

**T. Govindaraju, Ph.D.**  
**Professor and Chair**  
**Bioorganic Chemistry Laboratory**  
**New Chemistry Unit and SAMat**  
**Jawaharlal Nehru Centre for Advanced Scientific Research**  
**(JNCASR) (A Deemed to be University)**  
**Jakkur P.O., Bengaluru 560064, India**  
**Email: [tgraju@jncasr.ac.in](mailto:tgraju@jncasr.ac.in)**  
**URL: <https://www.jncasr.ac.in/faculty/tgraju>**



Prof. Govindaraju obtained his MSc from Bangalore University and PhD from the National Chemical Laboratory and the University of Pune, India. He carried out postdoctoral research at the University of Wisconsin-Madison, USA, and the Max Planck Institute of Molecular Physiology, Dortmund, Germany. He has been a faculty member at JNCASR, Bengaluru, since 2008. His research spans chemical biology at the interface of chemistry, biology, and biomaterials science, with notable contributions in Alzheimer's disease, cancer, peptide chemistry, molecular probes, theranostics, molecular architectonics, and silk-inspired biomimetics. He has published over 195 papers, holds 37 patents, and has authored four books. He is the founder of VNIR Biotechnologies Pvt. Ltd., established to translate his laboratory's innovations. His lab discovered a promising Alzheimer's drug candidate that has been licensed to a pharmaceutical company for further development. Prof. Govindaraju's scientific and translational achievements have been recognized through several prestigious honors, including the Shanti Swarup Bhatnagar Prize (2021), National Technology Award (2023), Sun Pharma Science Foundation Research Award (2022), VASVIK Award (2024), SwarnaJayanti Fellowship (2015-16), and the CDRI Award for Excellence in Drug Research (2019). He serves on the editorial advisory boards of journals, founding member of INYAS, Fellow of the Indian Academy of Sciences, India and Royal Society of Chemistry, London, and has served as secretary of Chemical Research Society of India (2016–2026) and the Indian Peptide Society (2015–2023). He is on various advisory boards and committees, and remains deeply committed to science education and outreach.

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## **Biomolecules-derived Biomaterials**

T. Govindaraju

Bioorganic Chemistry Laboratory, New Chemistry Unit and School of Advanced Materials (SAMat),  
Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Jakkur P.O., Bengaluru 560064  
E-mail: [tgraju@jncasr.ac.in](mailto:tgraju@jncasr.ac.in)

Biomolecules are promising candidates for tissue engineering, regenerative medicine, and a wide range of biomedical applications. An ideal biomaterial should be biocompatible, biodegradable, and easily processable into various scaffold formats, preferably under conditions that closely mimic the physiological environment. Furthermore, the rational design and engineering of molecular assemblies through the judicious exploitation of noncovalent interactions to construct tailored molecular and nanoarchitectures using a reductionist approach plays a significant role in advancing biomedical science. In the first part, I will present silk-derived biomaterials for controlled and pancreas-mimicking insulin delivery, wound healing under diabetic conditions, and applications in skeletal muscle and neuronal tissue engineering. In the second part, I will briefly introduce a novel research theme and umbrella concept, 'molecular architectonics', developed in our laboratory to design and construct molecular and nanoarchitectures with applications ranging from biosensing to drug delivery.