Dr. KALA K JACOB

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**SUMMARY**

An astute lifesciences professional with over 8.5 years of rich and varied experience in

lifescience with functional competence in various roles like; Researcher, Project

management (Planning, Implementation and Commissioning) and Clinical diagnosis.

Competency in validation of molecular biology techniques to study human diseases including

inherited conditions and infectious diseases, particularly routine PCR screening, Multiplex

panels and Cancer markers.

Development and implementation of the Research laboratory management system. Performed

and supervised proficiency programs (Inter-University Centre for Development of Marine

Biotechnology,CUSAT) .

Extensive experience in phytochemical research work and bioactivity screening Studies. Co-

supervise M.Phil. students and in M.Sc. dissertation works (During Ph.D and PDF in Cochin

University of science and technology) and involved in Projects planning and implementation.

Key Role in setting up the Molecular diagnostic Centre project – Saroj Diagnostic Lab at Calicut.

Actively participated in NABL documentation procedures on Quality management system and

internal audit in medical laboratories as per ISO 15189:2022.

## EDUCATION

* ***Ph.D.*** *Biotechnology (2016*) Dept. Chemical Oceanography School of Marine Sciences,

Cochin University of Science and Technology India.

* ***M.Sc.*** *Biotechnology (2006)*

Muthayammal College of Arts and Science, Periyar University, India

* ***B.Sc.*** *Zoology (2003)*

Calicut University, India.

## WORK EXPERIENCE

**Assistant Manager 5th May 2021 - Present**

## Molecular Biology Department

**Renai Medicity Multi-Super Specialty Hospital, Cochin, India**

Currently, I am working in the Molecular Biology Department as Assistant Manager, supervise the validation of molecular biology techniques to study human diseases, including inherited conditions and infectious diseases, particularly routine PCR screening, Multiplex panels and Cancer markers.

## Molecular biologist/Technical Manager 4th September 2020-1stMarch 2021 Saroj Diagnostic Laboratory, Calicut, India.

Extensive experience in performing tests like quantitative and qualitative RT-PCR and calibration. Development and implementation of the laboratory management system. Performed and supervised proficiency programs.

## Post-Doctoral Fellow 19th March 2018–18th March 2020 Inter-University Centre for Development of Marine Biotechnology

**Cochin University of Science and Technology**

## Post-Doctoral Fellow 9th October2017-16thMarch 2018 Inter-University Centre for Development of Marine Biotechnology

**Cochin University of Science and Technology**

Extensive experience in phytochemical research work and bioactivity screening Studies. Co-supervise M.Phil. students and in M.Sc. dissertation works.

## Research Assistant 20th March2017-28thSeptember2017 Department of Animal Breeding and Genetics, Veterinary University, Kerala, India

I worked in the state Plan scheme entitled "Characterization & expression of candidate genes affecting production, reproduction, disease resistance in Malabari and Attappady Black goats of Kerala”. I was assigned to sequence analysis and recognition of deleterious non- synonymous single nucleotide polymorphs (SNPs) to aid in the assessment of candidate genes.

## Pre-Doctoral Fellow 22nd December 2010- 30th December 2016 Cochin University of Science and Technology

## Research Assistant 19thSeptmber2007-21st December2010 Rajiv Gandhi Chair for Contemporary studies

**Cochin University of Science and Technology**

# TRAININGS & SKILLS

**QUALITY MANAGEMENT SYSTEM AND INTERNAL AUDIT**

Training programme on Quality management system and internal audit in medical laboratories as per ISO 15189:2022 conducted by medical education and learning point held at KIMS health Trivandrum from 1st April to 4th April 2023.

## MOLECULAR BIOLOGY

Hands-on Training on Next Generation Sequencing Technique (Isolation, Library Preparation, Sequencing and analysis) at Reproductive Genetics and Cancer Solutions .(21st March 2022 to 4thApril 2022)

Polymerase Chain Reaction, deletion PCR, site-directed mutagenesis, isolation of plasmid & Genomic DNA, SDS-PAGE, Western blotting, RNA isolation, Northern blotting, RNA Dot blot, cDNA preparation, qRT-PCR. 2021

Participated in Thermo Scientific Quant studio5 Real- Time PCR System User training.

Organized by Thermos Scientific Laboratories on 9th March 2021.

Accomplished the training on EXM3000 Nucleic acid extraction machine installation,operation, calibration and maintenance from Zybio Inc. during 23-09-2020.

Participated in CFX 96 Dx real-time PCR and CFX Manager Dx 3.1 User training organized by Bio-Rad laboratories on September 14, 2020.

Training in basic aspects of molecular techniques (7th to 16th of September 2020) at AZA Diagnostic Laboratory (NABL Accredited), Molecular Department.

Techniques in plant molecular biology, Kerala Agriculture University, Mannuthy.

Thrissur, Kerala. (20th May 2009 to 2nd June 2009).

Electrophoresis techniques, Electrophoresis Centre,Salem. Tamilnadu (30th December 2004 -4th January 2005).

Training on Animal Cell culture techniques and Molecular techniques like Mononuclear cell isolation, DNA & RNA isolation and quantitation using Qubit method, Multiplex PCR, Allele-specific PCR, PCR-RFLP, cDNA synthesis, etc. Jubilee Mission Medical College and Research Center (12th April 2019 to 11th May 2019).

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## BIO INFORMATICS

Use of bioinformatics tools used in biological research like BLAST, sequence alignment and primer designing. Use of sequence and structure-based computational tools such asSIFT, PROVEAN and I-MUTANT 2.0

Computer- Aided Drug Designing -CADD, UniBiosys Research Labs, Cochin (24 October 2019-26 October 2019).

## CLINICAL BIOCHEMISTRY

Molecular biology techniques to study human diseases including inherited conditions and infected diseases especially, COVID -19 RT-PCR. Actively participate in routine PCR screening of blood donations for hepatitis B virus, and HIV-1 in a blood bank setting.

## MASS SPECTROMETRY AND PHYTOCHEMISTRY

Phytochemical extraction, bioactivity-based screening, isolation and structural characterization of active compounds using different techniques like TLC, Column chromatography, GC-MS, HPLC and NMR characterization.

Biological techniques, Theory and Practical, Amala Cancer Research Centre-Thrissur, Kerala (9th May-3rd June 2005). I received training on Lab animal handling, plant tissue culture, and HPLC.

# PUBLICATIONS: Published 10 research papers and 9 seminar presentations in different fields of biotechnology and the details will be provided if required.

**Personal Details**

 Age & Date of Birth - 1983,May 30

 Nationality - Indian

 Sex - Female

 Marital Status - Married

 Passport no. - L 1396697

 Place of issue - Cochin, India

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I hereby declare that all information’s given above are true and correct to the best of my knowledge and belief.



Dr. Kala K Jacob