

KAMARAJ

COLLEGE OF ENGINEERING & TECHNOLOGY



(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)

S.P.G.Chidambara Nadar - C.Nagammal Campus

S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

DEPARTMENT OF BIOTECHNOLOGY

Faculty Achievements

Academic Year 2024 – 25



6 Publications



2 NPTEL Courses



1 Design Patent



1 FDP Completed



Resource Persons

Achievements at a Glance

Department of Biotechnology | Academic Year 2024–25



6

Research
Publications



3

NPTEL Courses
Completed



1

Design Patent
Filed



1

FDP
Completed



2

Resource
Persons

Across publications, certifications, IP filings, and outreach — AY 2024-25

Research Publications

Peer-reviewed journals & book chapters — AY 2024–25

JOURNAL ARTICLES

Dr. S. Karthikumar · NIT Tiruchirappalli

Selective ethanol vapour sensing enabled by amine-functionalized MOF–polyetherimide hybrid membranes

Materials Chemistry Frontiers (Royal Society of Chemistry) IF: 6.4

Dr. K. Geetha, Ms. Shalini K.

Sustainable Mesoporous Silica Nanoparticles from Groundnut Shells for High-Efficiency Cr(VI) Removal: Kinetics, Isotherms, and Mechanism Insights

Chemical and Biochemical Engineering Journal, 39(4) 203–225 (2025)

Dr. R. Shyam Kumar · Springer Nature / KSU & PSG

Value adding Agriculture products... Microbial Intervention

Book Chapter — Harnessing Microbial Resources for Sustainable Agriculture (Springer Nature)

Research Publications

Peer-reviewed journals — AY 2024–25 (continued)

Dr. R. Shyam Kumar

Interplay between light spectrum and nitrogen availability on growth, pigment accumulation, and photosystem dynamics in *Leptolyngbya* sp. MKU05

Journal of Applied Phycology (Springer) IF: 3.3

Dr. S. Karthikumar & Dr. R. Shyam Kumar

Effectiveness of image-based classifiers for on-site identification of lichens in reserved forest

Computers and Electronics in Agriculture IF: 8.5

Helen Gracelin Joy M., Saron Merline, Nambeeswari J., Er. A. Ganga, Nishant P., Dr. K. Geetha

Green Synthesis of Iron and Zinc Nanoparticles from *Centella Asiatica*, *Lawsonia Inermis*, *Ocimum Tenuiflorum* and Assessing their Biological Activity for Wound Healing Properties

Int. Journal of Medical and Pharmaceutical Sciences, Vol 02; Issue 04, 2026

 **Highest IF in this batch: 8.5**
(Computers & Electronics in Agriculture)

Design Patent Filed

Intellectual Property — AY 2024–25



DESIGN PATENT

Application Filed

Appl No.
47390-001

Date: 17.09.2025

Multiple Gas Detection Chamber

Inventors

- ✓ Dr. S. Karthikumar — ASP / Biotechnology
- ✓ Dr. R. Shyam Kumar — Professor / Biotechnology

Significance

Novel gas detection chamber design advancing environmental monitoring and industrial safety. Filed under the Designs Act with Intellectual Property India.

NPTEL Certifications & FDP

Professional Development — AY 2024–25



Er. Karl Joseph Samuel

Assistant Professor / BT

Technical Communication for Engineers

Duration: 4 weeks · Elite + Silver · 15-10-2025

Equivalent: NPTEL–AICTE FDP (½ week)



Er. Karl Joseph Samuel

Assistant Professor / BT

Experimental Biotechnology

Duration: 12 weeks · Elite · 09-11-2025

Equivalent: NPTEL–AICTE FDP (1½ weeks)



Er. Karl Joseph Samuel

Assistant Professor / BT

Ethics in Engineering Practice

Duration: 8 weeks · Certified · 29-11-2025

Equivalent: NPTEL–AICTE FDP (1 week)



Dr. Pradiba D

Faculty / BT

Legal & Regulatory Compliance for SMEs

Duration: 8 weeks · Score: 94% · 2025

NPTEL–AICTE FDP — Outstanding performance

Resource Persons & Outreach

External Engagement — AY 2024–25



One Day Workshop on Fermentation Technology

Host Institution	Madura College, Madurai
Audience	M.Sc. Microbiology Students
Date	28 August 2025

Resource Persons



Dr. S. Karthikumar

ASP / Biotechnology



Er. Karl Joseph Samuel

AP / Biotechnology

Faculty engagement as resource persons demonstrates expertise recognition and strengthens industry-academia linkages. This workshop provided hands-on exposure to fermentation techniques for postgraduate students.

Key Highlights — AY 2024–25

Department of Biotechnology | Kamaraj College of Engineering & Technology



6 research papers published in high-impact peer-reviewed journals (IF up to 8.5)



Design patent filed — 'Multiple Gas Detection Chamber' (Appl No. 47390-001)



3 NPTEL courses completed by Er. Karl Joseph Samuel with Elite/Silver distinction



Dr. Pradiba D. completed NPTEL-AICTE FDP on Legal & Regulatory Compliance with 94%



Faculty served as resource persons at Madura College workshop on Fermentation Technology



Collaborative research with NIT Tiruchirappalli, KSU & PSG College — strengthening national partnerships

THANK YOU