Dr. K. Shree Meenakshi

shreemeenakshik@licet.ac.in

Education

- **Ph.D. in Chemistry** – College of Engineering, Guindy (CEG), Anna University, Chennai, 2010
- **M.Phil. in Chemistry** – Anna University, Chennai, 2007
- **M.Sc. Applied Chemistry** – Anna University, Chennai, 2006
- **B.Sc. Chemistry** – Anna Adarsh College for Women, Chennai, 2004

Teaching Experience

- **Associate Professor** (2021–Present), Department of Chemistry, Loyola-ICAM College of Engineering and Technology (LICET), Chennai
- **Assistant Professor** (2010–2017), Department of Chemistry, Loyola-ICAM College of Engineering and Technology (LICET), Chennai
- Teaching Experience at Anna University, Chennai (2009)
- Teaching Experience at Madras Institute of Technology (MIT), Chrompet (2007)

Academic Responsibilities

- Course Coordinator – Environmental Science and Sustainability
- Course Coordinator – Chemistry for Electronics Engineering
- Member – Internal Quality Assurance Cell (IQAC)

Administrative Responsibilities

- Dean of Women Students (December 2021 – August 2025)
- Presiding Officer, Internal Complaints Committee (ICC) (2021–2025)
- Coordinator, Women's Cell (2021–2025)
- Co-ordinator-See Her Empowered (SHE) Forum for Women Students (2021–2025)

Research and Academic Projects

Research Supervision

- Recognized Anna University Research Supervisor (Ref. No. 4070043)

Fellowships

- Senior Research Fellow (SRF), CSIR, Government of India
- Junior Research Fellow (JRF), DST, Government of India

Research Areas

- Polymer Nanocomposites
- Advanced Functional Materials
- MXene-Based Coatings and Corrosion Protection

Publications and Book Chapters

Research Profile Summary

- 17 Research Publications in Scopus-Indexed Journals and Conferences
- Several publications published in Web of Science Indexed Elsevier and Springer journals
- 1 International Springer Book Chapter
- 12 ISBN Books Authored

Research Publications (17)

1 "Facile Fabrication of Polyaniline–MXene Bilayer Coatings for Enhanced Corrosion Protection and Self-Healing on Steel Substrates," *Progress in Organic Coatings* (Elsevier), 2026.
2 "Scalable Surfactant-Free Synthesis of Stable $Ti_3C_2T_x$ MXene Nanofluids for Enhanced Thermal Transport in Ethylene Glycol," *Arabian Journal for Science and Engineering* (Springer), 2026.
3 "Development of Tetra Glycidyl Epoxy-Based Nanocomposites and Analysis of its Mechanical, XRD, EDS and Physical Properties for High-Performance Applications," *Materials Today: Proceedings* (Elsevier), 2023.
4 "Corrosion Resistant Behaviour of Titanium–Molybdenum Alloy in Sulphuric Acid Environment," *Materials Today: Proceedings* (Elsevier), 2022.
5 "Development of Siloxane Based Tetraglycidyl Epoxy Nanocomposites for High Performance Applications—Study of the Thermo Mechanical, Electrical, XRD, EDS and Physical Properties," *Silicon* (Springer), 2019.
6 "Development of Novel TGDDM Epoxy Nanocomposites for Aerospace and High Performance Applications – Study of Their Thermal and Electrical Behaviour," *Arabian Journal of Chemistry* (Elsevier), 2016.
7 "Analysis of Sulphone Based Organic-Inorganic Hybrid Epoxy Nanocomposites for Advanced Engineering Applications," *Materials Science and Engineering A* (Elsevier), 2012.
8 "Development and Characterization of New Phosphorus Based Flame Retardant Tetraglycidyl Epoxy Nanocomposites for Aerospace Application," *Bulletin of Materials Science* (Springer Nature), 2012.
9 "Development of Dimethylsiloxane Based Tetraglycidyl Epoxy Nanocomposites for High Performance, Aerospace and Advanced Engineering Applications," *Progress in Organic Coatings* (Elsevier), 2012.
10 "Development and Characterization of Novel DOPO Based Phosphorus Tetraglycidyl Epoxy Nanocomposites for Aerospace Applications," *Progress in Organic Coatings* (Elsevier), 2011.
11 "Development and Study of the Thermal and Electrical Behaviour of TGDDS Epoxy Nanocomposites for High-Performance Applications," *Applied Nanoscience* (Springer), 2011.
12 "Development of Siloxane Based Tetraglycidyl Epoxy Nanocomposites for High Performance Applications – Study of the Mechanical, Thermal, Water Absorption and Flame Retardant Behaviour," *Silicon* (Springer), 2011.
13 "Preparation and Characterization of Titanium Oxide-Water Based Nanofluids by One Step Method for Heat Transfer Applications," *Proceedings of the International Conference on Nanoscience Engineering and Technology* (IEEE), 2011.
14 "Synthesis of Carbon Cloth by Controlled Pyrolysis of Rayon Cloth for Aerospace and Advanced Engineering Applications," *Indian Journal of Science and Technology*, 2011.
15 "Synthesis of Silver Nanofluid by a Novel One Pot Method for Heat Transfer Applications," *Indian Journal of Science and Technology*, 2011.
16 "Synthesis and Characterization of Copper Nanofluid by a Novel One-Step Method," *Materials Chemistry and Physics* (Elsevier), 2009.
17 "Corrosion Resistant Behaviour of PANI–Metal Bilayer Coatings," *Progress in Organic Coatings* (Elsevier), 2008.

International Book Chapter (1)

1 "Development of TGDDM Based Layered Silicate Nanocomposites for High Performance Applications," *Handbook of Polymer Nanocomposites: Processing, Performance and Application*, Springer Book Chapter, 2014.

Books Authored (12)

1 *Engineering Chemistry: Principles and Applications for Mechanical Engineering* (ISBN: 978-81-97930-56-0), 2025.
2 *Chemistry for Electronics Engineering* (ISBN: 978-81-97930-54-6), 2025.
3 *Applied Chemistry for Information Sciences* (ISBN: 978-81-97930-59-1), 2024.
4 *Engineering Chemistry* (ISBN: 978-93-85126-40-6), 2022.
5 *Corrosion Science and Technology* (ISBN: 978-93-91478-47-6), 2021.
6 *Solid Waste Management* (ISBN: 978-93-91478-30-8), 2021.
7 *Biodiesels – Production and Application* (ISBN: 978-93-91478-21-6), 2021.
8 *Environmental Pollution and Control* (ISBN: 978-93-91478-20-9), 2021.
9 *Carbon Nanotubes – Synthesis, Structure, Properties and Applications* (ISBN: 978-93-91478-14-8), 2021.
10 *Polymer Nanocomposites: Processing, Characterization, Applications and Research* (ISBN: 978-1-73039-478-2), 2017.
11 *Chemical Analysis of Adulterated Food: Techniques and Applications* (ISBN: 978-1-73040-378-1), 2017.
12 *Nanofluids – Science, Technology and Research* (ISBN: 978-1-73041-922-5), 2017.

Areas of Interest

By Research: Materials Science, Polymer Chemistry, Nanocomposites, MXene-Based Coatings, Corrosion Science
By Teaching: Engineering Chemistry, Environmental Science and Sustainability, Materials Chemistry
By Experience: Research Supervision, Academic Administration, Student Development

Software Skills

- MS Office (Word, Excel, PowerPoint)
- ChemDraw
- Origin

Conferences Attended (National / International)

International Conferences(recent)

- SMILE 2025
- ICFMST 2024
- ICEAT 2024
- ICRAMM 2023
- ICRAMM 2022
- iCAM 2022

National Conferences

- Participated in several National Conferences, Workshops and Seminars in Polymer Chemistry, Environmental Science and Nanotechnology

Paper Presentations

- Presented research papers at several National and International Conferences in Polymer Nanocomposites, Materials Science, Corrosion Science and Nanotechnology

Workshop / FDP: Attended

- Participated in several National and International FDPs and Workshops related to Research, Materials Science, Environmental Science and Teaching Excellence

MOOCs Course Details

- NPTEL – Psychology of Learning
- NPTEL – Environment and Development
- NPTEL – Educational Leadership
- NPTEL – Air Pollution and Control
- NPTEL – Enhancing Soft Skills and Personality
- NPTEL – Soft Skill Development
- NPTEL – Introduction to Research
- NPTEL – Nanomaterials and their Properties
- NPTEL – Technologies for Clean and Renewable Energy Production
- NPTEL – Stress Management

Any Other Details

- Recognized as an **NPTEL Star** by the National Programme on Technology Enhanced Learning (NPTEL).
- **ORCID ID:** 0000-0002-5918-1200
- **Scopus Author ID:** 23767609700