



Centre for Research & Development

Research Supervisor (Guide) Profiles

Discipline of Supervision: **Physics**



Dr. Gurushankar K

Associate Professor
Department of Physical Sciences
School of Computational and Physical Sciences

Areas of Specialisation:

Supercapacitor, Battery, Applied Spectroscopy and Computational Drug Modeling

Dr. Gurushankar K is an Associate Professor in the Department of Physics, School of Computational Physics, Kristu Jayanti (Deemed to be University), Bengaluru, India, where he has been serving since June 2026. He also serves as Guest Editor for a Special Issue of Hydrogen, published by MDPI. Previously, he served as Associate Professor at KITS College, Markapur (May 2025–May 2026); Senior Researcher at the University of Airlangga, Surabaya, Indonesia (June 2020–December 2024); and Assistant Professor at Kalasalingam Academy of Research and Education, Tamil Nadu (June 2016–February 2020). He was also a postdoctoral researcher at the University of Airlangga (July–October 2018). Dr. Gurushankar has authored and co-authored more than 50 peer-reviewed research articles, receiving over 2,197 citations, with an h-index of 28 and an i10-index of 45 (Google Scholar, September 2026). He has supervised four students, including one Ph.D., two undergraduates, and one postgraduate student. He has contributed to three Russian-funded research projects in hybrid materials, drug repurposing, and oncology. In 2025, he was recognised among the world's top 2% of scientists in the Stanford–Elsevier ranking. His research interests include biochar-based phytocompounds, supercapacitors, nanomaterials, and biomedical applications.

Selected Publications:

1. Chinnaiah, K., Kannan, K., Krishnamoorthi, R., Palko, N., Grishina, M., Chen, Y.-S., & **Gurushankar, K.** (2025). Enhancing supercapacitor and antimicrobial performance of bioengineered Ag/Mn3O4 composite nanorods. *Journal of Industrial and Engineering Chemistry*, 147, 329–340. <https://doi.org/10.1016/j.jiec.2024.12.023>
2. Chinnaiah, Karuppaiah, Kannan, K., Palko, N., Grishina, M., Chen, Y.-S., & **Gurushankar, K.** (2024). Exploring the potential of Withania somnifera-mediated Ag/Mn3O4 nanocomposites as electrode material for high-performance supercapattery device. *Journal of the Taiwan Institute of Chemical Engineers*, 157, 105441. <https://doi.org/10.1016/j.jtice.2024.105441>
3. Chinnaiah, K., Kannan, K., Krishnamoorthy, R., & **Gurushankar, K.** (2023). Datura metel L. leaf extract mediated sodium alginate polymer membrane for supercapacitor and food packaging applications. *International Journal of Biological Macromolecules*, 242, 125112. <https://doi.org/10.1016/j.ijbiomac.2023.125112>