into the Gelation Habit of Oligo(para-phenylenevinylene) Derivatives: Effect of End-Groups, S***oft. Matter.*** *7,* 2797-2804, 2011 (IF: **4.046,** CI:20).

24. D. Dasgupta **S. Srinivasan**, C. Rochas, A. Ajayaghosh, J. M. Guenet, Hybrid Thermoreversible Gels from Covalent Polymers and Organogels. ***Langmuir.*** *25*, 8593–8598, 2009 (IF: **4.331,** CI:**72**).
25. **S. Srinivasan**, P. A. Babu, S. Mahesh, A. Ajayaghosh, Reversible Self-Assembly of Entrapped Fluorescent Gelators in Polymerized Styrene Gel Matrix: Erasable Thermal Imaging via Recreation of Supramolecular Architectures, ***J. Am. Chem. Soc.*** *131,* 15122-15123, 2009 (IF: **16.383,** CI:**159**).
26. **S. Srinivasan**, S. S. Babu, V. K. Praveen, A. Ajayaghosh, Carbon Nanotube Triggered Self-Assembly of Oligo(*p*-phenyleneviny-lene)s to Stable Hybrid Pi-Gels. ***Angew. Chem. Int. Ed***. *47,* 5746-5749, 2008 (IF: **16.823,** CI:**131**). (Back-to-back articles, Highlighted article in Nature Publishing Group Asia Materials).
27. **S. Srinivasan**, V. K. Praveen, R. Philip, A. Ajayaghosh, Bioinspired Superhydrophobic Coatings of Carbon Nanotubes and Linear pi-Systems Based on the "Bottom-up" Self-Assembly Approach. ***Angew. Chem. Int. Ed.*** *47,* 5750-5754, 2008 (IF: **16.823,** CI:**199**). (Rated as VIP and featured on the front cover, one of the most-accessed articles in July, 2008, Highlighted in *Angewandte Chemie* press release and in Materials Today)
28. A. Ajayaghosh, V. K. Praveen, **S. Srinivasan**, R. Varghese, Quadrupolar pi-Gels: Sol–Gel Tunable Red–Green–Blue Emission in Donor–Acceptor-Type Oligo(*p*-phenylenevinylene)s**,** ***Adv. Mater.*** *19*, 411–415, 2007 (IF: **32.086,** CI:**163**).
29. C. S. K. Raju, **S. Srinivasan**, M. S. Subramanian, New Multi-Dentate Ion-Selective AXAD-16- MOPPA Polymer for the Preconcentration and Sequential Separation of U(VI), Th(IV) from Rare Earth Matrix, ***Separation Science and Technology,*** 40, 2213–2230, 2005 (IF: 2.79, CI:22).

Conference Publication

1. D. Dasgupta, **S. Srinivasan**, A. Ajayaghosh, J. M. Guenet,
   Effect of Solvent on the Morphology and Microstructure of Light Emitting Organogels
   Macromol. Symp. *303,* 134-140, 2011 (IF: 0.913 Citation Index: 3).

List of US Patents Granted

1. Nanocomposite Material useful for the Preparation of Superhydrophobic Coatings and a Process for the Preparation Thereof

A. Ajayaghosh, **S. Srinivasan**, V. K. Praveen, USA- US8323732 B2 (US 2010/0330277

A1), **WO/2009/037717** (PCT/IN08/00538**)**.

2. Crystalline bipyridinium radical complexes and uses thereof.
   A. Fahrenbach, J. Barnes, H. Li, F. Stoddart, A. Basuray, **S. Srinivasan**,
   US9120799 B2 (US 61/537,852, 2011 (22-Sept, 2012). CI:3

3. Carbazole end capped bipyridine compounds and process for preparation thereof
   A. Ajayaghogh, K. P. Divya, **S. Srinivasan**, **US9493488 (US 20140023883 A1** (WO/2012/110945) (PCT/IB2012/050656)
4. Methods of Making Diazaperopyrenium Dications and Uses Thereof
   J. Fraser Stoddart, Ashish N. Basuray, Karel J. Hartlieb, **Srinivasan Sampath**, Henri-Pierre Jacquot de Rouville, US application Number US 14/499,074; Publication date Dec 22, 2016 (US 20160368913 A1)

Book Chapter

1. Supramolecular Soft Matter: Applications in Materials and Organic Electronics: Interaction of carbon nanotubes and small molecules. Publisher: John Wiley & Sons, Inc. **2011**, 381-406. Print ISBN: 9780470559741 Online ISBN: 9781118095331.
   S. Srinivasan, A. Ajayaghosh

Invited Lectures/Presentations:

1. **Invited talk**: Self-assembled Functional Hybrid Materials
   21st October 2011, Royal Society of Chemistry (South India) & Department of Organic Chemistry, University of Madras.
2. **Invited talk**: Self-assembled Functional Organic Materials
   28th January 2013, Chemistry Department, Indian Institute of Technology, Madras.
3. **Invited talk**: Supramolecular Hybrid Gels based on Cyclophanes and Graphene Oxide
   23rd-26th January 2015, MACRO 2015, International Symposium on Polymer Science and Technology, Kolkata, India.
4. **Work presentation** at *DST-INSPIRE faculty monitoring cum interaction meeting* at KIIT, Bhubaneswar on 16th-17th January 2017.
5. **Invited talk**: Title: Nobel Prize: Chemistry 2016-Molecular Machines, *National Science day-Nobel Lecture series*-CECRI Karaikudi-28th February 2017.

6. **Invited talk**: Title: Design and Synthesis of Molecular Machines. *National Seminar on Recent advances in Chemical Sciences* at University College150 years of Excellence (1866-2016), Thiruvananthapuram-13th -14th March 2017.
7. **Invited talk**: Title: Evolution of Molecular Machines. *Nobel Themed Lectures (NExT ACT)* at Department of Industrial Chemistry, Alagappa University, Karaikudi-27th April 2017.

Peer Reviewer for Journals:

1. Energy & Environmental Materials (Wiley)
2. ACS Sustainable Chemistry & Engineering
3. RSC Physical Chemistry Chemical Physics
4. RSC Advances
5. RSC Nanoscale

HONOURS AND AWARDS

1. **Young scientist Award** in Chemical Sciences (2018) from The Academy of Sciences, Chennai.
2. **DST-INSPIRE Faculty Award –** April 2014 to till date- Polymer Division, CSIR-CLRI, Adyar, Chennai.
3. **Post doctoral Fellowship WCU -** KAIST, Korea as a postdoctoral fellow, February, 2013- March-2014.
4. **Post doctoral Fellowship NU-** Postdoctoral fellowship for two years in Northwestern University under US-National Science Foundation program, November, 2010 – October 2012.
5. **Post doctoral Fellowship WCU-** Selected from Stoddart group, Northwestern University, USA for 6 month stay at KAIST, Korea under World Class University program as a postdoctoral fellow, November, 2011 – May, 2012.
6. **Young Scientist Award-** 22nd Kerala Science Congress, Kerala Forest Research Institute, Thrissur, India, January 28-31, 2010.
7. **Best Oral Presentation Award-** 5th JNC Research Conference on Chemistry of Materials, Alleppey, India, October 3-5, 2009.
8. **Best Poster Presentation Award-** International Conference on Functional Materials, IIT Madras, India, November 27-29, 2008.
9. **Indo-French (IFCPAR) Exchange Fellow**, Institute Charles Sadron, CNRS, Strasbourg, **France**, September-November 2008.

10. **Best Presentation Award** -International conference, ICYS-ICMR Summer School on Nanomaterials, NIMS. Tsukuba, **Japan**, July 23-28, 2007.
11. **ICYS-ICMR Summer School Member, Japan -** Sponsored by University of California, Santa Barbara (ICMR), 2007.
12. **Best Poster Award-** National Seminar on Frontiers in Organic Chemistry, University of Calicut, January 11-12, 2007.
13. **Senior Research Fellowship** from University Grant Commission/Council of Scientific and Industrial Research (UGC/CSIR), Government of India, New Delhi, (2007 – 2010).
14. **Junior Research Fellowship** from University Grant Commission/Council of Scientific and Industrial Research (UGC/CSIR), Government of India, New Delhi, (2005 – 2007).
15. Qualified National Eligibility Test (NET) for **Lectureship** (2005).
16. **Gold Medalist- Best outgoing student** - College topper in main and all allied subjects, D. G. Vaishnav College, Madras University (2003).
17. Prize winner of **12 Endowment Prizes** in S.S.L.C. (1998).

RESEARCH EXPERIENCE

1. Postdoctoral research training at the Stoddart Group, Department of Chemistry, **Northwestern University**, Evanston, USA (Nov 2010 – Nov 2011 and May 2012 – Oct 2012).
2. Postdoctoral research training at the Stoddart Group and Ali Coskun group, EEWS, **KAIST**, Deajeon, Korea (Nov-2011 – May 2012 and Feb-2013- March-2014).
3. Research training at the Photosciences and Photonics Division, **National Institute for Interdisciplinary Science and Technology** (Formerly RRL), Trivandrum, India (2005 – 2010).
4. Research training at **Institute Charles Sadron**, CNRS, Strasbourg, **France**, September-November 2008.
5. Research training at **Indian Institute of Technology, Madras**, India, as a partial fulfillment of M.Sc course (2004-2005).

VISITS ABROAD

1. Korea Advanced Institute of Science and Technology, **Korea**, Postdoctoral Fellow, February 2013-March 2014 (Professor Ali Coskun)
2. Northwestern University, Illinois **USA**, Postdoctoral Fellow, November 2010-October 2012 (Professor Sir Fraser Stoddart)
3. Korea Advanced Institute of Science and Technology, **Korea**, Joint Postdoctoral Fellow, November 2011-May 2012 (Professor Sir Fraser Stoddart and Prof. Ali Coskun)
4. Institute Charles Sadron, CNRS, Strasbourg, **France**, Indo-French Exchange Fellow
   September-November 2008 (Professor J. M. Guenet).
5. National Institute for Material Science. Tsukuba, **Japan,** ICYS-ICMR Summer School on Nanomaterials, July 23-28, 2007.

EXPERTISE

- Expertise in the design and synthesis of molecules with self-assembling properties
- Design, synthesis and characterization of functional hybrid nanomaterials based on carbon nanotube and self-assembled organic molecules.
- Design, synthesis and characterization of polymer and its composites
- Design and preparation of superhydrophobic and superoleophilic surfaces
- Design and preparation of fluorescent secret documentation
- Design and synthesis of functional Ionic liquids
- Design and synthesis of hybrid gels based on graphene and ionic liquids
- Controlled growth of nano and micro size crystals on solid surface

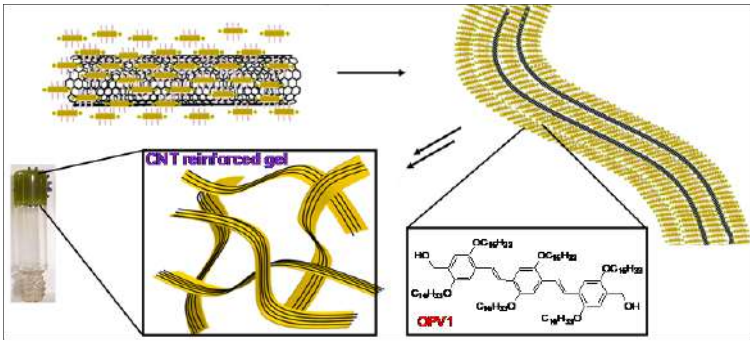
Hand on experience in the following instrumental techniques:

- Single photon counter (lifetime, TRES studies),
- Circular Dichroism (CD) spectrometer;
- UV-Vis-NIR spectrophotometer;
- Fluorescence spectrophotometer;
- Nano-photon Raman spectroscopy;
- Confocal Raman spectroscopy,
- TEM (Jeol 2100F and H1800);
- STEM (HD 2300);
- FEI Quanta E-Scanning Electrom Microscopy;
- Environmental SEM (ESEM);
- Thermo X-ray photoelectron spectroscopy (XPS);
- Atomic force microscopy (AFM);
- Optical polarized microscopy (OPM);
- IR-Microscopy;
- Fluorescence microscopy;
- Cyclic voltammetry; NMR; FTIR;
- MALDI-TOF-MS; LC-MS;
- HPLC; GPC; Optical-Raman

PhD Work

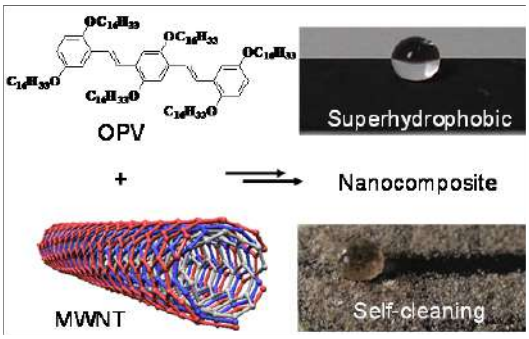
1) *Carbon Nanotube Triggered Self-Assembly of Oligo (p-phenylenevinylene)s to Stable Hybrid pi-Gels*

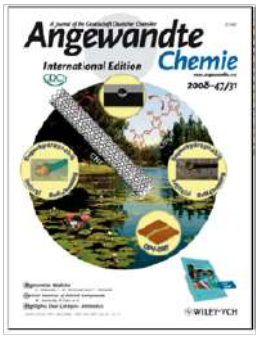
Carbon nanotubes (CNTs) represent a novel class of quasi one-dimensional materials. Addition of small amounts of CNTs to a solution of oligo(*p*-phenylenevinylene) (OPV1) in toluene triggers the self-assembly which leads to the formation of a composite gel. This strategy allows the dispersion and alignment of CNTs within an organic self-assembly (***Angew. Chem. Int. Ed***. 2008, *47,* 5746-5749; IF: **15.34,** CI:**125**)



2) *Bioinspired Superhydrophobic Coatings of Carbon Nanotubes and Linear pi Systems based on the "Bottom-up" Self-Assembly Approach*

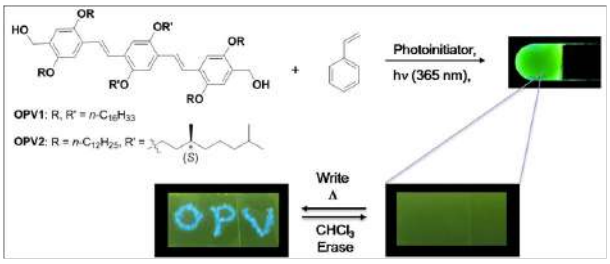
The self-cleaning superhydrophobicity of plant leaves, particularly of the lotus leaf is considered as a symbol of purity. We mimic lotus leaf by creating superhydrophobic coatings through supramolecular interaction between OPVs and CNTs. (***Angew. Chem. Int. Ed.*** 2008**,** *47,* 5750-5754, **WO/2009/037717**; IF: **15.34,** CI:**190**).





3) *Reversible Self-Assembly of Entrapped Fluorescent Gelators in Polymerized Styrene Gel Matrix: Erasable Thermal Imaging via Recreation of Supramolecular Architectures.*

The reversible shift of emission in fluorescent molecular gelators has been explored for the preparation of a composite polymer film useful for erasable thermal imaging and secret documentation and solvent vapour sensor. (***J. Am. Chem. Soc.*** 2009**,** *131,* 15122-15123; IF: **15.42,** CI:**145**).



PDF Work

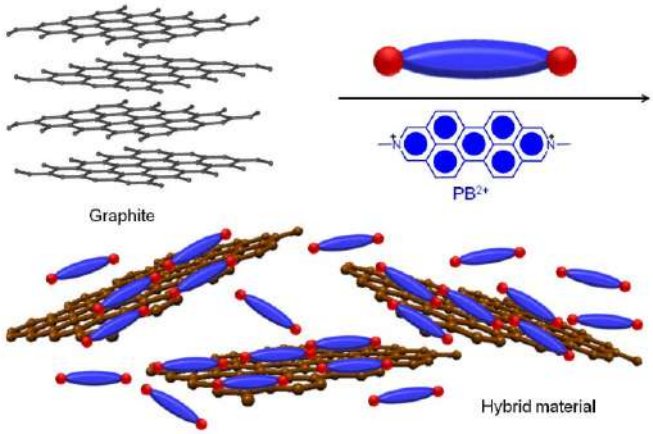
4) *A Bifunctional Approach for the Preparation of Ionic liquid/Graphene Gels*

We developed the concept of bifunctional approach by using functional molecules which (1) can enable the solubilization of GO sheets in ionic liquids (ILs) and (2) can facilitate the highly efficient thermal reduction of GO to RGO on account of the high thermal stability of ILs. We have demonstrated this concept by incorporating an imidazolium cation onto pyrene which can interact with RGO via cation–pi and pi–pi interactions to form highly stable, porous hybrid gel materials. (***J. Mater. Chemistry A*****,** 1, 43-48, **2013** IF: **12.73**, CI:**30)**

5) *A Semiconducting Organic Radical Cationic Host Guest Complex*

Organic host-guest inclusion complexes driven by radical-radical interactions are relatively rare in comparison to the commonality of their donor-acceptor counterparts. Likewise, host-guest complexes which are conductive in the solid-state have yet to be widely explored as materials for electronic applications. We demonstrated the construction of an OFET using lithographic techniques, which apply source and drain leads to single crystals composed of a host-guest complex involving the diradical dicationic $CBPQT^{2(\bullet+)}$ ring complexed with the radical cationic $MV^{\bullet+}$ guest, and showed their *p*-type semiconductivity. (***ACS Nano*****.,** 6, 9964-9971, **2012)** (IF: **12.88,** CI:**42**)

6) *Direct Exfoliation of Graphite to Graphene in Aqueous Media with Diazaperopyrenium Dications,*

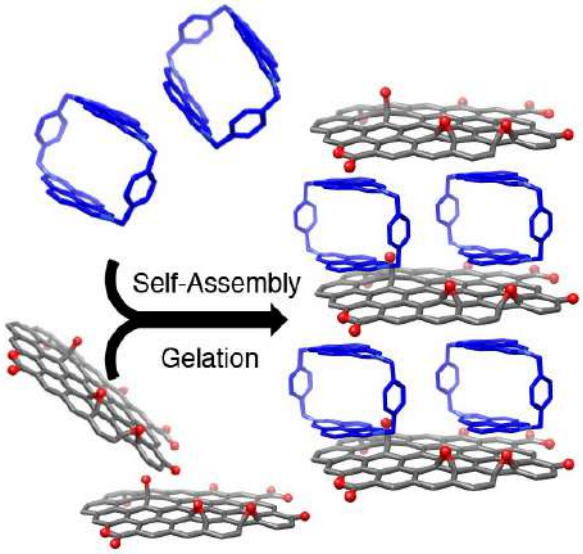


In recent times, the materials properties of graphene have generated ever-increasing interest across multiple scientific disciplines including physics, material science and chemistry. Generally, the techniques used to prepare graphene are based on either physical processes, chemical methodologies or a blend of the two. Physical methods are costly and chemical oxidation of graphite to graphene oxide (GO), followed by reduction, results in reduced graphene oxide (RGO) in large quantities, this method generates defect-laden RGO to the extent that the resultant graphene is generally of lower quality than that produced by physical methods. We addressed these issues by preparing graphene by direct exfoliation of graphite through pi-pi interactions between the

N,N'-dimethyl-2,9-diazaperopyrenium dication and graphene in aqueous media. (***Adv. Mater.*** 2013, 25, 2740-2745) (IF: **30.85,** CI:**95**).

7) *Ordered Supramolecular Gels Based on Graphene Oxide and Tetracationic Cyclophanes*

We develop a new strategy to form ordered hierarchical supramolecular gels incorporating graphene oxide (GO) sheets and cationic rigid macrocyles under mild conditions via self-assembly. These ordered gels are stabilized by series of non-covalent — donor-acceptor, π-π stacking, cation-π — interactions. Our theoretical studies indicate that cationic macrocyles are positioned in between GO layers with a substantial binding energy. (***Adv. Mater.*** 2014, *26*, 2725–2729) (IF: **30.85,** CI: **25**).



Details of externally funded projects:

1) **Title of the project**: *Suparamolecular functionalization of π-Conjugated Molecules with Semiconducting Nanorods for Optoelectronic Applications*

Duration: 5 Years (1-4-2014 to 31-3-2019)

Sponsor: DST-INSPIRE Faculty Award.

Funding: Rs: 35,00,000/- plus fellowship.

2) **Title of the project**: Extended π-Conjugated Tetrabenzofluorene based Dual State Emissive Molecules for Detection of Explosives

Start date: 1-4-2023,

Sponsor: **Collaborative Research Scheme(CRS) Project of UGC-DAE CSR**

ORIENTATION/REFRESHER COURSE ATTENDED

Sl. No	Particulars	Place	Duration		Sponsoring Agency
			From	To	
01	UGC sponsored online refresher course in Material Science	Bharathidasan University (Online)	5-7-2022	18-7-2022	UGC
02	National one week faculty development program on Carbon Capture and Storage	CUTN (Online)	21-2-2022	25-2-2022	UGC-Stride
03	5-day workshop on "Innovation, Entrepreneurship and Start-Up for Young′	National Institute of Technology Mizoram (Online)	26-9-2022	30-9-2022	SERB-INAE
04	UGC sponsored 98th Orientation Programme	Bharathidasan University	23-08-2017	19-09-2017	UGC
05	ARPIT-online refresher course in chemistry for higher education faculty	Online	1-11-2018	30-3-2019	UGC-MHRD
06	ARPIT-Advances in chemistry and physics of materials	Online	1-11-2018	30-3-2019	UGC-MHRD

TRAINING PROGRAM/SUMMER SCHOOL / WORKSHOPS/ QIP/ FIP ETC ATTENDED:

Sl. No	Particulars	Place	Duration		Sponsoring Agency
			From	To	
1	One week teacher training program on "Components of Quality Teaching and learning"	Online	19-7-2023	23-7-2023	Bl and BDA
2	Two-weeks online faculty development program on developing online courses for swayam	Online	21-6-2020	5-7-2020	UOU, CEMCA
3	NSS-Orientation	Chennai	22-11-2019	28-11-2019	NSS

4	IIC innovation Ambassador Training Series	Coimbatore	6-1-2020	7-1-2020	IIC
5	Research for societal good through social responsibility	AMRITA school of business, Coimbatore	18-2-2019	22-2-2019	DST
6	Teaching during post corona times	National Seminar	12-6-2020	12-6-2020	MHRD
7	Women in higher education	National Seminar	27-5-2020	27-5-2020	MHRD
8	E-content development methodology	National Seminar	15-5-2020	15-5-2020	MHRD
9	Two day FDP-Virtual Tecahing	CIT-TLC	20-4-2020	21-4-2020	CIT
10	Management of Environment and its resources	MOOC workshop	28-4-2020	11-05-2020	NMCC, Marthandam
11	Teaching learning tools for digital era	Webinar series	11-5-2020	16-5-2020	Sri Ramakrishna college
12	One day seminar on SWAYAM@CUTN	CUTN	14-2-2018	14-2-2018	CUTN
13	Faculty Development Programme	CUTN	8-9-2018	8-9-2019	CUTN
14	Workshop on National digital library	CUTN	15-11-2018	15-11-2018	National digital library
15	One day Awarness programme on Access to E-resources	CUTN	20-7-2018	20-7-2018	INFLIBNET centre, Gujarat
16	ICAFM 2017	Anna University	6-1-2017	8-1-2017	UGC
17	National conference on innovative librarianship	CUTN	1-8-2019	2-8-2019	ICSSR
18	Assessing quality in higher education	CUTN	19-9-2019	20-9-2019	IQAC-CUTN
19	Fact-Checking and online verification	CUTN	6-2-2020	7-2-2020	CUTN

M.Tech Project work competion

Sl. No.	Name of the Scholar	Title of the Dissertation/Thesis	M.Phil. / P.G.	University	Month and Year
1	Mr. P. Romanshan	Detection of Nitro aromatic compounds using cyano functionalized tetrabenzofluorene by fluosence quenching	P.G.	CUTN	May 2023

2	Mr. Kishore Kaushal Kumar	Mechanical and Corrosion properties of Al-Sc Alloy can be improved through additive manufacturing by integrating thermal and surface treatment	P.G.	CUTN	May 2023
3	Mr. Rajkishore Singh	Optimizing the fatigue response of additive manufacturing Al-Sc-Mg-Zr Alloy via combining thermal as well as surface treatment	P.G.	CUTN	May 2023
4	Ms. Jhaya Gomathy S	Development of Transition metal oxide-based high emissivity coatings for thermal management of aerostructures	P.G.	CUTN	May 2023
5	Keshav Kumar	CdSe-NCQD Nanofibre hybrid materials for optoelectronic applications	P.G.	CUTN	May 2022
6	Mr. P. Vasudevan	Design, synthesis and characterization of butterfly shaped tetrabenzofluorene (TBF) derivatives and their OLED application	P.G.	CUTN	May 2022
7	Mr. Kalpukuri Manohar	Synthesis and Charactrization of hybrid perovskite quantum dot, nanofiber for sensing applications	P.G.	CUTN	May 2022
8	Ms. Varsha Raj P	Tetrabenzofluorene molecules with extended π-Conjugation for solar cell applications	P.G.	CUTN	May 2022
9	Mr. Hariharan Elumalai	Review on the synthesis, structure, properties and application of graphene oxide	P.G.	CUTN	Dec 2021
10	Mr. Jaganathan M	Piezoelectric nanogenerators for self-powered devices	P.G.	CUTN	Jan 2021
11	Mr. Jeshurun A	A dual report on: Computational studies on the electronic properties of lead-free halide perovskite MASNI3 and Triple Doping of	P.G.	CUTN	May 2021

		Naturally prepared Hydroxyapatite from egg shells			
12	Mr. Mohammad Irfan	Microstructure and tribological properties of conventional and axial plasma sprayed alumina-Titania coatings	P.G.	CUTN	May 2021
13	Ms. Suprajaa Sri P	Incorporating polymeric substartes on cellulose based materials	P.G.	CUTN	May 2021
14	Mr. Prabakar P	Natural Rubber (NR)/ Polyaniline (PANI)-Chitodan Nanocomposite flexible material for EMI shielding applications	P.G.	CUTN	May 2021
15	Sagar Das	Synthesis and characterizaion of Cr_2AlC MAX phase powder by moltem salt shielded synthesis (MS_3)	P.G.	CUTN	June 2020
16	Sarina K	Exploring the energy storage properties of vanadium doped nickel hydroxide towards high performance supercapacitor electrode	P.G.	CUTN	June 2020
17	Akshay	Hybrid graphene loaded phase change materials composite for thermal management	P.G.	CUTN	June 2020
18	Shubham Sen	Product development of alumina polymer beads for fluoride removal of water	P.G.	CUTN	June 2020
19	Mamta Devi	Fluorescent quantum dots as nanozymes for sensing applications	P.G.	CUTN	May 2019
20	Gopalakrishnan S	Photo-switchable self assembly of gold nanoparticles for surface enhanced raman scattering probes	P.G.	CUTN	May 2019
21	Rasna Saikia	Fabrication of antimicrobial nano bio-composite films	P.G.	CUTN	May 2019
22	R.K. Azega	Synthesis and characterization of spiral titania nanotubes for supercapacitor applications	P.G.	CUTN	May 2019

23	Vhatkar Shashikant Shivaji	Study on the effect of nanomaterials into Bacterial cellulose for applications as textile materials	P.G.	CUTN	May 2018

Invited Lectures/Resource Person/ Paper/Poster Presentation

Sr. No.	Title	Name of the Event	Invited /Oral/Poster	Organiser/ Institute	Duration
1	Smart Materials based onTetrabenzofluorenesfor Energy Applications	International Hybrid Conference on Nano Structured materials and Polymers (ICNP 2023)	Invited	M.G. University kerala	12-14 May 2023
2	Photophysical Studies and Red-Ox Properties of "BAT" Shaped pi-Conjugated Tetrabenzofluorenes in the organized by during in association with	7th International Conference on Nanoscience and Nanotechnology (ICONN-2023)	Poster	Department of Physics and Nanotechnology, SRM IST, India and Shizuoka University, Japan;	March 27- 29, 2023,
3	Design, Synthesis, Characterization and Photophysical Studies of Tetrabenzofluorene based Molecules, ASPIRE, Arts and Science Publication In Research, Special Issue, Volume 5, 2023, ISSN: 2229-4953 *P. V. Navya and Srinivasan Sampath**	International Conference on Functional Materials for Sustainable Energy & Environment - FMSEE'23 (Hybrid mode),	Paper Presentation (Virtual):	Department of Chemistry & Physics, Lady Doak College, Madurai, Tamilnadu, India,	30th & 31st January, 2023.
4	Tetrabenzofluorene Molecules for Bio-imaging Applications, *P. V. Navya and Srinivasan Sampath**	Research Summit on Advances in Nanotechnology (online)	Short Invited Talk:	Saveetha Engineering College,	02 February, 2023.

5	Detection of Nitro Aromatics Using Pyrene Based Electrospun Nanofiber Fluorescent Sensors *Romanshan P, and Srinivasan Sampath**	Research Summit on Advances in Nanotechnology (online)	Short Invited Talk:	Saveetha Engineering College,	02 February, 2023.
6	Review on Applications of Graphene-Based Materials in Ionic Liquid Gels *Jhaya Gomathy S, and Srinivasan Sampath**	Research Summit on Advances in Nanotechnology (online)	Short Invited Talk:	Saveetha Engineering College,	02 February, 2023.
7	Aggregation induced enhanced emission in tetrabenzofluorene molecules *P. V. Navya and Srinivasan Sampath**	International Online Conference on Macromolecules (ICM2020) Kottayam, Kerala, India.	Paper	M.G. University Kerala	13-15 November 2020
8	Isothermal and Non-isothermal cold crystallization	International Online Conference on Macromolecules (ICM2020) Kottayam, Kerala, India.	Invited	M.G. University Kerala	13-15 November 2020
9	Supramolecular functionalization of π-Conjugated Molecules with Semiconducting Nanorods for Optoelectronic Applications	*DST-INSPIRE faculty monitoring cum interaction meeting*	Poster	KIIT, Bhubaneswar	16th-17th January 2017
10	Nobel Prize: Chemistry 2016-Molecular Machines,	*National Science day-Nobel Lecture series*	Invited	CSIR-CECRI Karaikudi-	28th February 2017
11	Design and Synthesis of Molecular Machines. at -	*National Seminar on Recent advances in Chemical Sciences*	Invited	University College150 years of Excellence (1866-2016),	13th - 14th March 2017

				Thiruvananthapuram	
12	Evolution of Molecular Machines.	Nobel Themed Lectures (NExT ACT)	Invited	Department of Industrial Chemistry, Alagappa University, Karaikui	27th April 2017
13	TRANSITION - 2019	"Recent Trends in Chemistry" organized	Invited	Department of Chemistry, Central University of Tamil Nadu,	22nd-23rd Februay 2019
14	cold crystallization and self-assembly of tetrabenzofluorene molecules	International Conference on Advances in Functional Materials	poster	Anna University, Chennai.	6-8th January 2017
15	Self-assembly and aggregation-induced emission enhancement of tetrabenzofluorenes	The 24th CRSI National Symposium in Chemistry	poster	CSIR-CLRI, Chennai	7-10 Feb-2019
16	Self-assembly investigation of fluorescence emission in tetrabenzofluorenes through aggregation-induced emission enhancement	International conference on Nanoscience and Nanotechnology (ICONN 2019)	poster	Department of Physics and Nanotechnology, SRM IST, India	28-30 January 2019
17	Self-assembly and cold crystallization of Pi-Conjugated Tetrabenzofluorene molecules	National Conference on Functional Materials and its Application (NCFMA 2018)	poster	Department of Chemistry, School of Basic Science VISTAS, Chennai	28 Feb and 1 March 2018