

Curriculum Vitae

Muthusankar Eswaran, PhD

Current position: Assistant Professor, Department of Electronics and Communication Engineering, Indian Institute of Information Technology Dharwad, India.

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Professional Profile

Experience (National & International)

- **Assistant Professor**, ECE Department, Indian Institute of Information Technology Dharwad (Dec 2025- Till now)
- **Assistant Professor**, School of Electronics, Kerala University of Digital Sciences, Innovation and Technology, India (June 2023 – Dec 2025)
- **Postdoctoral Researcher**, Chalmers University of Technology, Sweden (Nov 2021 – Jun 2023)
- **Research Officer**, Indian Institute of Technology Jammu, India (Sep 2020 – Nov 2021)
- **Research Intern**, Kaohsiung Medical University, Taiwan (Nov 2018 – Mar 2019)
- **Senior Research Fellow**, National Institute of Technology Puducherry, India (Mar 2018 – Nov 2018)
- **Junior Research Fellow**, National Institute of Technology Puducherry, India (Mar 2016 – Mar 2018)
- **Teaching Fellow**, Anna University, Regional Campus Coimbatore, India (Feb 2014 – Jan 2016)

Academic Qualifications

- **Ph.D.**, Electronics and Communication Engineering, National Institute of Technology Puducherry, India. Specialization: Flexible/Wearable Nanoelectronic Devices (Sensors, Biosensors, Supercapacitors), Self-powered Wearable sensors.
- **M.Tech.**, Nanotechnology, Anna University, Chennai, India — First Rank, Gold Medalist
- **B.E.**, Electronics and Communication Engineering, Anna University, Chennai, India

Core Research

- Flexible, wearable, and bio-integrated sensors/biosensors (Healthcare diagnostics and environmental monitoring)
- Self-powered wearable electronic systems
- Analog Interface Circuits
- Flexible nanoelectronics, MEMS/NEMS, and microfabrication
- Energy storage and conversion devices (supercapacitors and fuel cells)
- Advanced 2D materials

Technical Expertise

- **Fabrication & Processing:** Microfabrication Techniques for sensors, MEMS/NEMS, Analog Interface Circuits
- **Cleanroom & Semiconductor Processing:** Experienced cleanroom user-Class 10000/1000/100 cleanroom operations, maskless lithography, thermal and e-beam evaporation, RF sputtering, CVD, MOCVD, RIE and plasma etching, source meter, four-probe conductivity measurement
- **Instrumentation & Characterization:** Parameter analyser (Keithley 4200A-SCS), TEM, FE-SEM-EDX, AFM, XPS, FTIR, Raman microscopy, UV-Vis spectroscopy, electrochemical workstation, parametric analyzer, PXRD, XRR, SAXS, GIXRD, TG/DTA, particle size analysis

Publications Overview

- **49 peer-reviewed articles | 3 book chapters** (14 first authorships, 4 corresponding authorships, 2 equal contributions, 29 co-authorships)
- **[Google Scholar](#):** 1343 citations | **h-index: 23 | i10-index: 37**
- **Notable journals:** Small Methods, IEEE Sensors, IEEE Sensor Letters, Microchimica Acta, Journal of Hazardous Materials, Biological macromolecules Fuel, ChemSusChem, Synthetic Metals, Materials Letters, Environmental Research, Journal of Energy research, Journal of Energy storage, Journal of Colloid and Interface Science, Ceramics International, Ionics, etc

Professional Services

- **Reviewer:** IET Micro & Nano Letters, IEEE Sensors, ACS Applied Nano Materials, Journal of Hazardous Materials, International Journal of Biological Macromolecules, *Applied Nanoscience, Environmental Research*, and MDPI journals (*Sensors, Biosensors, Nanomaterials, Batteries, Micromachines, Molecules*)
- **Guest Editor:** *Micromachines* (ISSN: 2072-666X), Special Issue Topic: Biosensors
- **Editorial Board Member:** *Scientific Reports* (Nature Portfolio)

Achievements & Awards

- Postdoctoral Fellowship, Chalmers University of Technology, Sweden
- Fully funded TEEP-STRi Research Internship, Ministry of Education, Kaohsiung Medical University, Taiwan
- Gold Medal and First Rank in M.Tech.
- DST-SERB Junior and Senior Research Fellowships, Government of India
- Keynote Speaker and Scientific Advisor, International Conference on Renewable Energy and Sustainable Environment (Thailand)
- Keynote Speaker Arashi Global Annual Summit on Advanced Materials (AGASAM 2025)