

# LANI ANNA JOHN

## MICROBIOLOGIST | MOLECULAR DIAGNOSTICS | FOOD & WATER QUALITY SPECIALIST

Accomplished Microbiologist with over three years of progressive experience spanning industrial laboratories, research institutions, and biotechnology environments. Expertise encompasses food and water quality testing, molecular diagnostics, antibiotic susceptibility testing, and microbiological quality assurance under internationally recognized standards including HACCP, ISO 22000, GLP, and QA/QC frameworks. Adept at executing complex laboratory procedures, operating advanced analytical instruments, and supporting product development and validation initiatives. Recognized for precision, regulatory compliance, and collaborative research contributions in healthcare, food safety, and life-science innovation.



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## CORE COMPETENCIES

- Microbiological Quality Control and Assurance
- HACCP and Food Safety Management Systems
- Antibiotic Susceptibility Testing
- Molecular Biology and Diagnostics
- Food and Water Quality Analysis
- Regulatory Compliance and Documentation
- Research Methodology and Data Interpretation
- Laboratory Audits and Validation
- Cross-functional Collaboration

## WORK EXPERIENCE

### Food & Water Quality Control Intern

Albio Technologies, Kerala

June 2025 – October 2025

#### Achievements/Tasks

- Performed comprehensive microbiological and biochemical testing of food and water samples to ensure safety and regulatory compliance.
- Conducted routine analyses including total plate count, coliform testing, water hardness, turbidity, and total dissolved solids.
- Prepared, sterilized, and quality-checked culture media, reagents, and laboratory consumables in line with SOPs.
- Operated and maintained analytical instruments such as spectrophotometers, pH meters, flame photometers, and Kjeldahl apparatus.
- Applied HACCP principles to monitor critical control points and mitigate contamination risks.
- Documented analytical findings, maintained calibration records, and supported internal QA audits and inspections.

### Project Associate

Indian Institute of Technology Madras (IIT Madras)

April 2024 – May 2025

#### Achievements/Tasks

- Contributed to the development of electrochemical impedance-based microfluidic systems for rapid antibiotic susceptibility testing.
- Executed experimental protocols to assess microfluidic chip performance, sensitivity, and repeatability.
- Analyzed experimental datasets and optimized testing methodologies to enhance diagnostic accuracy.
- Collaborated with interdisciplinary research teams to translate microbiological data into applied diagnostic solutions.
- Prepared detailed technical documentation, SOPs, and progress reports aligned with project milestones.
- Ensured strict adherence to laboratory safety regulations, equipment upkeep, and compliance standards.

### Research Associate

ZyGene Biotechnologies (P) Ltd., Kerala

September 2022 – March 2024

#### Achievements/Tasks

- Conducted microbial isolation, identification, and characterization using biochemical and molecular techniques.
- Developed and validated magnetic bead-based nucleic acid extraction kits and antioxidant assay kits.
- Performed PCR amplification, gel electrophoresis, and molecular validation studies for diagnostic applications.
- Executed phytochemical analysis and food-water quality testing under structured QA and QC systems.
- Maintained comprehensive laboratory documentation, batch records, and calibration logs in compliance with ISO standards.
- Collaborated closely with R&D and product development teams to support commercial launch of molecular diagnostic products.

## **Research Intern**

Central Food Technological Research Institute (CFTRI), Mysore

February 2021 – May 2021

### *Achievements/Tasks*

- Assisted in microbiological research for the formulation and development of probiotic-based functional food products.
- Conducted microbial enumeration, culture maintenance, and sample processing activities.
- Supported preparation and sterilization of culture media and laboratory reagents.
- Compiled experimental data and assisted senior researchers in analysis and reporting.
- Maintained strict adherence to GLP guidelines, laboratory hygiene protocols, and safety standards.

## **EDUCATION**

### **Master of Science in Applied Microbiology**

Vellore Institute of Technology (VIT), Vellore | 2019 – 2021

### **Bachelor of Science in Zoology**

Mar Thoma College, Thiruvalla (Mahatma Gandhi University) | 2016 – 2019

## **CERTIFICATIONS**

- Highfield Level 4 Award in Food Safety Management for Manufacturing (RQF)
- Highfield Level 3 Award in HACCP for Food Manufacturing (RQF)
- ISO 22000:2018 Food Safety Management System Awareness Training – 2025
- CCD-P Certification in Clinical Domain Professional – Clini Launch Research Institute
- Advanced Certificate in Food & Water Quality Control Techniques – 2025
- Workshop on Chromatography Techniques (HPLC & GC) – 2025

## **ACHIEVEMENTS**

- Qualified GATE 2021 in Life Sciences
- Contributed to microfluidic diagnostic system development at IIT Madras
- Supported successful launch of molecular diagnostic kits at ZyGene Biotechnologies

## **PROFESSIONAL SKILLS**

- PCR and Gel Electrophoresis
- DNA and RNA Extraction Techniques
- Nucleic Acid and Plasmid Isolation
- Media Preparation and Sterilization
- Spectrophotometry and Flame Photometry
- Water Chemistry and Microbial Enumeration
- Laboratory Instrument Calibration and Maintenance
- Nanotechnology and Screen-Printed Electrode Fabrication
- Technical Reporting and SOP Development
- MS Excel, Word, and Outlook for Laboratory Documentation

## **LANGUAGES**

- English
- Hindi
- Malayalam