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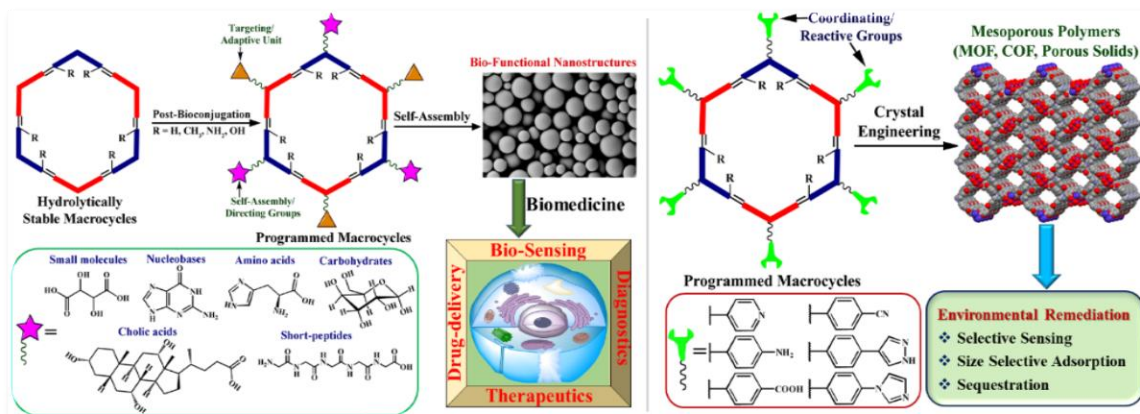
## Research Interests

- Supramolecular Self-assembly Formation of Discrete Molecular Architectures
- Engineering Mesoporous Polymers for Environmental Remediation Applications
- Fabrications of Functional Bio-Nanostructures for Biomedical Applications
- Synthesis of Chemosensors for Biologically Related Analytes
- Development of Novel Theragnostic Agents for Cancer Therapy

## Brief Summary of Research

The central theme of his research interest over the last ten years has been in the area of supramolecular material chemistry, arguably one of the hottest areas of chemical sciences. His research contribution has produced 32 high-quality publications in peer-reviewed international journals and a book chapter. He is the first author of 19 publications and corresponding author of 5. His publications have been cited over 1470 times to date, with an annual citation rate of ~200 since 2015. This has given him a rapidly growing H-index, which currently stands at 18. He has also presented posters in 11 international/national conferences, and his work was well recognized by the scientific community and honored with the best poster prizes three times. His Ph.D. thesis is honored with a Gold medal for the best thesis, which is the highest honor that a Ph.D. scholar can be bestowed. He has successfully obtained postdoctoral funding through a highly competitive Irish Research Council grant, and he was also offered the prestigious Newton International Postdoctoral Fellowship from the Royal Society of Chemistry. He also received the Swiss National Science Foundation fellowship to undertake a short research training on “Heterometallic Anticancer Drugs” at the University of Neuchâtel-Switzerland, which demonstrates his ability to successfully obtain external and international funding. He has recently been assigned as an editorial advisory board member of Results in Chemistry—a journal published by Elsevier. He is a lifetime member of Chemical Research Society of India (CRSI) and Indian Society for Chemist and Biologist (ISCB). He is been recognized as a member of the Royal Society of Chemistry (MRSC). He is a recognized reviewer for several peer-reviewed international journals.

## Overview of Supramolecular Self-Assembled Structure and Materials



Projects (Full list of projects: <https://iitpkd.ac.in/people/shanmugam>)

- “Reversible Diradical Mediated Self-Assembly Formation of Discrete Organic Cages for the Construction of Stimuli-Responsive Supramolecular Functional Materials”, Empowerment and Equity Opportunities for Excellence in Science (EMEQ) Funding Received from Science and Engineering Research Board (SERB), Government of India. 16 March 2019 – 15 March 2022. Project Value = Rs. 37,63,000.

Recent Publications (Full list of publications: [www.vinodap.co.nf/publications.html](http://www.vinodap.co.nf/publications.html))

- E. Calatrava-Perez.; J. Delente.; **S. Shanmugaraju.**; C. S. Hawes.; D. C. Williams.; T. Gunnlaugsson.; E. M. Scanlan. Glycosylated Naphthalimides and Naphthalimide Tröger’s Bases as Fluorescent Aggregation Probes for Con A. *Org. Biomol. Chem.*, 2019, **17**, 2116-2125.
- **S. Shanmugaraju\***.; B. Poulsen.; T. Arisa.; D. Umadevi.; H. L. Dalton.; C. S. Hawes.; A. J. Savyasachi.; G. W. Watson.; D. C. Williams.; T. Gunnlaugsson. Synthesis, Structural Characterization and Antiproliferative Activity of a New Fluorescent 4-Amino-1,8-Naphthalimide Tröger’s base-Ru(II)-Curcumin Organometallic Conjugate. *Chem. Commun.*, 2018, **54**, 4120-4123.
- **S. Shanmugaraju\***.; D. Umadevi.; A. J. Savyasachi.; K. Byrne.; W. Schmitt.; G. Watson.; T. Gunnlaugsson. Reversible Adsorption and Storage of Secondary Explosives from Water using a Tröger’s base-functionalized Polymer. *J. Mater. Chem. A*, 2017, **5**, 25014-25024.
- **S. Shanmugaraju\***.; C. S. Hawes.; A. J. Savyasachi.; S. Blasco.; J. K. Kitchen.; T. Gunnlaugsson. Supramolecular coordination polymers using a close to ‘V-shaped’ fluorescent 4-amino-1,8-naphthalimide Tröger’s base scaffold. *Chem. Commun.*, 2017, **53**, 12512-12515.
- A. J. Savyasachi.; O. Kotova.; **S. Shanmugaraju.**; S. J. Bradberry.; G. M. Maille.; T. Gunnlaugsson. Supramolecular Chemistry: A Toolkit for Functional Materials and Organic Particles. *Chem.*, 2017, **3**, 764-811.
- **S. Shanmugaraju\***.; C. Dabadie.; K. Byrne.; A. J. Savyasachi.; D. Umadevi.; W. Schmitt.; J. A. Kitchen.; T. Gunnlaugsson. A Supramolecular Tröger’s base Derived Coordination Zinc Polymer for Fluorescent Sensing of Phenolic-Nitroaromatic Explosives in Water. *Chem. Sci*, 2017, **8**, 1535-1546.
- **S. Shanmugaraju.**; D. McAdams.; F. Pancotti.; C. S. Hawes.; E. B. Veale.; J. K. Kitchen.; T. Gunnlaugsson. One-pot Facile Synthesis of 4-Amino-1,8-naphthalimide Derived Tröger’s base Supramolecular Scaffolds via A Nucleophilic Displacement Approach. *Org. Biomol. Chem.*, 2017, **15**, 7321-7329.