

Faculty Profile



Dr. N. Manjubaashini, M.Tech., Ph.D., INSA Fellow
Assistant Professor (SG) / EEE

HIGHLIGHTS:

- Number of Journal Publications: 34
- Book Published: 3
- Book Chapters: 2
- H-Index: 19
- Patents Published: Nil
- Patents Granted: Nil

PROFESSIONAL LINKS:

- Scopus ID: 57475112600
- Scopus Link: [Nandhakumar, Manjubaashini - Author details - Scopus](#)
- Google Scholar ID: x1ADgCEAAAAJ
- Anna University Faculty ID: 311127
- AICTE Faculty ID: 1-44746012711
- Anna University Supervisor ID: 4750001

PROFESSIONAL BACKGROUND:

- Research Experience till date: 5 yrs

AREA OF SPECIALIZATION:

- Nanostructured materials for Sensors, Energy and Electronics Applications.
- Bio-nanocomposites for Healthcare and Environmental Applications.

FUNDING APPROVED:

- INSA Visiting Scientist Programme, FY 2026-2027.

FUNDING APPLIED:

- Innovation and Product Development 2026 (TNSCST) – 2 Nos.

ACHIEVEMENTS AND AWARDS:

- ✓ **INSA – Visiting Scientist Programme Awarded, 2026**

Project Title: Development of Magnesium MOF–Incorporated PCL-HPMC Composite Films for Enhanced Wound Healing.

- **DBT-Research Associate**, from October 2020 to September 2024

Project Title: Study and design of chitosan and crystalline bioactive nanocomposites for improved healing using graphene scaffolds.

- **CSIR- EMR (II) Project (SRF-Senior Research Fellow)** from March to December 2017

Project Title: Development of Colorimetric 'Selective – Ion' and 'Ion – Pair' Sensor Using Fluorogenic and Chromofluoregenic Optoelectronic Materials.

SPECIAL SESSIONS DELIVERED:

- ✓ **Invited Speaker** on “Multifunctional Hybrid Nanocomposites in Cancer-Associated Soft Tissue Repair” in the International Workshop on Recent Developments in Cancer Nanotechnology at Mahatma Gandhi University, Kerala, held on 8-10th October, 2026.

- ✓ **Invited Talk** on “Polymer-based Inorganic-biomaterial Scaffolds for Enhanced Soft-tissue Repair and Inflammation Modulation: An *in vitro* Approach” in the International Conference on Nano Structured Materials and Nanocomposites (ICN-2025) at Mahatma Gandhi University, Kerala, held on 12-14th September 2025.

- ✓ **Invited Lecture** on “Functional Bionanomaterials based Scaffold for versatile Healthcare applications” in the Indo-French Workshop on Functional Materials for Emerging Applications at Mahatma Gandhi University, Kerala, held on 16-18th March, 2025.

- ✓ **Guest Evaluator** for Poster Presentations in the Saveetha’s 9th Transdisciplinary Annual Research Summit – 2022 at Saveetha Dental College & Hospital, 28th June 2022.

- ✓ **Invited talk** on “Role of Nanomaterials in Technology”, delivered in Hands-on Training Programme for Nanoscience and Nanotechnology, Science-day theme conducted by Tamilnadu Higher Education Department and National Centre for Nanoscience and Nanotechnology, University of Madras, at Birla Planetarium, on 16th February 2024.

- ✓ **Certificate of Appreciation** as a trainer in the one-day workshop on “Fundamentals of Nanoscience in Healthcare Products”, in SERB-CORE research grant project workshop, Nanoscience department, University of Madras, Chennai, on 22nd March 2024.

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

1. Participated in Online Short-Term Programme on "**AI Tools for Teaching and Learning in Higher Education**", IIITDM-Kanchipuram, August 24th – 29th 2026.

2. **N. Manjubaashini**, “Temperature-Driven Structural and Electrochemical Evolution of g-C₃N₄/Mn₂O₃ Heterostructures for Supercapacitor Applications”, in ChemiSphere 2026: Innovations in Energy, Environmental and Forensic Sciences in the Era of AI, Sathyabama Institute of Science and Technology, 20-31, July, 2026.
3. Participated in Online Faculty development Programme in “**Healthcare**”, SSN college of Engineering, Chennai, March 23-27, 2026.
4. Participated in Workshop on “**Bioprinting & Electrospinning for Healthcare Applications**”, Sathyabama Institute of Science and Technology, Chennai, January 22-23, 2026.
5. Participated in Refresher Course on “**Cutting-Edge Innovations in Wearable Technology Devices**”, IIITDM-Kanchipuram, December 8th – 19th 2025.
6. Participated in the workshop, “**Solid State Chemistry: Foundations for Next-Generation Energy Material**”, IIT Madras, 1st November 2025.
7. Participated in SERB sponsored two days workshop on “**Biosensors**”, Department of Biomedical Engineering, Anna University, Chennai, October 16, and 17th 2025.
8. Participated in **Leadership for Women in STEM**, Crystal Growth Centre, Anna University, Chennai, 15th May 2025.
9. One-day Workshop on **Design of Point-of-Care Biosensors and Medical Devices**, IIITDM Kancheepuram, 8th March 2025.
10. Five days Online Faculty development programme **Materials Processing and Characterization**, School of Mechanical Engineering, VIT-AP University, Amaravati, 29th April to 3rd May 2025.
11. Five days Online Faculty development programme **Multiscale Modelling of Materials: From Quantum to Macro**, School of Advance Sciences and School of Mechanical Engineering, VIT-AP University, Amaravati, 24th February to 1st March 2025.
12. Two days Online Global Summit **Social Innovation, Education and Sustainability, Department of Education**, Jadavpur University and Central University of Kerala, 12-13th February 2025.
13. **N. Manjubaashini**, S. Balakumar, Presentation entitle “Carbon quantum dots derived from agro waste biomass for pioneering bioanalysis and in vivo bioimaging” in ICAFM – 2024, SSN College of Engineering, Chennai, 17-19th October 2024 (**Best Oral presentation awarded – II prize**).
14. **N. Manjubaashini**, S. Balakumar, Oral Presentation entitle “Chitosan bioactive glass scaffolds for in vivo subcutaneous implantation, toxicity assessment, and diabetic wound healing in an animal model”, in ICEAM – 2024, Centre for Nanoscience and Nanotechnology, Anna University, Chennai, 27-28th March 2024.

15. **N. Manjubaashini**, S. Balakumar, Oral Presentation entitle “Design and Development of Fluorescence based Bioceramic/Biopolymer Nanocomposites for versatile Bioanalysis”, in ICFMNA’24, SSN College of Engineering, Chennai, 23-24th January 2024.
16. **N. Manjubaashini**, S. Balakumar, “Design and development of bioactive glass nanocomposite hydrogels for versatile bioanalysis and restoration of cartilage damage”, at International Conference on Biomedical Materials and Technology-2023, BioTEEx 2023, IIT Delhi, 27th November – 1st December 2023.
17. **N. Manjubaashini**, S. Balakumar, Poster Presentation entitle “Uncompetitive Bioimaging and Anti-Bacterial Activity Explored from Excitation-Dependent Carbon Quantum Dots with Bio-Polymer/Ceramic Nanocomposites”, in ICONN-2023, SRM IST, Chennai, 27-29th March 2023. Six days Online Faculty development programme “**Recent Advancements in smart materials for sustainable energy applications**”, Sathyabama Institute of Science and Technology, Chennai, 20 – 25th November 2023.
18. Certificate of participation at **Chennai Science Festival-2023**, Periyar Science and Technology Centre Campus, Chennai, 28th February to 1st March.
19. Two days **National Workshop on 3D Bioprinting Technology for Tissue Engineering and Organ Printing**, department of Nanoscience and Technology, Bharathiar University, Coimbatore, August 10-11th 2023.
20. Three days **Internship** at International and Inter University Centre for Nanoscience and Nanotechnology, **Mahatma Gandhi University**, Kottayam for scientific discussion and to acquire knowledge on Bio Nano Material Fabrication for Nanotoxicology Applications, 15-17th March 2023.
21. **N. Manjubaashini**, S. Balakumar, Oral Presentation entitle “Preparation of Bioactive Glass Nanocomposites for Bioimaging and Self-Healing Scaffolds”, in Biomaterials Online Conclave’ 2022 by NCNSNT, UoM and SBAIO, STERMI, NIGIS-South Zone, 7-15th March 2022.
22. Two days **Internship** at Department of Chemistry, **IIT Palakkad**, Kerala, for scientific discussion and to acquire knowledge in various technical instruments in the department, 29-30th June 2022.
23. **N. Manjubaashini**, S. Balakumar, Poster presentation entitle “Study and Design of Graphene-Bioglass Nanocomposites for Improved Wound Healing”, by Virtual Conference in MRSI-AGM Materials Conclave IITM, 20-23rd December 2021.
24. Work-shop on **Advanced Materials for Biomedical Applications-AMBA 2021** organized by National Centre for Nanoscience and Nanotechnology, University of Madras under MHRD-RUSA 2.0, 1st -11th December 2021.

25. Webinar on **Functional Synthetic Materials for Biomedical Applications**, by **MHRD-RUSA 2.0** at NCNSNT, University of Madras, 14th August 2021.
26. National Webinar on **Environmental Remediation** organized by Department of Nanoscience and Technology & SREC-Innovation Incubation Foundation (IIF), Sri Ramakrishna Engineering College, Coimbatore, 19th April 2021.
27. National Webinar on **Advanced Functional Nanomaterials and Their Applications** organized by Department of Nanoscience and Technology & SREC-Innovation Incubation Foundation (IIF), Sri Ramakrishna Engineering College, Coimbatore, 9th March 2021.
28. National Webinar on ‘**Trends in Wastewater Remediation and Management with Nanotechnology**’, jointly organized by National Centre for Nanoscience and Nanotechnology (NCNSNT) and Centre for Water Resources Management (CWRM), University of Madras, 9th April 2021.
29. Virtual Webinar on **An Awareness Program Series on Advanced Sciences: Nanoscience and Nanotechnology on National Science Day Celebration 2021**, at NCNSNT, University of Madras, 27th February 2021.
30. International Web Conference on **Advanced Materials Science and Engineering** organized by the Department of Physics, Bannari Amman Institute of Technology, 11-12 September 2020.
31. **Faculty Development Program on Nanomaterials for Energy Harvesting and Biomedical Applications** organized by Nanomaterials for **Photovoltaic and Biomaterials Laboratory (NPBL)** from 18-22 May 2020.
32. Three Days Faculty Development Programme on **Journey of Nanomaterials for Intense Applications** organized by Department of Chemistry, Kongu Engineering College, Perundurai from 07-09 July 2020.
33. International Webinar on **Recent Advances in Materials Science and Nanotechnology** organized by Department of Physics, Bannari Amman Institute of Technology, Sathyamangalam during 4 – 6 June 2020.
34. **N. Manjubaashini**, T. Daniel THANGADURAI, “Investigation of Fluorescent capped Gold nanoparticles interaction with bovine serum albumin” ICON-BIO 2017 in December – 2017, IIT - MADRAS, Chennai.
35. **N. Manjubaashini**, T. Daniel THANGADURAI, “Turn on” Fluorescent Capped Nanoparticles for Live Cell Imaging” ICAPM 2017 in April – 2017, Mahatma Gandhi University, Kottayam, Kerala.

36. **N. Manjubaashini**, T. Daniel THANGADURAI, “Turn on” Fluorescent Chemosensor for the Detection of Biological entities in Human Blood Serum and Urine Samples” ICNT 2016 in August – 2016, Mahatma Gandhi University, Kottayam, Kerala.
37. **N. Manjubaashini**, T. Daniel THANGADURAI, D. Nataraj, “Configuration and Investigation of perovskite thin films” COCHIN NANO 2016 in February – 2016, Cochin University of Science and Technology, Cochin.
38. **N. Manjubaashini**, T. Daniel THANGADURAI, D. Nataraj, “Structural Analysis of Thin film Perovskite Material” ICNFA 2015 in December – 2015, Coimbatore Institute of Technology, Coimbatore.
39. S. Sathiesh Kumar, **N. Manjubaashini**, K. Uthayarani, “Hydrothermal Synthesis of Visible Light Sensitive N -Doped TiO₂ Nanoparticles” ICFNA 2013 in July - 2013, Coimbatore Institute of Technology, Coimbatore.
40. Participated in **INUP-Familiarization Workshop on MEMS fabrication at IISc, Bangalore**, 18-20 January 2016.
41. Participated in **Hands-on Training on Photovoltaics and Micro and Nano Characterization Techniques, IISc, Bangalore**, 10-18 May 2016.
42. Two days **National Seminar on Nanotechnology – Energizing the Future**, Department of Chemistry, PSGR Krishnammal College for Women, Coimbatore.
43. UGC Sponsored short term course on **New Materials their Characterization and Applications**, Organized by Anna University Chennai.
44. Two days training on **Atomic Force Microscope at AFM facility in MRC-APE Research lab, IISc, Bangalore**.
45. Training program on **Fundamentals of Solar (Photovoltaic) Energy Conversion and Hands-on Workshop on Diverse Applications**, Organized by PSG Institute of Advance Studies, Coimbatore.

PROFESSIONAL MEMBERSHIPS:

Life member of Society of Biomaterials and Artificial Organs India (**SBAOI-LM859**)