

Annual Report

PUSHPAGIRI

Research Centre

April 2024 – March 2025



The 'CENTRAL RESEARCH FACILITY'

of the Pushpagiri Group of Institutions



OUR SALIENCY

- Pre - Clinical Trials ●
- Patents & Publications ●
- Evidence Based Practice ●
- Fully Equipped Animal House ●
- MoUs - National & International ●
- Academic - Industrial Collaborations ●
- Funded Projects - National & International ●

Recognized by DSIR, Government of India
Approved Ph.D. Centre by KUHS, Chinmaya Viswa Vidyapeeth & Helsinki
University, Finland

LIST OF CONTENTS

About Pushpagiri Research Centre (PRC)	1
• <i>Approvals and Accreditations of PRC</i>	1
• <i>Successfully Completed Funded Research Projects by PRC</i>	3
• <i>Our Vision</i>	7
• <i>Our Mission</i>	7
• <i>Our History</i>	7
• <i>Our Team at PRC</i>	8
Director's Message	9
Student Coordinator's Message	10
Management Team	11
DSIR Recognition	12
Pushpagiri Research Council	13
• <i>Aims of the Research Policy</i>	14
• <i>Objectives of the Research Policy</i>	14
• <i>Research Policy Implementation Mechanism</i>	15
Research Advisory Board	18
Adjunct Faculties	20
Faculty Members and Scientists of PRC	21
12th International Conference BIORADIANCE 2024 by PRC	23
• <i>Inauguration of Bioradiance – 2024 by PRC</i>	24
• <i>Proceedings of Bioradiance – 2024</i>	24

- *Speakers of Bioradiance – 2024* 27
- *Patrons & Organizing Committee of Bioradiance – 2024* 30
- *Glimpses from BIORADIANCE – 2024* 31

Research Labs and Facilities of PRC 38

- *Cancer Research and Public Health* 38
- *Centre for Evidence Based Practice (PCEBP)* 43
- *Centre for Virology* 47
- *Clinical Epidemiology Unit* 51
- *Cytogenetics & Biochemistry Laboratory* 55
- *HLA and Tissue Typing* 60
- *Laboratory Animal Research Facility* 62
- *Medical Biotechnology and Computational Drug Designing Laboratory* 70
- *Microbial Technology & Infectious Disease Laboratory* 80
- *Molecular Biology Laboratory* 85
- *Stem Cell and Tissue Engineering Laboratory* 91

List of Ongoing or Newly Granted Projects 98

- *International* 98
- *National* 100

Papers Presented / Guest Lectures / Resource Person 104

Research Trainees 111

Student Projects 113

- *B.Sc. Project Students* 113
- *M.Sc. Project Students* 114

Internship Students 119

ICMR Short-Term Studentship (STS) Projects	120
MDS Thesis	120
Details of Ph.D. Scholars	123
Publications In Peer-Reviewed Journals & Book Chapters	125
• <i>Patents</i>	125
• <i>Research Articles</i>	125
• <i>Book Chapters</i>	129
Special Achievements – Awards, Memorandum of Understandings (MoUs), Orations & Patents	131
Under Graduation Project Abstracts – B.Sc., BDS, MBBS	134
• <i>In-vitro evaluation, safety assessments and technological speculations of potential probiotic strain isolated from fermented tender coconut water – Depthi Prasad, Nafiya Rasheed & Aniket Naha</i>	134
• <i>Assessing the probiotic potential of novel LAB strain isolated from fermented cucumber - An in- vitro approach – Vaishnavi Harikumar, Shifana Fathima & Aniket Naha</i>	135
Post Graduation Project Abstracts – M.Sc., MD, MDS	136
• <i>In vitro antioxidant & anti-inflammatory activity of Sechium edule (jacq.) Swartz – Anju P & Soumya R.S.</i>	136
• <i>In Vitro Antioxidant and Inhibitory Potential of Calotropis Gigantea Flower and Key Enzymes Linked to Type 2 Diabetes – Bessy Benny & Soumya R.S.</i>	137
• <i>In Vitro Free Radical Scavenging Potential of Methanolic Fraction of Cissus Quadrangularis – Joshna Mary Saji & Soumya R.S.</i>	138

- *Synthesis Of Micro/Nanoparticles of Vanadium as Potent Antioxidants: An In Vitro Approach – Sreelakshmi B. & Soumya R.S.* 139
- *Bioactive Potential of Sechium edule (Jacq.) Swartz: In Vitro Antioxidant and Anti-Inflammatory Activities – Nayana. P. Das & Soumya R.S.* 140
- *Synthesis And Characterization of Fenugreek Nanoparticles And Evaluation of Its Anti-Oxidant Activity – Adwaith S & Soumya R.S.* 141
- *In Vitro Assessment of the Antioxidant and Antidiabetic Enzyme Inhibition Properties of Calotropis gigantea Flowers – Athira Krishnan & Soumya R.S.* 142
- *Antioxidant Efficacy of Methanolic Fraction of Cissus quadrangularis: An In Vitro Study – Anjana Pradeep & Soumya R.S.* 143
- *Development and In Vitro Assessment of Vanadium Micro/ Nanoparticles for Antioxidant Applications – Ashina M Ismayel & Soumya R.S.* 144
- *Scrutinizing the Probiotic Potency of Pediococcus pentosaceus and Lactiplantibacillus plantarum from Idli Batter Through In-Vitro and In-Silico Approaches – Adithi Aneesh & Aniket Naha* 145
- *Elucidating the Synergism of Gentamicin with Terminalia bellirica to Combat MDR. Escherichia coli Through In-Vitro Experimentations and In-Silico Validations – Aleena Mary Jijo & Aniket Naha* 146
- *Exploring The Antibacterial and Antibiofilm Potency of Terminalia bellirica in Synergism with Susceptible Antibiotics Against Nosocomial Pseudomonas aeruginosa and Acinetobacter baumannii – Hanna Sherin N K & Aniket Naha* 147
- *In – Vitro Screening and Genomic Characterization of Weissella confusa as Novel Probiotic Strain from Indigenous Rose Matta Rice – Joby Rose Jacob & Aniket Naha* 148
- *Synergistic Effect of Phytochemicals Extracted from Terminalia chebula in Association with Susceptible Antibiotics Against Nosocomial Staphylococcus aureus and Klebsiella pneumoniae – Kavyalekshmi G Prasad & Aniket Naha* 149

• <i>Exploring the synergistic potential of novel phytochemicals from indigenous medicinal plants against ESKAPE Pathogens: An integrated in-vitro and in-silico approach – Ashitha Ashish & Aniket Naha</i>	150
• <i>Incidence of Acute Cytomegalovirus (CMV) Infection in Pregnant Women: An Exploratory Study Among Antenatal Cases in Tertiary Care Hospital – Greeshma Chandran & George Varghese</i>	151
• <i>IgM-IgG Avidity Combination Screening for CMV Infection in Antenatal Women in a Tertiary Care Centre in South India – Jennath M Ashraf, Soumya R S, George Varghese & Mercy John</i>	152
• <i>Seroprevalence of West Nile Fever Virus at a tertiary care centre in Kerala - A cross sectional study – Jitty Elsa Jacob & George Varghese</i>	154
• <i>In vivo and in vitro biocompatibility assessment of P(VDF-TRFE) nanofiber coreshell membrane loaded with cobalt ferrite nanoparticles intended for tissue engineering applications – Nair Sreelekshmi Ramachandran & Nebu George Thomas</i>	155
• <i>Fabrication and Preclinical Evaluation of PCL- PLA Loaded with Dopamine and Zinc Oxide Nanoparticles Intended for Wound Healing Applications – Shahanas Seethi & Nebu George Thomas</i>	156
• <i>Evaluation of in vivo biocompatibility and in vivo wound healing ability of PCL-PVDF coreshell membrane loaded with silver nanoparticles, Astaxanthin and Bioglass – Aleena & Nebu George Thomas</i>	157
• <i>Evaluation of in vivo biocompatibility and bone regeneration in potential of cad-cam assisted 3D printed PLA fish scale derived hydroxyapatite composite scaffolds - Anitta & Nebu George Thomas</i>	158
Key Facilities for Research at PRC	159
Memorandum of Understandings Signed by PRC	169
Gallery of PRC	173



ABOUT PUSHAGIRI RESEARCH CENTRE (PRC)

Pushpagiri Research Centre widely known as PRC was established in 2010 that serves as the 'Central Research Facility' to the various institutions under Pushpagiri Medical Society which includes Pushpagiri Institute of Medical Sciences, Pushpagiri College of Nursing, Pushpagiri College of Pharmacy, Pushpagiri College of Allied Sciences, Pushpagiri College of Dental Sciences alongside Pushpagiri Medical College Hospital. PRC has now grown to become one of the leading private research centres in the Central Travancore region of Kerala, featuring multifaceted and multidimensional research laboratories, which have all the facilities for conducting transdisciplinary biomedical research.

PRC is a hub of eminent scientists and faculties from diverse research domains like Tissue Engineering and Regenerative Medicine, Medical Biotechnology, Bioinformatics and Drug Designing, Cytogenetics and Biochemistry, Molecular Biology, Cell Culture, Clinical Microbiology, Virology, Cancer Research and Epidemiology studies. The center has received funding from prestigious agencies like DST, DBT, ICMR, KSCSTE and Bill & Melinda Gates foundation and has been part of many international research collaborations.

Approvals and Accreditations of PRC

- PRC is an approved Ph.D. Centre under the Kerala University of Health Sciences (KUHS), Chinmaya Viswa Vidyapeeth and Helsinki University, Finland
- PRC got an active Institution Review Board (IRB) that is registered to Director of Health Research (DHR)
- PRC has a Committee for Control and Supervision of Experiments on Animals (CCSEA) approved Animal House Facility which is regulated by the Institutional Animal Ethics Committee (IAEC)
- PRC conducts Phase 1 and Phase 2 Clinical Trials with approval from DHR and CDSCO



PRC's saliency lies in developing innovative patents and products, research publications in international peer reviewed journals of repute upon fostering in sustainable therapeutic regimens. PRC holds active Memorandum of Understandings (MoUs) with reputed institutions affiliated to central and state governments, autonomous colleges and institutions, private companies and firms from various sectors.

Pushpagiri Research Centre (PRC) is currently driven by a dynamic team of 10 leading scientists, 4 research trainees, 10 Ph.D. students and over 50 post graduate research students. Beyond its core research team, Pushpagiri Medical Society (PMS) hosts 16 Ph.D. holders, 21 ongoing Ph.D. scholars, and a postdoctoral researcher from prestigious national and international institutions. The institute has made significant academic contributions, with over 1,000 research publications, case reports, and reviews featured in reputable medical and non-medical indexed journals. PRC has also made strides in innovation by filing 7 Indian patents. Equipped with state-of-the-art research facilities, PRC houses a central instrumentation unit featuring high-end machinery for precision research and diagnosis. Its flagship annual conference, *Bioradiance*, serves as a beacon for research excellence, bringing together distinguished scientists, educators, policymakers, and pharmaceutical leaders from around the world.

Actively fostering collaborations, PRC engages adjunct faculty and research advisors from both national and international institutions, strengthening its research initiatives. It maintains Memorandums of Understanding (MoUs) with esteemed institutions across government bodies, autonomous colleges, private companies, and various sectors, facilitating research activities, student exchange programs, and technology transfers. Additionally, PRC provides valuable opportunities for undergraduate and postgraduate students to participate in internships, and dissertation projects, in alignment with their academic curriculum further enhancing their research experience. The centre also conducts several workshops, seminars, hands-on-training and continuing medical education (CME) throughout the year.

Over the past 15 years, PRC has managed more than 50 research projects supported by international funding bodies, including the Bill & Melinda Gates Foundation and Conferenza Episcopale Italiana, along with several national agencies such as DBT, ICMR, DST, and KSCSTE. Several projects remain in progress, contributing to ongoing scientific advancements. In addition to external funding, the institute also sanctions intramural projects to foster a strong research culture and drive innovation within its academic community.

Successfully Completed Funded Research Projects by PRC

1. Project proposal to develop a Drug eluting Bio compatible polymeric membrane 'POLYSKIN' for treatment of chronic ulcers
2. A Population based Surveillance of invasive disease caused by S. pneumonia or H. influenza or N. meningitis in children below five years of age in India
3. DNA repair pro efficiency and Generic polymorphism of genes involved in DNA repair in coronary artery diseases
4. Evaluation of the Research activities in the Medical Colleges of Kerala and Suggestions for strengthening them
5. Study of the inhalation Dose Estimate and biological effects of thoron and its progeny Nuclides Using mice-board
6. Fabrication of Polylactide membrane for wound healing
7. Immunity levels to Rubella Virus in Medical students of in Pushpagiri Medical College, Tiruvalla
8. Bacterial Metal-combo One pot resolution dynamic kinetic resolution of racemic epoxides
9. Role of indolamine 2.3 dioxygenase (IDO) in inflammatory cytokines and high glucose induced apoptosis of pancreatic islets of beta Cell -Potential therapeutic targets for type-1 Diabetes Mellitus
10. Molecular Basis of retinal ganglion cell death in diabetic retinopathy

11. Screening of mutations in BRCA genes and prediction of cancer susceptibility and genetic risk assessment
12. A population-based surveillance of invasive disease caused by S. pneumonia or influenza or N. meningitis in children below five years of age in India
13. Baseline Assessment for Streptococcus pneumonia of Indian Serotypes
14. Lutein - PLGA - grafted dextran nanoparticles for the regeneration of intestinal cells: A promising therapeutic agent against inflammatory bowel disorder
15. Viral etiology of pediatric acute respiratory tract infections (ARTI) in Central Travancore region in Kerala: A pilot study
16. Hantavirus infections in Kerala: A pilot study
17. To identify novel mutations in gene x of HBV for the early diagnosis of HCC progression Epidemiology of Rotavirus among children with acute diarrhoea in a tertiary hospital in central Travancore, South India
18. A pilot study on the prevalent serotypes of the circulating dengue virus in Central Travancore
19. Oxidized HDL Apolipoprotein-A1 as a risk predictor of cardiovascular disorders and development of novel diagnostics
20. Lutein - PLGA - grafted dextran nanoparticles for the regeneration of intestinal cells: A promising therapeutic agent against inflammatory bowel disorder
21. Anti-inflammatory, wound healing, antioxidant, radio protective and antineoplastic activities of herbal extracts and Phytoceutical molecular mechanisms and potential applications
22. Phylogenetic study of Ganoderma from Western Ghats of Kerala
23. In Vivo Hepatoprotection, Nephroprotection and Cardioprotection effect of Medicinal Mushroom Ganoderma
24. Biological evaluation of novel biomaterials for anti-microbial and biofilm inhibition properties
25. Biological evaluation and efficacy testing of engineered medical implants for the purpose of reducing hospital associated infections

26. Exploring the anti-microbial, biofilm inhibition and anti-virulence potential of novel chalcone derivatives
27. Evaluating the anti-virulence potential of natural essential oils against clinically relevant pathogenic stains
28. Biofilm inhibition and antifouling evaluation of sol-gel coated silicone implants with prolonged release of eugenol against *Pseudomonas aeruginosa*
29. Viral triggers in under five wheezers
30. Assessment of Antibiotic Prescribing Pattern in the Outpatient Department of a Tertiary Care Hospital in South India
31. A Survey Based Study on the Knowledge, Attitude and Practices of General Practitioners Related to Treatment Guidelines on Antimicrobial Use in Common Syndromes
32. Occult hepatitis B virus infection among hemodialysis and chronic liver disease patients in a tertiary care hospital (2nd Phase)
33. Human Milk based Human Milk Fortifier for Preterm Infants
34. Development and validation of biomedical and cosmetic products from secondary fishery raw materials
35. Biobased scaffolds, membranes and hydrogels for improved wound healing and bone regeneration (Bioheal)
36. Novel Nano based formulation from *Tinospora cordifolia* and evaluation of anti-SARS-CoV-2 activity
37. ICMR - RUMC COVID-19 study of Prophylaxis in Healthcare Workers
38. Comprehensive Cancer Screening and Action for Women in Kerala
39. Faecal carriage of drug-resistant bacterial colonizers in a tertiary care centre in South India
40. Anti-inflammatory activity of: Ayurvedic day In vitro and In vivo condition
41. Preclinical evaluation of 3D printed polylactic acid loaded with fish scale derived hydroxyapatite based composite scaffolds intended for alveolar bone regeneration
42. Biocompatibility of Scaffold – [Carbon Nano Dot-Poly caprolactone]

43. Healing of chronic venous ulcers /extensive ulcers by Nano-technology
44. Socket Preservation with Fish Scale Derived Hydroxyapatite: An In Vivo Murine Study
45. Evidence gap maps in dentistry - Covid End
46. Cystic fibrosis and COVID-19 patients: prevalence, clinical features and outcomes - A systematic review protocol
47. Assessment of Antibiotic Prescribing Pattern in the Outpatient Department of a Tertiary Care Hospital in South India
48. A Survey Based Study on the Knowledge, Attitude and Practices of General Practitioners Related to Treatment Guidelines on Antimicrobial Use in Common Syndromes
49. Development of demineralised fishbone derived bone graft intended for periodontal regeneration
50. Implementation of Short Multimodal Intervention in Tribal Population with Public-Private-Partnership to Complement National Tuberculosis Elimination Program-Co IICMR project
51. The Economic burden and Catastrophic Health Expenditure associated with COVID 19 hospitalization in Central Kerala
52. Complications associated with Percutaneous Nephrolithotomy (PCNL) in a Tertiary Care Centre-a Retrospective Study
53. Knowledge, Attitude and Behaviour Related to Evidence Based Practice Among Healthcare Practitioners

The PRC is dedicated to advancing both medical and basic science research to improve human health and patient care. All studies are conducted in strict accordance with internationally accepted ethical standards, as demonstrated by the rigor and integrity of our published work. Following thorough evaluation of our facilities and capabilities, numerous national and international institutions and companies have chosen us as their research partner. Our overarching vision is to alleviate suffering through scientific



innovation and to translate bench-side discoveries into advanced clinical practices that enhance patient outcomes.

Our Vision

We aim to create breakthroughs in medical field, by taking research outcome from bench to bedside, with high ethical standards, and to develop transformative technologies, to meet growing challenges in the area of human health and illness, with an innovative approach. It provides a platform, to develop strategies of therapeutic intervention to improve the quality of life, and to alleviate human sufferings. Our state-of-the-art infrastructure, and domain of expertise, catalyzes the translation of laboratory research of academia and industry to hospital bed.

Our Mission

To work towards a knowledge society with life in abundance through science and technology, improving health care for our immediate community, the state, the country and the world at large.

Our History

Pushpagiri Group of Institutions is located in the heart of Tiruvalla, a scenic town in Central Travancore in Kerala. This land is blessed with the visit of Saint Thomas, the disciple of Jesus. It harbours Sri Vallabha Temple, Saint John's Cathedral, Parumala Church to enrich the rich spiritual heritage of Tiruvalla. This place is richly ornamented with the lush green paddy fields and coconut grooves. The branches of Pushpagiri Medical Society comprise of Pushpagiri Institute of Medical Sciences, Pushpagiri College of Dental Sciences, Pushpagiri College of Pharmacy, Pushpagiri College of Nursing, & Pushpagiri College of Allied Health Sciences.

Our Team at PRC



From Left to Right: Dr. Aniket Naha (Scientist & Student Coordinator), Dr. Nebu George Thomas (Professor & Scientist), Dr. Ajay Krishnan U (Scientist), Dr. Rosin George Varghese (Assistant Professor), Mr. George Varghese (Assistant Professor), Rev. Dr. Mathew Mazhavancheril (Director, PRC), Dr. Betsy A Jose (Assistant Professor), Dr. Soumya RS (Scientist), Dr. Reeba Mary Issac (Assistant Professor), Mr. Jacob P. Ouseph (Secretary, PRC), Dr. Ampadi A. N. (Veterinary Officer)

DIRECTOR'S MESSAGE



India's emergence as one of the world's major economies is being reflected by its increasing contribution to the world's high-quality scientific research and research publications. The contributors of this development have been played by many research institutes around the country. One such research-intensive Centre is Pushpagiri Research Centre. The research team at PRC is keen in investigating, evaluating and unfolding the mystery lying around the field of biology by isolating bioactive compounds from nature to development of new diagnostic kits by breaking the conventional thinking to make translational research i.e., from lab to bedside, a reality. The youthful and energetic atmosphere of the centre is our success which develops an ideal and fertile research ecosystem for faculty, staff, students and trainees. We conduct various training programmes (cell culture, animal handling, bioinformatics), workshops (molecular biology, cell culture, animal handling, *in-silico* drug designing) and conferences (Bioradiance) which provides platform to various budding scientists and innovators to showcase their research, technical, analytical and presentation skills. These events encompass various disciplines like disease biology, tissue engineering, immunology and others, which also provide open possibilities for the interactive sessions, collaborative ventures with the field experts and the centre itself.

Our mission is to understand, evaluate, screen bioactive compounds and development of drugs, kits for the betterment of human race using *in-vitro* (cell culture) and *in-vivo* (animal models) methods to develop a unique training of individuals in basic & translational sciences and promote collaborations between medical, veterinary and agricultural professionals with basic biology scientists. Over the past few years, the ability of PRC in making a major contribution in the field of biology has been greatly supported by various funding agencies like DST, DBT, ICMR, BRNS and International agencies like Bill and Melinda Gates Foundation. I thank all the advisors, supporters and well-wishers of PRC for their constant encouragements throughout these years.



Rev. Dr. Mathew Mazhavancheril

Director - Pushpagiri Research Centre

STUDENT COORDINATOR'S MESSAGE



It is with immense pride and enthusiasm that I share the annual report of the Pushpagiri Research Centre (PRC) for the academic year 2024–2025. Our mission is anchored in the '**3P model**' – **Publication, Projects, and Patents**, which drives us to foster sustainable therapeutic regimens and translate clinical research into innovative products, patents, and high-impact publications. As the Student Coordinator, I actively seek new collaborations and welcome students from diverse institutions to become part of the PRC family. Our centre has consistently guided students to academic excellence, producing university toppers and publishing their research as full-fledged articles and patents.

Together with our dedicated faculty, we mentor Ph.D. scholars, postgraduates, and undergraduates from across India and abroad. We offer:

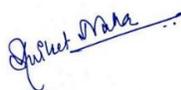
- *Project dissertations for UG and PGs aligned with academic curriculum*
- *Pre-Ph.D. training for postgraduates as Research Trainees*
- *Internships, Workshops, Seminars and Hands-on-Trainings*

PRC also supports faculty-led research through intramural funding and promotes interdisciplinary studies across various clinical and non-clinical scientific domains. We proudly extend our **high-end analytical instrumentation facilities** at affordable rates to students, scholars, and faculty from other institutions. Our infrastructure adheres strictly to GLP guidelines, ensuring research integrity and quality. Our specialized labs has fully equipped facilities to support:

- Clinical microbiology, food biotechnology, nanobiotechnology
- In-silico pipelines and Computational drug designing
- Clinical biochemistry and biomaterial synthesis for tissue regeneration
- NABL-accredited virology diagnostics and research
- Fully equipped Animal House Facility with advanced surgical facilities
- Preclinical trials and analysis (ISO compliant)

I warmly invite you and your students to explore the vast opportunities at PRC and elevate your research journey with us. Looking ahead, PRC remains committed to nurturing a vibrant research ecosystem that bridges academia and industry. We are actively expanding our collaborative networks with national and international institutions, aiming to create multidisciplinary platforms for innovation. Our goal is not only to empower students and scholars with technical expertise but also to instil an ethical research mindset that contributes meaningfully to global healthcare challenges. With a strong foundation and forward-thinking leadership, PRC continues to be a catalyst for transformative research and academic excellence.

Best regards,



Dr. Aniket Naha (M.Sc., Ph.D.)

Senior Scientific Research Officer and Student Coordinator, Pushpagiri Research Centre

MANAGEMENT TEAM



H.G. Most Rev. Dr. Thomas Mar
Koorilos
Metropolitan Archbishop of
Tiruvalla & Patron



Rt. Rev. Msgr. Fr. Issac
Parappallil
Vicar General Archdiocese
of Tiruvalla, President



Rev. Fr. Dr. Biju Varghese
Chief Executive Officer,
Secretary



Shri. Jacob Punnoose, IPS
Principal Advisor



Rev. Fr. Dr. Mathew
Mazhavancheril
Director - Pushpagiri
Research Centre



Rev. Fr. George
Valiyaparampil
Director - College of
Medicine & Allied Science



Rev. Fr. Mathew Thundiyl
Hospital Administrator



Rev. Fr. John Padipurackal
Director Finance



Rev. Fr. Mathew
Puthenpurayil
Director - Facilities
Management

DSIR RECOGNITION



सूचना का
अधिकार
RIGHT TO
INFORMATION

दूरभाष/TEL : 26962819, 26567373
(EPABX) : 26565694, 26562133
: 26565687, 26562144
: 26562134, 26562122
फैक्स/FAX : 26960629, 26529745
Website : <http://www.dsir.gov.in>
(आईएसओ 9001:2008 प्रमाणित विभाग)
(AN ISO 9001:2008 CERTIFIED DEPARTMENT)



सत्यमेव जयते

भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
वैज्ञानिक और औद्योगिक अनुसंधान विभाग
टेक्नोलॉजी भवन, नया महरौली मार्ग,
नई दिल्ली - 110016
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
Department of Scientific and Industrial Research
Technology Bhavan, New Mehrauli Road,
New Delhi - 110016



F.No. 14/590/2011-TU-V

Date: 27th March 2023

The Director
Pushpagiri Medical Society
Pushpagiri Medical College Hospital Campus,
Pathanamthitta,
Tiruvalla – 689101, Kerala .

Subject: Renewal of Recognition of Scientific and Industrial Research Organisations (SIROs).

Dear Sir,

This has reference to your application for renewal of recognition of **Pushpagiri Medical Society, Tiruvalla, Kerala** as a Scientific and Industrial Research Organisation (SIRO) by the Department of Scientific and Industrial Research under the Scheme on Recognition of Scientific and Industrial Research Organisations (SIROs), 1988.

2. This is to inform you that it has been decided to accord renewal of recognition to **Pushpagiri Medical Society, Tiruvalla, Kerala** from **01.04.2023 to 31.03.2026**. The recognition is subject to terms and conditions mentioned overleaf.
3. Receipt of this letter may kindly be acknowledged.

Yours faithfully,

(Dr. P.K. Dutta)
Scientist - 'G'

Pushpagiri received the DSIR recognition for the 4th consecutive time

PUSHPAGIRI RESEARCH COUNCIL



Reg.No: P. 73/92
Pushpagiri Medical College Hospital
Tiruvalla - 689 101, Kerala, India.
+91 469 2603833 (CEO)
+91 469 2633769 (Finance)
ceo@pushpagiri.in
financedirector@pushpagiri.in
www.pushpagiri.in

HR2/7506/2024

July 15, 2024

Proceedings of the Secretary, Pushpagiri Medical Society

Subject: Constitution of Research Council - Pushpagiri Medical Society.

A Research Council has been constituted to provide strategic oversight, coordination and support for research activities within our Institutions. Representatives from all Institutions under Pushpagiri Medical Society will serve as members in this Council.

Council Members:

1. Rev. Dr Mathew Mazhavancheril, Research Director
2. Dr Vikram Gowda, VP(Administration), PIMS
3. Dr Tomy Philip, Professor of General Medicine, PIMS
4. Dr Jacob Abraham, VP (PG Studies), PIMS
5. Dr.Aby Mathews, Principal, PCDS
6. Dr Sunil S, VP (Academics), PCDS
7. Dr. Nebu George Thomas, Professor of Periodontology, PCDS
8. Dr Santosh Mathews, Principal, PCP
9. Dr Christy K Jose, Professor & Head, Dept. of Pharmaceutical Chemistry, PCP
10. Dr Jeenu Joseph, Professor & Head, Dept. of Pharmacognosy, PCP
11. Rev Sr. Mary Jyothi OSS, VP (Administration), PCON
12. Mrs. Ashamol MB, Lecturer, PCON
13. Mrs. Ansu Raju, Asst. Professor, PCON
14. Dr Yogesh B Dalvi, Scientist, PRC
15. Dr Aniket Naha, Scientist, PRC



Fr. Dr. Biju Varghese
Secretary
Pushpagiri Medical Society

Fr. Dr. Biju Varghese
Secretary
Pushpagiri Medical Society
Tiruvalla - 689 101, Kerala, India



Enclosures:

1. Broad objectives of the Research Council
2. Responsibilities of the Research Council Members

Copy to: All Directors
All Members of the Research Council

PR

Institutions under Pushpagiri Medical Society

- ▶ Pushpagiri Institute of Medical Sciences and Research Centre
- ▶ Pushpagiri Medical College Hospital
- ▶ Pushpagiri Heart Institute
- ▶ Pushpagiri College of Dental Sciences
- ▶ Pushpagiri College of Pharmacy
- ▶ Pushpagiri College of Nursing
- ▶ Pushpagiri College of Allied Health Sciences
- ▶ Pushpagiri School of Nursing
- ▶ Pushpagiri Centre for CGFNS and IELTS Training
- ▶ Pushpagiri Research Centre

Research Council got formed with the members from each institute under Pushpagiri Medical Society (PMS)

Aims of the Research Policy

Pushpagiri Institute of Medical Sciences & Research Centre to promote scientific temper and research culture among its faculty and students by providing the required resources and appropriate facilities to conduct quality research. It hopes to realize the vision and missions of the institution and uphold to the established standards and norms relating to safe and ethical conduct of research.

Objectives of the Research Policy

1. To create a research fund for supporting and facilitating research initiatives and projects of faculty members and students
2. To strengthen the institutional capacity for strategic, technical and operational planning, budgeting and control of all research activities of the University
3. To develop rules, procedures and guidelines for granting research support, instituting awards, and supporting all other related activities
4. To develop rules, procedures and guidelines for granting study leave, sabbatical leave, duty leave, reduction in workload, etc. for faculty members' research activities.
5. To provide a modality of for proper coordination of all research activities of the University and aligning these to the vision and missions of the University and national development goals.
6. To prepare and update the research agenda of the University outlining the preferred focus areas and priorities of research activities to be supported.
7. To guide faculty members in the effective integration of research projects with the regular curriculum implementation and curriculum enrichment activities.
8. To identify researchers about the appropriate research opportunities announced by different academic, research, industry or government organizations.

9. To promote interdisciplinary research and establish modalities for preparing and undertaking joint research projects covering more than one knowledge domain as well as policies for involving external agencies/experts in such projects.
10. To provide a research code, which informs all researchers about the ethical and legal norms and principles to be followed in the conduct of research.
11. To establish linkages including MOU s for long-term relationships with national and international research organizations for widening the scope of research opportunities and funding options available to the teachers and students of the Institution.
12. To support the publication of the research work/projects in reputed academic journals and provide incentives for the same.
13. To support the presentation/communication of the research work/projects as well as their findings and recommendations through academic events such as workshops/seminars/guest lectures or the media.
14. To implement research quality assurance mechanism for ensuring that all research activities of the institution.
15. To enforce rules and procedures to ensure the compliance of all researchers to the research quality assurance framework, the research code and all the applicable rules and regulations.

Research Policy Implementation Mechanism

The Research Cell of the institution shall be responsible for implementing this research policy of the University by working closely with the University management. The specific roles and functions of the research cell will be as follows:

1. To facilitate the faculty in undertaking research and advice the management to set up a research fund for providing seed money
2. To provide research facilities in terms of infrastructure, i.e. laboratory equipment, and research incentives required by the faculty.

3. To promote a research culture (eg. teaching workload remission, opportunities for attending conferences).
4. To prepare rules & guidelines for Grant of Research related leave and other remissions, a research agenda with relative priorities.
5. To support the faculty to undertake research by collaborating with other research organizations/ industry.
6. To derive suitable procedures for giving due recognition for guiding research.
7. To facilitate the establishment of specific research units/ centres by funding agencies /university.
8. To organize workshops/ training programmes/ sensitization programmes are conducted by the institution to promote a research culture on campus.
9. To prepare budgets for supporting students' research projects.
10. To approach National and international organizations such as CSIR, DST-SERB, DST, DBT, NATO, DRDO and BARC to fund major and minor research projects undertaken by the faculty / students.
11. To improve the availability of research infrastructure requirements to facilitate research.
12. To develop and implement an official Code of Ethics to check malpractices and plagiarism in research.
13. To facilitate Interdepartmental / interdisciplinary research projects.
14. To institute research awards.
15. To provide incentives for the faculty who receive state, national and international recognition for research contributions as well as research awards and recognition from reputed professional bodies and agencies.
16. To promote the publication of research articles by the faculty in reputed/ referred journals.
17. To maintain a database of research work and research projects undertaken by the faculty and students as well as collect data by metrics such as Citation Index, Impact Factor, h-index, SNIP, SJR etc.

18. To publicize the research expertise and consultancy capabilities available in the University.
19. To encourage publication leading to patent/ patenting research activities.
20. To encourage collaborative research with International/ National reputed institutes.
21. To facilitate the provision consultancy services to industries / Government / Non- Government organizations / community/Public.
22. To invite industry to use the research facilities of the University and sponsor research projects.



Newly formed Research Council Meeting at CEO's Office. Dr. Nebu, Dr. Yogesh and Dr. Aniket from PRC are the members. This Council was represented by all Principals / Vice Principals of various institutions. The council will be supervising and controlling all research done under PMS on 14.08.2024

RESEARCH ADVISORY BOARD



Dr. Anil Sukumaran

BDS, MDS, Ph.D., FDS RCS (Ed), FDS RCPS (Glas), FICD, FPFA

Professor, Periodontics, Implant Dentistry
Hamad Medical Corporation, Qatar



Dr. Aji P. Mathew

Ph.D.

Professor, Department of Materials & Environmental
Chemistry, Stockholm University, Sweden



Dr. Lakshmi S. Nair

M. Phil, Ph.D., FSBOI, FAIMBE, FNAI

Professor, Department of Orthopedic Surgery, University of
Connecticut Health, Associate Director, The Connecticut
Convergence Institute for Translational in Regenerative
Engineering, Connecticut, USA



Dr. Jayachandran VP

M.Sc., Ph.D.

Lecturer, Applied Biology Section, Applied Sciences
Department, University of Technology & Applied Sciences,
PO Box 74, AL-Khuwair, PC 133, Muscat. Sultanate of Oman



Dr. Sabu Thomas

Ph.D., FRSC, FeurASc, D.Sc. (UL, France), D.Sc. (UBS, France)

Chairman, Trivandrum Engineering Science & Technology
(TrEST) Research Park, Trivandrum, Government of Kerala,
India Former Vice Chancellor, MG University, Professor of
Polymer Science & Engineering, Kottayam 686560, Kerala, India



Dr. Anand Anbarasu

M.Sc., M.Tech., Ph.D., FRBSB (UK)

Professor and Associate Dean, Department of Biotechnology & School of Bio Sciences and Technology
Vellore Institute of Technology, Vellore - 632014



Dr. Nandakumar Kalarikkal

Ph.D., IIUCNN & SPAP

Associate Professor, Advanced Materials Laboratory, School of Pure and Applied Physics, International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam-686 560, Kerala, India



Dr. Raghu KG

Ph.D. Rtd.

Chief Scientist, CSIR - National Institute for Interdisciplinary Science and Technology (NIIST), Trivandrum



Dr. Betsy Joseph

Ph.D.

MFDS RCPS (Glasg), Professor, Saveetha Dental College & Hospitals, Saveetha Institute of Medical and Technical Sciences, Chennai, India



Dr. K Rajankutty

B.Sc., BVSc. & AH, MVSc., Ph.D.

Scientist & Head, Small Animal Research Facility, Jubilee Mission Medical College & Research Institute, Trissur, 680005

ADJUNCT FACULTIES



Dr. Philip Mathew

MD

Official in World Health Organization (WHO)
Geneva, Switzerland



Dr. Mekha Grace Varghese

BDS, MDS

Stem Cell and Tissue Engineering Laboratory
Pushpagiri Research Centre
Pathanamthitta, Tiruvalla, Kerala



Dr. Sherin Susan Paul

MBBS (Vellore), MD (Vellore), FPM, M.Sc.

Global Ageing & Policy (Southampton)
Monitoring and Evaluation Manager, ReAct Africa
Adjunct Faculty. College of Public Health, Kent State
University, Ohio, 16 Rue des Bugnons, 1217 Meyrin, Geneva



Dr. Rojin George Abraham

MBBS, M.ch.,

Head of the Department,
Department of Neurosurgery,
Believers Church Medical College Hospital,
Tiruvalla, Kerala

FACULTY MEMBERS AND SCIENTISTS OF PRC

Director & Head



**Rev. Dr. Mathew
Mazhavancheril**

**[M.Sc., Ph.D.,
Post Doc (France)]**

**Molecular Biology
Laboratory**



**Dr. Ajay Krishnan U
[M.Sc., Ph.D.]
Scientist**

Animal House Facility



**Dr. Ampadi A. N.
[MVSc, PGDAW,
BVSc and Ah]
Veterinary Officer &
Animal House In-
Charge**

**Medical Biotechnology &
Computational Drug
Designing Laboratory
&
Microbial Technology &
Infectious Disease Laboratory**



**Dr. Aniket Naha
[M.Sc., Ph.D.]
Scientist & Student
Coordinator**

**Cancer Research &
Public Health**



**Dr. Betsy A Jose
[MD]
Assistant Professor &
Project Coordinator
(CANCare)**

Centre for Virology



**Mr. George Varghese
[M.Sc. (CMC
Vellore)]
Assistant Professor &
Virology In-Charge**

**Stem Cell & Tissue
Engineering Laboratory**



**Dr. Nebu George
Thomas
[MDS, Ph.D.]
Scientist & Professor**

**Centre for Evidence Based
Practice**



**Mrs. Nisha Kurian
[M.Sc. (Biostatistics)]
Assistant Professor**

HLA & Tissue Typing



**Dr. Reeba Mary Issac
[MBBS, DCP, Ph.D.]
Assistant Professor**

Clinical Epidemiology Unit



**Dr. Rosin George
Varghese
[MD]
Assistant Professor**

**Cytogenetics & Biochemistry
Laboratory**



**Dr. Soumya R.S.
[M.Sc., Ph.D., Post
Doc]
Scientist & Assistant
Professor**

Secretary



**Mr. Jacob P. Ouseph
Executive, PRC**

12th INTERNATIONAL CONFERENCE BIORADIANCE - 2024



12th
International Conference
BIORADIANCE
2024 Defeat Superbugs, Preserve Future

Theme:
**Frontiers In
Antimicrobial
Sciences:**
International Conference
On Global Advances &
Updates On Antimicrobial
Research And Resistance
Strategies



Organised By
PUSHPAGIRI RESEARCH CENTRE (PRC)



Department of
BioTechnology,
Government
of India



Co-Sponsored By
DEPARTMENT OF BIOTECHNOLOGY (DBT), NEW DELHI
**KERALA STATE COUNCIL FOR SCIENCE,
TECHNOLOGY AND ENVIRONMENT (KSCSTE)**

16th-18th MAY 2024

**SENATE HALL, PUSHPAGIRI INSTITUTE OF
MEDICAL SCIENCES AND RESEARCH CENTRE**

In Association With
PUSHPAGIRI INSTITUTE OF MEDICAL SCIENCES
PUSHPAGIRI COLLEGE OF DENTAL SCIENCES
PUSHPAGIRI COLLEGE OF NURSING

Inauguration of BIORADIANCE 2024 by PRC



From left to right: Dr. Aniket Naha (Secretary & Scientist), Dr. Yogesh Bharat Dalvi (Convenor & Scientist), Prof. Dr. Anand Anbarasu (Chairperson), Rev. Dr. Mathew Mazhavancheril (Director - Pushpagiri Research Center), Prof. Dr. Nandakumar Kalarikkal (Guest of Honour), Prof. Dr. Mohanan Kunnnummal (Chief Guest), Rev. Dr. Biju Varghese (CEO), Rev. Fr. George Valiyaparambil (Academic Director), Dr. Jacob Abraham (Vice Principal), Prof. Dr. A. Devadathan (Dean, Dentistry, KUHS) and Prof. Dr. Nebu George Thomas (Co - Secretary)

Proceedings of BIORADIANCE - 2024

PRC has successfully organized and conducted the 12th annual conference, Bioradiance - 2024, spanned from 16th - 18th May, 2024. This year's conference, themed “Frontiers in Antimicrobial Sciences: International Conference on Global Advances & Updates on Antimicrobial Research and Resistance Strategies”, saw its expansion to an international platform, drawing over 250 delegates & participants from across the globe in hybrid mode amalgamating together to tackle the critical issue of antimicrobial resistance (AMR) in nosocomial pathogens. The conference was co-sponsored by the Department of Biotechnology (DBT), New Delhi and the Kerala State Council for Science, Technology and Environment (KSCSTE) implicating the importance of antibiotic

stewardship and one-health approach programmes in alignment to Nation's health plans schemes. The KUHS have wholeheartedly endorsed the programme and supported with us with medical and dental credit points.

The inaugural session witnessed esteemed dignitaries gracing the occasion and lighting the holy lamp. Significant personnel being Prof. Dr. Mohanan Kunnummal, Vice Chancellor of KUHS who has honored the event as the Chief Guest. Highlighting on the motto of the conference 'Defeat Superbugs, Preserve Future', Prof. Kunnummal highlighted the importance of such conferences and congratulated the organizing team for discussing such significant topics at a conference of such international standard. He stated "Defeating superbugs is not just a regional effort; it requires a global commitment" and emphasized growth of research cultures in medical college setups. Motivating doctors and scientists, he highlighted that importance of translational research clubbed with machine learning and artificial intelligence. Prof. Dr. Nandakumar Kalarikkal, Senior Professor from Mahatma Gandhi University, was the Guest of Honour who too highlighted the emerging trends of multi-drug resistance and extensively drug resistance bacterial isolates in recent years. Rev. Dr. Mathew Mazhavancheril, Director - Medical College, Allied Sciences, PRC and Medicity Campus, delivered the Welcome Speech, followed by an inspiring Presidential Address by Rev. Dr. Biju Varghese, CEO of Pushpagiri Group of Institutions. Additionally, Rev. Fr. George Valiyaparambil, Dr. Jacob Abraham, Vice principal, PG Academics and Prof. Dr. A. Devadathan, Dean Dentistry, KUHS graced the event with their felicitation addresses. Dr. Aniket Naha, Scientist PRC and General Secretary of BIORADIANCE-2024 extended heartfelt thanks to all the delegates on and off the dais, plenary speakers, participants, organizing committee and all who have helped for the successful conduction of the conference.

A total of 12 national and international speakers, stalwarts in the field of antimicrobial drug discovery has delivered their plenary talks on topics such as Antibiotic Stewardship, One Health Approach, Sustainable Therapy, AMR Surveillance, Machine Learning, and Artificial Intelligence over a period of 2 days. The international and national delegates were Prof. Mark Toleman and Prof. Dr. Paul Livingstone from

Cardiff Metropolitan University, UK; Prof. Donghyuk Kim (UNIST, South Korea), Dr. Anand Manoharan (GSK, UK); Prof. Anand Anbarasu (Vellore Institute of Technology, Vellore); Dr. Maneesh Paul (Microvioma, Bangalore); Prof. Murugan Sevanan (Karunya Institute of Technology and Sciences, Coimbatore); Prof. Dr. Anindya Sundar Ghosh (Indian Institute of Technology, Kharagpur), Prof. Perumal Vivekanandan (Indian Institute of Technology, Delhi); Prof. Dr. Amitabha Bhattacharjee (Assam University, Silchar); Dr. Karthik Gunasekaran (Christian Medical College & Hospital); Dr. Muruganandam Nagarajan (Regional Medical Research Centre, ICMR).

A consultive meeting and discussion on collaborative action plan to tackle AMR engaged delegates and faculties of PRC along with research scholars from different universities. The meeting was presided by Prof. Anand Anbarasu and active involvement of Dr. Maneesh, Dr. Anindya, Dr. Paul and Dr. Perumal. The meeting displayed the research strengths and expertise of individual and planned for future joint collaborations, patents and big-grants proposal aids. The event concluded with a cultural flavour, with captivating dance performances showcasing Kerala's rich heritage by the talented students of Pushpagiri Institute of Medical Sciences and Research Centre, Pushpagiri College of Dental Sciences, and Pushpagiri College of Nursing.

Over 64 abstracts for oral and poster presentations were received and scrutinized for under basic and medical research. Students, research scholars and faculty/scientists from Assam University, Silchar; Vellore Institute of Technology, Vellore; University of Calicut; Calicut Amrita Vishwa Vidyapeetham, Kollam; Believers Church Medical College Hospital, Tiruvalla; Jubilee Mission Medical College and Research Institute, Thrissur; MACFAST, Tiruvalla; Jain (Deemed-to-be) University; NIMS University; St. Xavier's College; Aluva, St. Berchman's College, Changanassery; Lovely Professional University, Punjab; Fergusson College, Indian Institute of Technology Roorkee; Karunya Institute of Technology and Sciences; Tujaram Chaturchand College of Arts, Science and Commerce, Baramati; Mahatma Gandhi University of Medical Sciences and Technology, Jaipur, Himalayan Institute of Medical Sciences, Uttarkhand; St. Martha's Hospital, Bangalore; MIMER Medical College, Pune; Sir H N Reliance Foundation Hospital and

Research Centre, Mumbai; Pushpagiri Institute of Medical Sciences and Research Centre & Pushpagiri College of Dental Sciences, Tiruvalla actively participated and contributed to the success of the conference.

The three days conference ended with technical visits of delegates to the Research Centre Visit, visit to CCSEA and IAEC approved Animal House facilities by delegates and scholars. The valedictory session ended with prize distribution to the winners and runners-up students, research scholars and faculty/scientists for oral and poster presentations under medical and basic research category. Valedictory session concluded upon welcome speech by Mr. George Varghese, coordinator PRC, presidential address by Rev. Dr. Mathew Mazhavancheril, Director & Head, PRC, keynote address by Prof. Dr. Nebu George Thomas, additional secretary of BIORADIANCE, feedback address by Dr. Paul Livingstone and vote of thanks by Dr. Yogesh Bharat Dalvi, Scientist and Convenor - BIORADIANCE. The programme ended on a high note with National Anthem being sung by all attendees.

Speakers of BIORADIANCE - 2024

1



Dr. Mark Toleman
Senior Lecturer,
School of Medicine,
Cardiff Metropolitan University,
Cardiff, UK

2



Dr. Paul Livingstone
Lecturer, Biomedical Sciences,
Cardiff Metropolitan University,
Cardiff, UK

3



Dr. Donghyuk Kim

Associate Professor,
Systems Biology & Machine Learning Lab,
Schools of Energy & Chemical Engineering
(ECHE) and Life Sciences (SLS), Ulsan
National Institute of Science and
Technology (UNIST), Ulsan, South Korea

4



Dr. Anand Manoharan

Scientific and Antibiotic Susceptibility
Program Lead, Infectious Diseases Medical
and Scientific Affairs, Steifel & Infectious
Diseases Medical Department,
GlaxoSmithKline, Brentford, UK

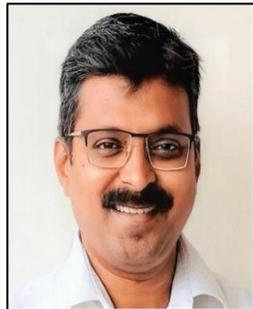
5



Dr. Anand Anbarasu

Professor and Associate Dean,
Medical and Biological Computing
Laboratory, School of Bio Sciences and
Technology, Vellore Institute of Technology,
Vellore, Tamil Nadu, India

6



Dr. Maneesh Paul

Chief Executive Officer,
Microvioma Private Limited,
Bangalore, India

7



Dr. Amitabha Bhattacharjee

Assistant Professor
Department of Microbiology
Assam University (A Central University)
Silchar-788011, India

8

**Dr. Perumal Vivekanandan**

Professor, School of Biological Sciences,
Kusuma School of Biological Sciences
Indian Institute of Technology Delhi,
Hauz Khas, New Delhi,
Delhi, India - 110016

9

**Dr. Murugan Sevanan**

Associate Professor, Division of
Biotechnology, School of Engineering and
Technology, Karunya Institute of Technology
and Sciences, Karunya Nagar, Coimbatore -
641114

10

**Dr. Anindya Sundar Ghosh**

Professor, Department of Biosciences and
Biotechnology, Indian Institute of
Technology Kharagpur, Kharagpur-721302,
West Bengal, India

11

**Dr. Muruganandan Nagarajan**

Scientist C, Indian Council of Medical
Research (ICMR) – Regional Medical
Research Centre, Port Blair, Andaman and
Nicobar Islands, 744103, India

12

**Dr. Kartick Gunasekaran**

Assistant Professor, Department of General
Medicine, Christian Medical College and
Hospital, Vellore, India

Patrons & Organizing Committee of BIORADIANCE - 2024

PATRONS

H. G. Most Rev. Dr. Thomas Mar Koorilos (Archbishop, Archdiocese of Tiruvalla)
Rev. Dr. Biju Varghese (CEO, Pushpagiri Group of Institutions)
Rev. Dr. Mathew Mazhavancheril, (Director - Pushpagiri Research Center)
Rev. Fr. George Valiyaparambil (Director, School of Medicine and Allied Sciences)
Rev. Fr. Aby Vadakumthala (Director, Medicity)

ORGANIZING CHAIRPERSON

Rev. Dr. Mathew Mazhavancheril, (Director - Pushpagiri Research Center)
Prof. Dr. Anand Anbarasu (Professor and Associate Dean, VIT Vellore)
Dr. Reena Thomas (Principal, Pushpagiri Medical College)
Dr. Aby Mathew T (Principal, Pushpagiri College of Dental Sciences)
Dr. Vineeta Jacob (Pushpagiri College of Nursing)
Dr. M.O. Annamma (Pushpagiri College of Allied Sciences)
General Convener: Dr. Yogesh Bharat Dalvi (Scientist, PRC)
General Secretary: Dr. Aniket Naha (Scientist, PRC)
Additional Secretary: Dr. Nebu George Thomas (Professor & Scientist, PRC)

SCIENTIFIC COMMITTEE

Dr. Vikram Gowda	Dr. Soumya RS
Dr. Jacob Abraham	Dr. Betsy A Jose
Dr. Sajit Varghese	Dr. Rosin George Varghese
Mr. George Varghese	Dr. Leya Elizabeth Babu
Dr. Serene Varghese	Dr. Purnima C
Dr. Sunil S	Dr. Benley George
Dr. Thomas George	Dr. Binoy T Thomas
Sr. Mary Jyothi OSS	Mr. Renji George John

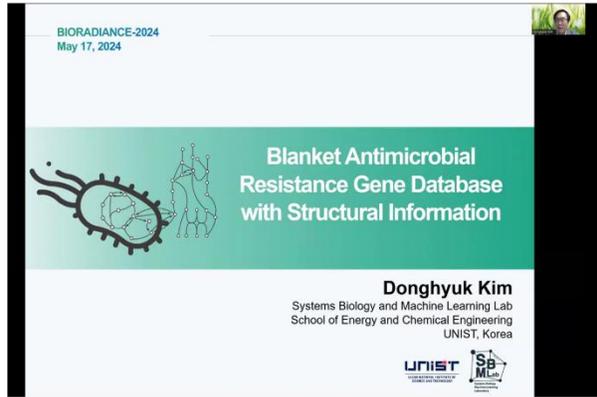
Glimpses from BIORADIANCE - 2024















RESEARCH LABS AND FACILITIES OF PRC

Cancer Research & Public Health

Scientist: Dr. Betsy A Jose, MD; betsymukkathu777@gmail.com

Public health labs explore the factors that affect health and wellbeing, understanding the underlying causes of health inequities and creating possible strategies to solve them.

Cancer Research: The lab analyses the patterns of cancer occurrence within populations to identify risk factors especially among woman and develop preventive measures.

Cancer Screening: Develops and refines screening techniques to detect cancer at its earliest stages, when treatment is most effective.

This research field is not confined to the laboratory. The lab is closely knitted with communities, healthcare providers, and policymakers to translate research findings into actionable solutions. By combining rigorous scientific methods with real-world insights, the activities of the lab strive to improve the health and well-being of individuals and communities around the world.

CANCare Camps conducted

Sl. No.	Camps / Activities	Objective	Place	Name of Scientist
1.	CANcare Camp	Cancer Screening Programme for Women	St. Josephs Malankara Catholic Church, Niranam, 27/4/2024	Dr. Betsy A Jose
2.	Health Awareness Session	Kudumbasree Workers on Healthy Life Style	CDS, Kudumbasree Hall, Pathanamthitta, 15/5/2024	Dr. Betsy A Jose
3.	CANcare camp	Cancer Screening Programme for Women	St. Josephs Central School, Mundakkayam, 25/5/2024	Dr. Betsy A Jose
4.	CANcare camp	Cancer Screening Programme for Women	CBC Warrior Foundation, EMS	Dr. Betsy A Jose

			Bhavan Haripad, 17/6/2024	
5.	Camp	Rheumatic Heart Disease Screening	St. Thomas School, Eruvellipra, 18/6/2024	Dr. Betsy A Jose
6.	CANcare camp	Cancer Screening Programme for Women	St. Marys Malankara Catholic Church, Manarkad, 28/7/2024	Dr. Betsy A Jose
7.	CANcare camp	Cancer Screening Programme for Women	Lourdes Matha Church, Changanassery, 25/8/2024	Dr. Betsy A Jose
8.	CANcare camp	Cancer Screening Programme for Women	Govt HSS, Trikodithanam, 31/8/2024	Dr. Betsy A Jose
9.	CANCare camp	Cancer Screening Programme for Women	TSS, Bodana, 11/10/2024	Dr. Betsy A Jose
10.	CANCare Camp	Cancer Screening Programme for Women	Geethanjali Auditorium, Nedunkunnam, 15/10/2024	Dr. Betsy A Jose
11.	CANCare Camp	Cancer Screening Programme for Women	UHTC, Mathilabhagam, 29/10/2024	Dr. Betsy A Jose
12.	CANCare Camp	Cancer Screening Programme for Women	Government School, Kannadi, Pulincunnu, 10/11/2024	Dr. Betsy A Jose
13.	CANcare Camp	Cancer Screening Programme for Women	Krishi Bhavan Hall, Naranganam, 14/11/2024	Dr. Betsy A Jose
14.	CANCare Camp	Cancer Screening Programme for Women	St. Marys Malankara Catholic Church, Chettukuzhy, Idukki, 21/11/2024	Dr. Betsy A Jose

Key Research Areas

1. Cancer Research, CANcare: Cancer Epidemiology: Analyzing the patterns of cancer occurrence within populations to identify risk factors especially among woman and develop preventive measures
2. Cancer Screening: Developing and refining screening techniques to detect cancer at its earliest stages, when treatment is most effective.
3. In the 2024- 2025 year, CANcare conducted 20 camps along with other medical camps. The suspects were counselled for further investigations.
4. Health Promotion: I am interested to work on designing and implementing programs that empower individuals and communities to make healthy choices. This includes promoting healthy behaviors like physical activity, healthy eating, and stress management.
5. Antimicrobial Resistance -Health Literacy and Communication: Developing effective communication strategies to educate the public about AMR and promote appropriate antibiotic use is one of my field of interests.
6. Adolescent Health- Mental Health: I would like to work on Depression and anxiety, suicide prevention and substance abuse among adolescents. Depression and Anxiety: Understanding the prevalence, risk factors, and effective interventions for mental health disorders among adolescents. Suicide Prevention: Identifying early warning signs, developing prevention strategies, and improving access to mental health services. Substance Use: Examining the factors influencing substance use and developing evidence-based prevention and intervention programs.
7. Tuberculosis – I am also interested in Identifying High-Risk Populations for Tuberculosis, identifying barriers to treatment adherence and developing strategies to improve patient outcomes, Developing and evaluating community-based interventions to prevent TB such as health education campaigns and social mobilization and understanding the impact of stigma and discrimination on TB patients and developing strategies to reduce stigma

Instrumentation Facilities

- Colposcope
- Velscope
- Breast light
- iBreastScan
- Speculum

FRAIT Project – Family Resilience Assessment Instrument Tool –

A collaborative project of PRC with University of South Wales, UK

Work scope

This study will identify the concept of family resilience as understood by Indian community health workers of Kerala. The long-term goal is to use the new concept to develop a culturally relevant tool to assess families with children under 6yrs using an online tool Group Concept Mapping (GCM).

Rev. Dr. Mathew Mazhavancheril signed a MoU with the University of South Wales, UK regarding the conduction of FRAIT Collaborative Project

Goals

To develop the concept of family resilience among Accredited Social Health Activists (Anganwadi) in Kerala

Objectives

1. To carry out a three step Group Concept Mapping method (brainstorming, sorting and rating)
2. To analyse the data and identify the concept of family resilience in partnership.
3. To build on the existing relationship and take forward the program of research on family resilience with Accredited Social Health Activists (Anganwadi) in Kerala.

Investigators and Co-Investigators

University of South Wales (USW)

- Carolyn Wallace, **Principal Investigator**

- Anitha Livingstone – Co-Investigator and cultural lead
- Michelle Thomas - Co-Investigator
- David Pontin - Co-Investigator

Pushpagiri Institute of Medical Sciences and Research Centre (PIMS&RC) and Pushpagiri College of Nursing (PCON)

- Dr. Betsy A Jose, **Principal Investigator (PIMS&RC)**
- Dr. Meena Isaac – Co-Investigator
- Dr. Rosin George Varghese – Co-Investigator
- Sr. Mary Jyothi OSS – Co-Investigator

FRAIT Online Meeting



The first meeting with the UK FRAIT team from University of South Wales regarding the planning and possibility of the upcoming Indo-UK collaborative project on Family Resilience on 02.07.2024



Rev. Dr. Biju Varghese, CEO exchanging the MoU officially with the Investigator of FRAIT Project from University of South Wales

Centre for Evidence based Practice (PCEBP)

Scientist: Nisha Kurian, MSc (Biostatistics), MPS. nishakurianmathew@gmail.com

Pushpagiri Centre for Evidence Based Practice (PCEBP) was inaugurated on January 7, 2019. The PCEBP functions under the Pushpagiri Research Centre, in collaboration with Pushpagiri Institute of Medical Sciences & Research Centre, Pushpagiri College of Dental Sciences, Pushpagiri College of Nursing and clinical partnership with the Critical Care Unit of the Pushpagiri Medical College Hospital. It is the first such centre in Kerala State. PCEBP became a JBI Centre of Excellence in March 2023. JBI is an international research organization based at the University of Adelaide, Australia, to promote and support evidence-based decisions and to offer solutions to health teams from the best available evidence.

PCEBP is involved in training faculty and postgraduate students in Research Methods and JBI Comprehensive Systematic Review Training Program (CSRTP), guiding primary and secondary research, and conducting systematic reviews and implementation research. The PCEBP collaborates with Global Evidence Network Initiative (GESI) and contributes to COVIDEND through the same.

The Annual Activity Report of this Centre states that PCEBP has performed extremely well in the year 2024 as shown in the Key Performance Index prepared by JBI. We required a total of 60,000 points from 2022 to 2024 to maintain the status of Centre of Excellence, we were able to accrue 1, 28,500 (53,700 in 2024 alone). As a result of this, JBI will be soon signing the Legal Agreement for international collaboration for another three years (2025-2028) with PCEBP.

Activities of the Centre in 2024-25

The Centre undertakes training in systematic review and meta-analysis, conducts webinars annually, assists in secondary research and implementation projects; and publishes evidence-based articles in JBI Evidence Synthesis.

Membership in JBI Methods group:

The following core group members were selected as members of JBI methodology groups which are responsible for developing guidelines for various activities of JBI. These memberships will earn Key Performance Index (KPI) for our Centre:

1. Dr. Sunu Alice Cherian: JBI Information Science Working Group
2. Nisha Kurian: JBI Mixed Methods Reviews Methodology Group
3. Nisha Kurian: Scientific Committee, JBI Colloquium 2025 - Kochi, India

Activities



JBI accredited Comprehensive Systematic Review Training Programme (CSRTF) under PCEBP conducted from June 11- 18, 2024

GLOBAL EVIDENCE, LOCAL DECISIONS

The JBI gLOCAL Solution Room is a tending event held across the globe from 3 – 9 June 2024, in numerous different countries and is designed to provide pragmatic solutions to your challenges in getting evidence into practice in your clinical setting.

Each JBI gLOCAL Solution Room event will include a panel of experts that will give you 'real-world' insights during their presentations focused on evidence-implementation. As a 'think tank' they will then respond directly to participant questions around EBP challenges in an interactive panel discussion. The aim is to provide practical solutions for getting evidence into practice in your clinical setting.

Who should attend?

The JBI gLOCAL Solution Room aims to bring together clinicians, academics and policy makers interested in evidence-based healthcare and serve as a synchronized, collaborative, and widely accessible inter-regional space to promote evidence-based practice discussion and debate. Attendance to all events worldwide is free of charge.

Learn more about 'GLOCALization' and JBI's approach to global evidence-based healthcare at jbi.global/jbisolutionroom



Dr Chandra Janakiram

Director, Amrita Center for Evidence based Oral Health
A JBI Center of Excellence
Professor, Dental Public Health and Research,
Amrita School of Dentistry, Cochin
"Closing the Divide: Bridging Research
and Policy to Address Oral
Health Inequality"



Prof. Morankar Sudhakar Narayan

Director, Ethiopian Evidence Based Healthcare and
Development Centre:
A JBI Center of Excellence
Professor, Jimma University,
Ethiopia



Ms. Hiwot Berhanu

Assistant professor, Medical physiology,
Jimma University, Ethiopia
"Empowering Hearts: Self-management
Education for Rheumatic
Heart Disease"



Dr. Sunu Alice Cherian

Deputy Director, Pushpagiri Center for Evidence Based Practice
A JBI Center of Excellence
Lecturer, Pushpagiri College of Dental Sciences, Kerala, India
"Building strength, preserving
dignity in older women"

7 June 2024
2:00-4:00 pm

Implementing
Evidence into
Practice:
A JBI gLOCAL
Solution Room

jbi.global/solutionroom



Flyer for gLocal Solution Room 2024 on Google Meet (Webinar conducted on June 7th, 2024)

Chandra Janakiram (Presenting)

Research-Policy divide for oral health inequality

Erica Bell LC Steven Campbell, Lynette R Goldberg and Bastian M Seidel. Understanding the Research–Policy Divide for Oral Health Inequality. *Healthc Policy* 2014;10:64

- "How well-matched is the content of research to oral health policy?"
- "What are the implications of this for developing oral health research that is more policy relevant, particularly for the challenge of addressing unequal oral health outcomes?"
- 127,193 oral health research abstracts and policy documents from 8 countries were matched by AI.
- Fifty-five concepts defined the research abstracts, of which only eight were policy-relevant.

3:38 PM | Implementing Evidence into Practice: A JBI gLOCAL...

3:50 PM | Implementing Evidence into Practice: A JBI gLOCAL...

gLocal Solution Room 2024 on Google Meet (Webinar conducted on June 7th, 2024)

Centre for Virology

Mr. George Varghese, M.Sc. Medical Microbiology (CMC Vellore),
surugv@pushpagiri.in; virology@pushpagiri.in

Pushpagiri centre for virology has groomed into a premier centre for viral diagnosis and research in Central Travancore. It is equipped with state-of-the-art facilities. The mission of the centre is to initiate diagnostic services and research on viruses and viral diseases of humans. The centre is involved in providing diagnostic services and cutting-edge research on viruses and viral diseases in humans. It is equipped with state-of-the-art facilities. The mission of the Centre is to initiate diagnostic services and research on viruses and viral diseases of humans. The volume of work is managed by fully automated systems like CLIA, ELFA and ELISA. The hall mark of Pushpagiri Centre for Virology is the Biosafety level-2 facility for molecular diagnosis and research. The lab is equipped with conventional and real time PCR facilities. The Centre also provides training programmes in PCR.

Diagnostic Viral Serology Facilities

The laboratory is handling various types of specimens, primarily from Pushpagiri Medical College Hospital. Serological diagnosis of HIV, Hepatitis viruses, including various HBV markers, HEV, HAV and Dengue Fever. Apart from ELISA's, the volume of work is managed by fully automated systems like CLIA (Chemiluminescence Immuno Assay – Abbot, USA) and ELFA (Enzyme Linked Fluorescent Assay – Vidas Biomerieux, France). The lab is giving valuable services during seasonal outbreaks of Influenza, Dengue etc.

Diagnostic Molecular Virology Facilities

The hall mark of Pushpagiri Centre for Virology is the diagnostic molecular virology. The lab is equipped with Conventional and real time PCR facilities. Apart from quantitative PCR's for HBV, HCV & CMV, qualitative PCR's for SARS CoV-2, Leptospira, HSV1&2, Influenza A, Hnfluemza B, H1N1, HBV and CMV are also available.

Quality Assurance

The lab is NABL accredited as per ISO 15189:2022 for Real Time quantitative HCV PCR and SARS CoV-2 qualitative PCR. The quality of the lab is evaluated by NABL assessments and internal audits. Lab follows strict internal quality controls measures as per guidelines.

Research Facilities

Research at virology has been aimed at elucidating the epidemiology in the local community, initiating and maintaining surveillance, studies in the genetic variations of viruses and developing affordable technologies for the provision of diagnostics for diseases in the near future. The centre trains students of basic and medical sciences for various internships, hands-on-training and dissertation projects.

Presently PCV has been selected as one of the National Rickettsial Surveillance Spoke Centre for southern region under National Reference Centre for Rickettsial Diseases (NRCRD), Department of Clinical Microbiology, CMC Vellore. This is based on the ICMR ICAR (Centre for Advanced Research) 12 crore fund to NRCRD, CMC Vellore.

The centre is currently doing a collaborative project with Institute of Advanced Virology, Thiruvananthapuram (IAV) in Dengue virus infections.

Virology center has awarded with two ICMR STS (short term students) project during the period.

Consolidated Statistics of Diagnostic Services Provided for April 2024 to March 2025

Statistics - April 2024 to March 2025

Test Name	No. of Tests
HIV	17325
HBsAg	18199
HCV	18013
HBeAg	74
HBeAb	1
HBcIgM	1
Anti Hbs Titer	1119
HAV IgM	277
HEV IgM	102
Dengue NS1	1623
Dengue IgM	1623
Dengue IgG	1623
Influenza PCR	248
HSV 1 & 2 PCR	24
HBV Qualitative PCR	49
HBV Quantitative PCR	23
CMV PCR	10
Leptospira PCR	220
COVID-19 RT PCR	372
TOTAL INVESTIGATIONS	60926

Activities



Discussions with CMC Vellore Team for becoming Nodal Centre in National Reference Centre for Rickettsial Disease by ICMR on 04.09.2024



The UV Spectrophotometer (Thermofisher Biomate 160) installation and demonstration have been completed successfully on 25.04.2024

Clinical Epidemiology Unit

Assistant Professor: Dr. Rosin George Varghese, MD, rosingv@gmail.com

Established in 2015, the Clinical Epidemiology Unit (CEU) serves as a central hub for advancing clinical research across all institutions under the Pushpagiri Medical Society. The CEU is committed to building a strong research culture by offering professional research support, delivering focused training, and facilitating high-quality evidence generation.

Key Functions and Services

1. Research Support Services

The CEU plays a vital role in supporting investigators throughout the research process. Over the past year, the unit has assisted numerous faculty, students, and residents with:

- **Sample size calculations** to ensure methodological rigor
- **Data analysis and interpretation** using appropriate statistical tools
- **Protocol and proposal development** aligned with ethical and scientific standards
- **Tool validation** for accuracy and relevance of research instruments
- **Manuscript preparation** and support for publication in peer-reviewed journals

These services have significantly contributed to the quality and volume of research output from our institution. In the reporting year, the CEU processed 36 requests for sample size calculation and 31 requests for data analysis, reflecting its active and growing role in institutional research support. In addition to these, the unit continued to provide tailored guidance in protocol development, tool validation, and project proposal preparation based on the specific needs of individual researchers.

2. Capacity Building and Training

To strengthen research capabilities, the CEU has conducted several workshops and training programs in research methodology, biostatistics, and the use of statistical software. These sessions have catered to undergraduate and postgraduate students, residents, and faculty, equipping them with essential skills in study design and analysis.

3. Clinical Trials Coordination

CEU actively coordinated discussions and submitted multiple Expressions of Interest (EOIs) for upcoming clinical trials. The unit works closely with the Institutional Ethics Committee (CDSCO-registered) to support the review and compliance process. With readiness to support Phase III and Phase IV trials, the CEU ensures adherence to regulatory frameworks and Good Clinical Practice (GCP) standards.

The Clinical Epidemiology Unit (CEU) is steadily building its capacity to position Pushpagiri as a credible site for multicentric clinical trials. During the reporting year, the CEU coordinated multiple discussions with industry and academic sponsors and submitted several Expressions of Interest (EOIs) for upcoming Phase III and Phase IV clinical studies.

The CEU works closely with the Institutional Ethics Committee (CDSCO-registered) to ensure that all trial-related activities strictly adhere to regulatory requirements and Good Clinical Practice (GCP) guidelines. In line with this commitment, the unit has actively supported site feasibility assessments and initiated infrastructure strengthening measures to meet sponsor expectations.

In addition to conventional clinical trials, the CEU is exploring bioequivalence (BE) studies—a pragmatic entry point for building trial capacity that also supports patient access to affordable medicines. To this end, the CEU has initiated feasibility discussions to assess infrastructure readiness, regulatory compliance, and investigator



preparedness. These steps highlight the growing recognition of Pushpagiri as a potential research partner while ensuring full alignment with CDSCO guidelines and international best practices.

Looking ahead, the CEU plans to formalize standard operating procedures, conduct GCP training programs, and establish a robust data management framework to support large-scale clinical research. The unit also invites interested faculty members, clinicians, and departments across Pushpagiri Medical Society to engage with these opportunities in a structured manner, with CEU providing oversight and training support. By fostering a collaborative, quality-driven research ecosystem, the CEU aims to enhance institutional visibility, strengthen academic-industry partnerships, and ultimately improve patient care through access to safe and effective therapies.

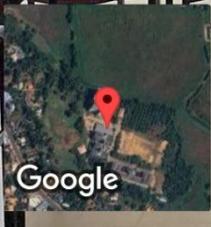
4. Funded Projects

Over the years, the Clinical Epidemiology Unit has played a key role in the development and successful execution of numerous funded research projects, including those involving international collaborators. These projects have addressed a wide range of clinical and public health issues and have been supported by both national and global funding agencies.

5. Strategic Direction and Impact

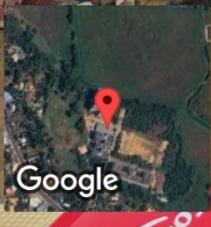
The Clinical Epidemiology Unit continues to evolve as a pivotal resource for advancing evidence-based medical research at Pushpagiri. By offering end-to-end support—from protocol development to data analysis—and fostering collaborations with national and international partners, the CEU aims to drive innovation and improve health outcomes through robust, ethical, and clinically relevant research.

Activities



Perumthuruthy, Kerala, India
 Ch64+xcr Pushpagiri Backwaters, Kollam - Theni Hwy,
 Perumthuruthy, Kerala 686548, India
 Lat 9.412518° Long 76.555998°
 05/02/2025 08:47 AM GMT +05:30

GPS Map Camera



Perumthuruthy, Kerala, India
 Ch64+xcr Pushpagiri Backwaters, Kollam - Theni Hwy,
 Perumthuruthy, Kerala 686548, India
 Lat 9.41251° Long 76.555973°
 04/02/2025 01:03 PM GMT +05:30

GPS Map Camera

Dr. Rosin conducting the Research Methodology Workshop for Dental PGs from 04/02/25 to 05/02/25 at the Pushpagiri College of Dental Sciences

Cytogenetics & Biochemistry Laboratory

Scientist: Dr. Soumya R.S., M.Sc., Ph.D., drsoumyars@pimsrc.edu.in

The Biochemistry Research Laboratory at PRC is equipped with state-of-the-art facilities and instruments, enabling cutting-edge research in biochemistry and related fields. The lab focuses on various research areas, including metabolic disorders, cardiovascular disease, enzyme kinetics, protein chemistry, and molecular biology. The Biochemistry Lab at PRC also offers training programs and internships for students and researchers, providing hands-on experience with advanced techniques and instruments. This gives an excellent opportunity for students to gain practical knowledge and contribute to ongoing research projects. Dr. Soumya is the present faculty in Biochemistry lab.

Currently the lab research is focused on guar gum based mitochondrial antioxidants in invitro and in-vivo models. The works are mainly based on metabolic syndromes and synthesis of nanoparticles for various application in diabetics and atherosclerosis. In addition, the lab is focused on various studies that is submitted to ICMR, DST, DBT for funding in collaboration with national institute like CSIR-NIIST & Christ University Bangalore (MoU based collaboration).

Dr. Soumya is the registered research guide of KUHS and co-guiding PhD students from Vinayaka Mission Homoeopathic Medical College, Salem. The area of research involved in the lab is the identification of novel mechanisms for the prevention of cardiovascular diseases and other metabolic disease through dietary molecules, phytochemicals and nanoparticles. In addition, the lab research also focused on guar gum based mitochondrial antioxidants in cardiac hypertrophy through cell culture, animal experiments, molecular biology techniques, biochemical analysis and phytochemistry techniques. Apart from that the lab offers training programs in HPLC, cell culture and animal handling.

Besides the research lab revolves in mitochondria dysfunctional studies involving the key role in the etiopathogenesis of mitochondria in cardiovascular disease (CVD) and is regarded as an intriguing target for the development of innovative therapies. Oxidative stress, mitochondrial permeability transition pore opening, and excessive fission are major noxious pathways amenable to drug therapy. Several mitochondria-targeted drug delivery systems (DDS) have been optimized with improved pharmacokinetic and biocompatibility, lower toxicity and antigenicity for application in the cardiovascular field. The lab focuses on synthesizing triphenyl phosphonium conjugated rutin guar gum nanoparticles (Ru-TPP-GG) against angiotensin II (Ang II) induced hypertrophy in H9c2 cells. Ang II cells showed pathological hypertrophic responses and mitochondrial dysfunction which was evident from TGF β expression, cell surface area measurement and alteration of protein expression studies.

In addition, myocardial infarction (MI) studies using Isoproterenol [1-(3, 4-dihydroxyphenyl)-2-isopropylaminoethanol hydrochloride (ISO)] is a well-known model for studying MI is the key area of research for the lab. ISO is a synthetic catecholamine and β -adrenergic agonist that is an important regulator of myocardial contractility and metabolism. The pathophysiological and morphological aberrations produced in the heart of the myocardial necrotic rat model are comparable with those taking place in human MI. Allicin (diallylthiosulfinate) is the active compound of garlic with wide range of health benefits. Locust bean gum (LBG) is a galactomannan with a wide range of biological applications. The allicin functionalized LBG nanoparticles (LBGAN) were synthesized in the lab through nanoprecipitation method and was characterized using particle size analysis, SEM and TEM was used for the *in vivo* studies.

Key Lab Facilities

1. Cell Culture Facility - CO₂ incubator, Biosafety cabinet and Microscope
2. High Performance Liquid Chromatography (HPLC) - Shimadzu
3. Ultrabath Sonicator

Activities

One Day Workshop & Hands-on-Training

HPLC ESSENTIALS

Phytochemical Techniques in Developing Phytomedicines

HIGHLIGHTS

- Hands on experience in Shimadzu HPLC
- Instruction on using software
- Basic maintenance of HPLC system
- Practical uses in clinical diagnosis & research

To get a comprehensive, combining theoretical knowledge with practical skills to ensure participants to well prepare on real analytical techniques

Scan Here



Account Number: 024804176659190008
IFSC Code: CSBK0000248
MICR code: 689047003

REGISTRATION FEES: ₹1000

CERTIFICATES WILL BE PROVIDED

Hurry !! Limited Seats

Registration Link: <https://forms.gle/DwPuEYCLn1Md38W2A>

RESOURCE TEAM



DR. K. B. RAMESHKUMAR
Principal Scientist
Phytochemistry & Pharmacology
Division, KSCSTE - JNTBGR1



VYSAKH KUMAR S
Service Engineer,
SPINCO

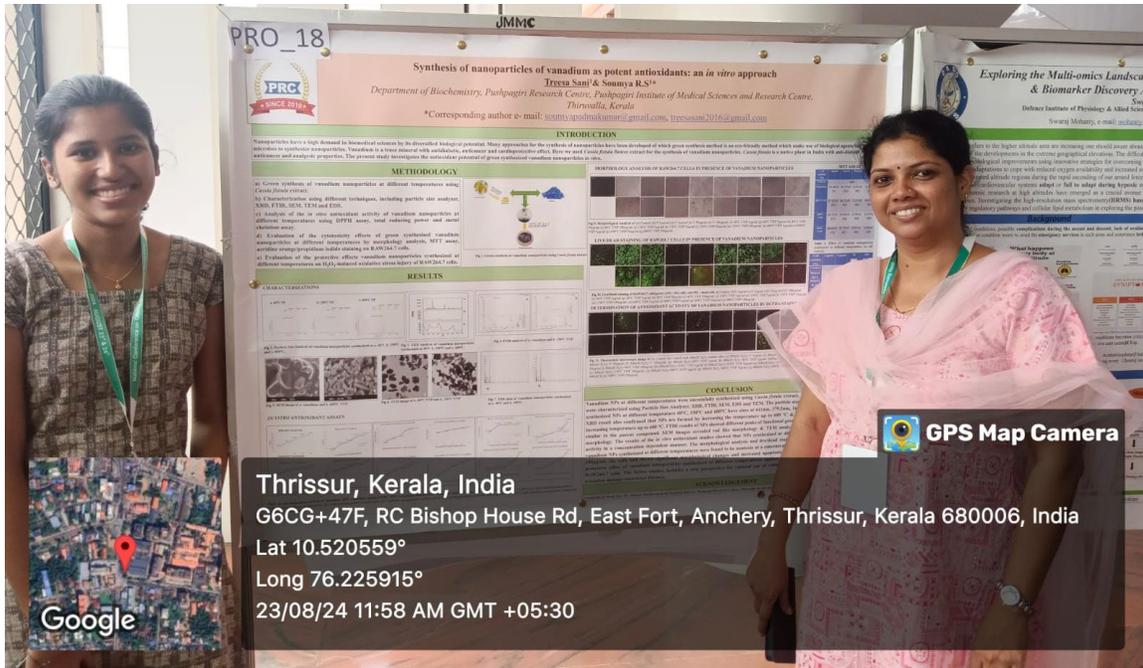


DR. SOUMYA RS
Scientist, Biochemistry Lab
Pushpagiri Research Centre

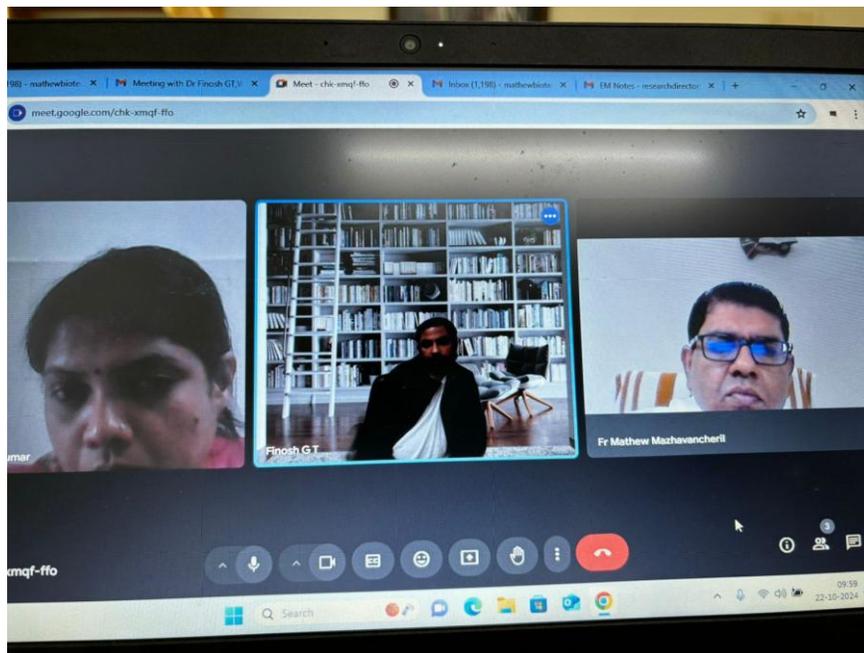
📅 29th July, 2024 ⌚ 09:00 AM - 04:00 PM 📍 Conference Hall & Biochemistry Lab, PRC

☎ +91 - 9496103227 🌐 <http://prc.pushpagiri.in> ✉ prc@pushpagiri.in

Pushpagiri Research Centre and Biochemistry Lab organized a One Day Workshop & Hands-on-Training on HPLC Essentials - Phytochemical Techniques in Developing Phytomedicines on 29.07.2024



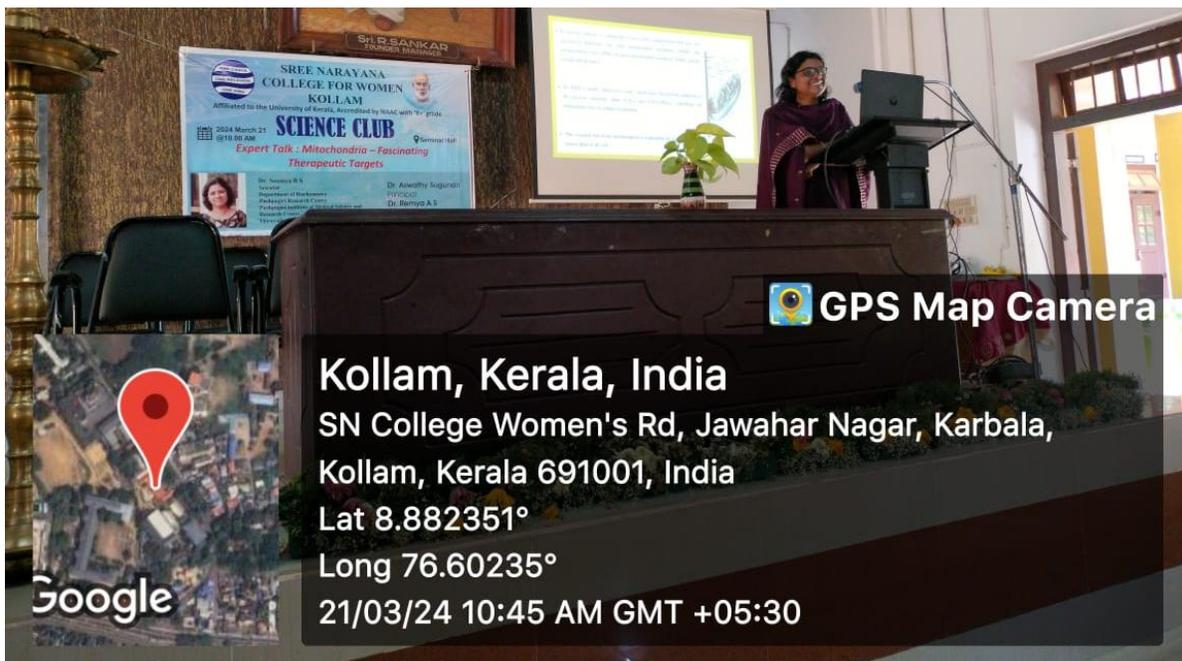
Dr. Soumya's research trainee Treesa presented poster in ORAH -2024 National Conference on Omics in Redefining Healthcare held at Jubilee Mission Medical College, Thirissur on 23.08.2024



Online meeting with Dr. Finosh GT, Western University of Health Sciences, California on 22 October 2024 for organising the Bioradiance 2025 with Dr. Soumya RS



Dr. Soumya RS receiving a token of appreciation for her invited talk at Sathyabama University, Chennai, Tamil Nadu on 19.03.2025



Dr. Soumya RS delivered an Invited talk on 'Mitochondria - Fascinating Therapeutic Targets' at SN College for Women, Kollam on 21st March, 2024

HLA & Tissue Typing Laboratory

Scientist: Dr. Reeba Mary Issac, MBBS, DCP, Ph.D., issacjohn151@gmail.com

The HLA lab under the Department of Pathology at Pushpagiri Institute of Medical Sciences and Research Centre is well-equipped and plays a crucial role in diagnostic services and research activities. The laboratories under the Department of Pathology receive a wide range of specimens including small biopsies, core biopsies, resection samples, blood and bone marrow samples, body fluids and cytology samples which are meticulously processed, reported, and stored for future reference. We provide high-quality services as part of patient care and support cancer research.

Our services include

- Routine Histopathology, Haematology and Cytopathology reporting
- Frozen section
- Special stains
- Immunohistochemistry
- Immunofluorescence
- Research activities- Prospective and Retrospective

Our laboratory maintains an extensive archive of paraffin-embedded tissue blocks, slides, and records allowing for retrospective analysis and research. We report around 800 malignancies per year. We also have a museum with a vast collection of carefully preserved specimens (around 920) serving as a valuable resource for education and diagnostic reference.

The laboratory is actively involved in teaching and training undergraduates (MBBS, BDS, Nursing and Paramedical courses) and postgraduates (MD Pathology). The laboratory also supports research projects for undergraduate, postgraduate, and PhD students, fostering a culture of research and inquiry.

FACILITIES & EQUIPMENTS

Histopathology

- 1) Grossing station
- 2) Automated tissue processor
- 3) Embedding station
- 4) Sectioning and staining
- 5) Cryostat
- 6) Record keeping

Haematology and Clinical Pathology

- 1) Haematology analyzer
- 2) Coagulation analyzer
- 3) Urine analyzer
- 4) Automated ESR machine

Faculty Research Studies

- Categorization of lymph node aspirates based on the Sydney system for reporting lymph node cytology.
- Diagnostic efficacy of closed pleural biopsy in pleural effusion.
- Beyond the microscope: A Questionnaire-based study of occupational health hazards amongst Pathologists.
- Expression of p16 in urothelial carcinoma of urinary bladder and its association with histologic grade and invasion: A cross-sectional study from Kerala, India

Laboratory Animal Research Facility

Chairman: Dr. Vikram Gowda

Member secretary: Dr. Nebu George Thomas, M.D.S, Ph.D., nebugt@gmail.com

Animal house in Pushpagiri Institute of Medical Sciences and Research Centre was established in the year 2008 (**Registration No: 602/PO/Re/S/02/CPCSEA**). It is registered with Ministry of Environment and Forests (Animal Welfare Division), Govt. of India. The **Institutional Animal Ethics Committee (IAEC)** was established in the Institute, in accordance with the standards established by the **Committee for the Control and Supervision of Experiments on Animals (CCSEA)**. The IAEC scrutinizes each project to ensure that it.

Institutional Animal Ethics Committee (IAEC)

The IAEC of Pushpagiri Institute of Medical Sciences & Research Centre was constituted in the year 2008, as an inter-institutional body under CCSEA (Committee for Control and Supervision of Experiments on Animals), Govt of India. The IAEC is duly constituted as per the norms of the Government of India, which mainly focuses on following:

- Welfare cost to the animals
- Ethical considerations
- The proposed benefits that will be achieved
- The social / community acceptability of the procedures
- Ensuring compliance with the law
- Monitoring the use of animals in the institution and ensuring that appropriate standards and procedures are adhered to
- Scientific validity of projects

Institutional Animals Ethics committee include nine members who are from within and outside the institution as per the Committee for Control and Supervision of Experiments on Animals (CCSEA) norms to ensure that the reviews are objective and without any

form of bias. The registration of our establishment with CCSEA for the purpose of “Research for educational purpose on small animals” bears a registration number 602/PO/Re/S/02/CPCSEA renewed for 02/02/2021 to 01/02/2026. The meetings of the IAEC are held twice a year. The proposals are to be submitted to the Chairman/scientist in charge & member secretary, one month before the commencement of the meeting so that the proposals can be circulated to the link/ Scientist from outside the Institute / Main nominee or all of them, so that they will get adequate time to review it. The proposals have to be submitted on a prescribed format, with all accompanying documents and checklists. For more information, please contact iaec@pimsrc.edu.in.

Key Research Areas

- Pharmacological studies
- Surgical studies
- Infectious disease research
- Nutritional studies
- Reproductive studies
- Behavioural studies
- Imaging studies
- Cancer research
- Neurological studies
- Metabolic studies

Instrumentation Facilities

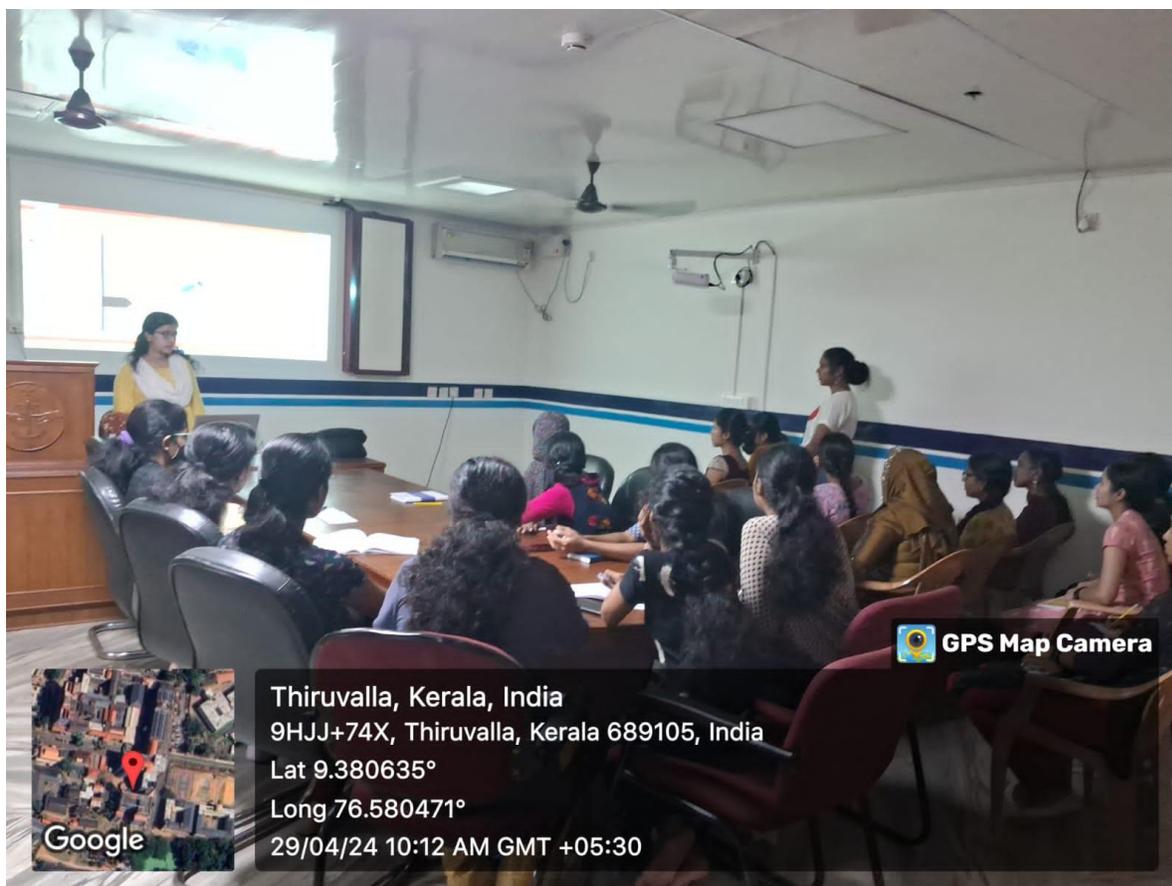
- Isoflurane Anaesthesia machine
- Tissue processing facility
- Histology Analysing Facility

Members of CCSEA

Sl. No.	Name of the IAEC Members		Designation in IAEC
1	Dr. Sachin J. Shenoy	-	Main Nominee
2	Dr. Nishant Kumar Gupta	-	Link Nominee
3	Dr. Sibi P.I.	-	Socially Aware Nominee

4	Dr. G. Christopher	-	Scientist from outside the Institute
5	Dr. Vikram Gowda	-	Biological Scientist cum Chairperson
6	Dr. Nebu George Thomas	-	Scientist In-charge of Animal House Facility cum Member Secretary
7	Dr. Yogesh Bharat Dalvi	-	Scientist from different discipline
8	Dr. Dona Dominic	-	Scientist from different biological discipline
9	Dr. Ampadi. A N	-	Veterinarian

Activities



Orientation Training was given to students of PRC on "Animal House Etiquettes and Animal Welfare Aspects" by Dr. Purnima C. on 29.04.2024

**PUSHPAGIRI RESEARCH CENTRE (PRC),
PIMS & RC**
Present



**UNLOCK YOUR
POTENTIAL**
SKILL LAB WORKSHOP

23rd MAY 2024
CLINICAL SKILL LAB



**EMPOWER YOURSELF
WITH NEW SKILLS**

Join us for an interactive and immersive Skill Lab Workshop, where you'll discover new ways to enhance your skills and accelerate your growth.

WORKSHOP HIGHLIGHTS:

- **Hands-on Training:**
live hands-on workshop
- **Expert Guidance:**
Learn from experienced instructors and medical experts

**Basic and advance Surgical skill;
Best of Audiovisual**



For Registration
<https://forms.gle/HMqvUz6WxEYzkHBK7>

Contact Details:
📍 **DR. YOGESH BHARAT DALVI** ✉ yogesh_dalvi@pushpagiri.in
☎ **091-7972366799** 🌐 www.prc.pushpagiri.in



Main Resource Speaker:
DR. ROBINSON GEORGE
Professor, General Surgery,
Skill Lab & Programme Director



Resource Person
Dr. Yogesh Bharat Dalvi
Scientist, PRC

Skill Lab Workshop on Animal Suturing Techniques was organized by PRC with Dr. Robinson George as the Resource person for internships students, trainees and project students by Dr. Yogesh Bharat Dalvi on 23.05.2024



Animal Facility Upgradation meeting with Dr. Reji on 09.08.2024



PRC faculty visited Sree Chithra Animal Experiment Facility on 20th August 2024

No. 25/441/2009-AWD
Government of India
Ministry of Fisheries, Animal Husbandry and Dairying
Department of Animal Husbandry and Dairying
O/o Committee for Control and Supervision of Experiments on Animals
(CCSEA)

Delhi Milk Scheme Complex,
Shadipur, Delhi – 110008
Date: 22.08.2024

To,
Dr Vikram Gowda, Chairperson, IAEC
Pushpagiri Medical College Sciences & Research Centre,
Tiruvalla - 689 101 Kerala
Mobile: 9562947479
E-mail: vikramgowda@pushpagiri.in

Subject: Revision of Institutional Animals Ethics Committee (IAEC) – regarding.

Sir,

Kindly refer to your application on the above subject. CCSEA hereby accords approval to your request for revision of IAEC.

2. Accordingly, the revised IAEC is as under:

Sl.No.	Name of the IAEC Members	Designation in IAEC
1	Dr Vikram Gowda	Biological Scientist, Chairperson
2	Dr Nebu George Thomas	Scientist Incharge of Animal House Facility, Member Secretary
3	Dr Yogesh Bharat Dalvi	Scientist from different discipline
4	Dr Liya Roslin Joseph	Scientist from different biological discipline
5	Dr.Ampadi A N	Veterinarian
6	Dr. Sachin J. Shenoy	Main Nominee
7	Dr. Nishant Kumar Gupta	Link Nominee
8	Dr.Prakash K.G	Scientist from outside the Institute
9	Dr. Sibi P.L.	Socially Aware Nominee

3. In addition, it is to inform that the decision should be taken only by the approved members of the IAEC and the attendance sheet of the minutes of IAEC meeting shall be signed by the approved member along with date. The minimum quorum of six (6) member is required for holding valid IAEC meeting. The Main Nominee, Scientist from outside the Institute and Socially Aware Nominee must be present in such meetings. Link Nominee can attend in case main nominee conveys his unavailability in writing to the chairman IAEC. However, the Link Nominee should be invited once a year to update him/ her about the activities of the IAEC. Any decision taken in the meetings of IAEC without quorum shall be considered invalid.

4. The above composition of IAEC is valid upto the validity of registration period i.e 1st Feb 2026.

Yours Sincerely,



(Dr. S. K. Dutta)

Member Secretary (CCSEA)

Copy for information to Nominees of CCSEA:

1 Dr. Sachin J. Shenoy, Main Nominee
2 Dr. Nishant Kumar Gupta, Link Nominee
3 Dr. Prakash K.G., Scientist from outside the Institute
4 Dr. Sibi P.L., Socially Aware Nominee

Reconstitution of Animal Ethical Committee



PUSHPAGIRI CLINICAL CLUB

DIRECTOR	PRINCIPAL	CONVENER
REV. FR. GEORGE VALIYAPARAMPIL	DR. REENA THOMAS	DR. MIDHUN M

EVALUATORS

DR. M.O ANNAMMA	DR. VIKRAM GOWDA N.R	DR. MATHEW PULICKEN
-----------------	----------------------	---------------------

Dear Sir / Madam / Colleague / Student

The details of the upcoming clinical club session scheduled for the coming **Tuesday 8.00 am** at Senate Hall are as follows

CYCLE 2 - 2024

SESSION 701

27 AUGUST 2024 - TUESDAY

CHAIR



DR. CYRIL JOSEPH
HoD - Plastic Surgery

<p>8.00 - 8.20 AM</p> 	<p>AN INTRODUCTION TO THE LABORATORY ANIMAL HOUSE</p> <p>Dr. Ampadi A N Veterinary Officer Pushpagiri Research Centre</p>	<p>8.30 - 8.50 AM</p> 	<p>SUICIDAL IDEATION - THE SILENT STRUGGLE AMONG KERALA'S FUTURE DOCTORS - WHAT TO DO NEXT?</p> <p>Dr. Kiran Nath G Post Graduate, Psychiatry</p>
---	---	---	---

Humbly requesting your presence and active participation for this session and the sessions to follow. Kindly note that Pushpagiri Clinical Clubs will be on **Tuesdays from July to September 2024**. All Clinical Club presentations are digitally archived at our central library. Kindly make use of this facility. Please sign the attendance register kept near the front entrance of the Senate Hall before 8.15 AM.

Thanks and Regards,
DR. MIDHUN M
CONVENER

Clinical Club Presentation by Dr. Ampadi AN on 27.08.2024



Animal Ethical Committee meeting held on 14.10.2024

ചെറുകഥ

ഒരു മ

ഒരു മയ്ക്കായി അവർ പ്രതിമ സ്ഥാപിച്ചു. അതിനായി നിരവധി മനുഷ്യർ കൂടിയിറക്കപ്പെട്ടു. പ്രതിമയുടെ മൊട്ടത്തല തങ്ങളുടെ കാഷ്ട് നിക്ഷേപ കേന്ദ്രമാക്കാനുള്ള ചരടുവലിക്കീടയിൽ കാക്കകളും പരുന്തുകളും തമ്മിൽ ചേരിതിരിഞ്ഞ് യുദ്ധം ആരംഭിച്ചു. മറ്റൊരിടത്ത് പ്രതിമയുടെ പേരും ജാതിയും പറഞ്ഞ് വോട്ട് തേടുന്ന ഒരു കൂട്ടരും, പ്രതിമയിലെ മൊട്ടത്തലയൻ തങ്ങളുടെ വിഭാഗത്തിന് നേരെ വിവേചനം കാട്ടിയിരുന്നു എന്ന് ആരോപിച്ച് പ്രതിമ തകർക്കാൻ വന്ന മറ്റൊരു കൂട്ടരും തമ്മിൽ കടുത്ത സംഘർഷാവസ്ഥ...

അങ്ങനെ കരയിലും ആകാശത്തിലും യുദ്ധം കൊടുമ്പിരി കൊണ്ടു, കൂടാതെ ഇവരെ വിറ്റ് ജീവിക്കുന്ന ഇത്തിശ്ശകളുടെ പുണ്ടു വിളയാടലുകളും! സഹികെട്ട് മൊട്ടത്തലയൻ പ്രതിമ കരയാൻ തുടങ്ങി, ഇന്ന് ഭൂമിയിൽ പ്രളയം; ആകാശത്ത് കൊലയാളി ഇടികളും, ഇപ്പോഴും പരമമായ അന്ത്യത്തിനായി യുദ്ധം തുടർന്നുകൊണ്ടിരിക്കുന്നു 'മണ്ണിലും വാനിലും'.



ഡോ. അമ്പാടി എ.എൻ.
Veterinary Officer in charge, Laboratory Animal House
Pushpagiri Research Centre, Thiruvalla, Kerala



Dr. Ampadi featured in newspaper on 23.01.2025



Dr. Ampadi successfully completed his training in Fertility management on 06.03.2025



Medical Biotechnology & Computational Drug Designing Laboratory

Scientist: Dr. Aniket Naha, M.Sc., Ph.D., draniketnaha@pimsrc.edu.in

The Medical Biotechnology and Computational Drug Designing Laboratory is dedicated to understanding and addressing the causes of antimicrobial resistance through advanced techniques in genomics, proteomics, systems biology, and structural bioinformatics. Our research focuses on clinically significant nosocomial bacterial pathogens and developing sustainable therapeutic regimens by combining active phytochemicals from medicinal plants with effective antibiotics. All our experiments adhere to guidelines set by the World Health Organization (WHO) and The Indian Council of Medical Research (ICMR), following CLSI breakpoints and EUCAST standards.

We also emphasize isolating and characterizing novel probiotics with high nutritional value and enhanced immune-modulatory potential. Our lab has a proven track record of screening and characterizing novel probiotic strains from student projects, which are successfully deposited in the NCBI database. Equipped with cutting-edge workstations, we conduct extensive computational research to design novel antimicrobial peptides and lead molecules through computer-aided drug design (CADD). Our lab has successfully modeled several protein structures through computational experimentation and deposited them in the Protein Model Database for public use.

The lab has received institutional funding for research and has a strong track record of publishing papers in international peer-reviewed journals. We are actively involved in guiding students for their dissertation projects and hands-on training activities. Dr. Aniket conducts several hands-on training sessions to help students cope with advanced and AI-based technologies.

Key Research Areas

1. Antimicrobial Tolerance and Resistance in ESKAPE Pathogens: We investigate the mechanisms behind the emergence of antimicrobial tolerance and resistance in ESKAPE pathogens to develop strategies to combat these resilient bacteria.
2. Phytochemical-Derived Antimicrobial Agents: We focus on identifying and screening effective antimicrobial agents derived from phytochemicals, exploring their potential as sustainable alternatives to conventional antibiotics.
3. Systems Biology and Therapeutic Biomarkers: Utilizing systems biology approaches, we study protein-protein interactions (PPI) and host-pathogen interactions (HPI) to identify alternative therapeutic biomarkers in nosocomial pathogens.
4. Virtual Screening and Lead Optimization: Our research includes virtual screening, pharmacokinetics-pharmacodynamics (PK-PD) assessments, pharmacophore modeling, and lead optimization through quantum chemical density functional theory simulations.
5. Structural Bioinformatics and Molecular Dynamics: We employ structural bioinformatics techniques to validate the stability of novel theragnostic biomarkers with screened leads. This involves molecular docking, molecular dynamics simulations, and essential dynamics simulations to ensure the efficacy and stability of potential therapeutic agents.

Instrumentation Facilities

- Dell Precision Tower Workstation for performing molecular docking, molecular modeling, host-pathogen protein-protein interactions and quantum chemical simulations
- Soxhlet extraction units, rotary evaporators, TLC chambers and solvent filtration units to extract phytochemicals and secondary metabolites from natural sources
- Ultra cooling centrifuge, Precision weighing balance and Orbital shaking incubators

Activities



PRC
SINCE 2010

Hands-on-Training on Mendeley Reference Management System

HIGHLIGHTS:

- Mendeley software (Lifetime Validity)
- Hands-on-Training Sessions
- Doubt Clearing Sessions



Prerequisites:
Personal Laptop (Windows OS)



RESOURCE PERSON
Dr. Aniket Naha (M.Sc., Ph.D.)

Scientist & Student Coordinator
Medical Biotechnology & Computational Drug Designing Laboratory
Pushpagiri Research Centre, PIMS&RC, Tiruvalla

Free Registration

E-Certificates will be provided

HURRY Enroll Now!

Registration Link:
<https://forms.gle/4yNayFgexJWF32CX7>

08th June 2024 **10:00 am – 11:30 pm** **Conference Hall Pushpagiri Research Centre**

Registration Link:
<https://forms.gle/zXG39K3dztALTzxr9>

PUSHPAGIRI RESEARCH CENTRE
Pushpagiri Institute of Medical Sciences & Research Centre



PRC
SINCE 2010

Hands – on – Training on Mendeley Reference Management System by Dr. Aniket Naha on 08.06.2024 at Pushpagiri Research Centre



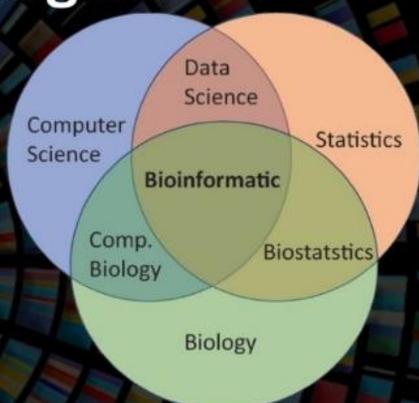
Dr. Aniket Naha served as a Resource Person for the Research Methodology Workshop on Mendeley Reference Management System at Pushpagiri College of Dental Sciences on 05.02.2025



Dr. Aniket Naha, Scientist PRC receiving the Ph.D. degree from the Vellore Institute of Technology, Vellore for his research endeavours in tackling antimicrobial resistance against nosocomial ESKAPE pathogens on 02.08.2024

Hands-On-Workshop

Mastering Sequence Alignment and Phylogenetic Analysis: Tools and Techniques for Evolutionary Insights



Dr. Aniket Naha

Scientist & Student Coordinator,
Medical Biotechnology and Computational
Drug Designing Laboratory
Pushpagiri Institute of Medical Sciences
and Research Centre, Tiruvalla, Kerala

Venue: BT Gallery Hall

Date: 13/09/2024

Time: 09:15 AM

Convener

Dr. Jibu Thomas
Professor & Head

Staff Coordinator's

- Dr. Murugan S. (Associate Professor)
- Dr. C. Vani (Assistant Professor)

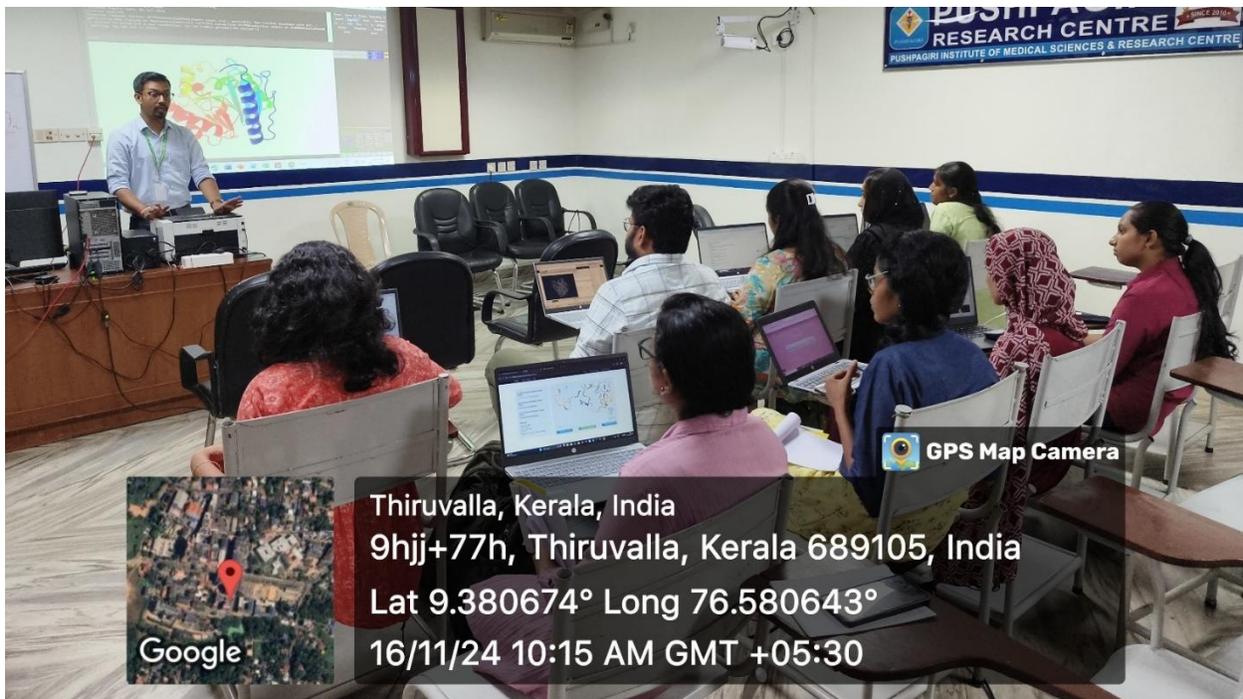
Solving Human Problems

Dr. Aniket Naha, Scientist PRC was invited for a Hands-on-Workshop on Mastering Sequence Alignment and Phylogenetic Analysis: Tools and Techniques for Evolutionary Insights at Karunya University, Coimbatore on 13.09.2024



Coimbatore, Tamil Nadu, India
Aerospace Lab Path, Tamil Nadu 641114, India
Lat 10.93654°
Long 76.742595°
13/09/24 10:59 AM GMT +05:30

Dr. Aniket Naha delivering his talk for the Hands-on Workshop at Karunya University, Coimbatore on 13.09.2024



Thiruvalla, Kerala, India
9hjj+77h, Thiruvalla, Kerala 689105, India
Lat 9.380674° Long 76.580643°
16/11/24 10:15 AM GMT +05:30

Dr. Aniket Naha conducted hands-on-training in bioinformatics for Ph.D. scholars and Post graduates on 16.11.2024

Two Days Workshop & Hands-on-Training

Structural Bioinformatics & Computer Aided Drug Designing (CADD)

HIGHLIGHTS

- Introduction to Linux OS
- Computational Analysis using Python & ML
- Molecular Dynamics Simulation in GROMACS

Prerequisites

Personal Laptop (Windows / Linux OS)

Hurry !!
Limited Seats



RESOURCE PERSON

Dr. Aniket Naha (M.Sc., Ph.D.)

Scientist & Student Coordinator
Medical Biotechnology & Computational Drug Designing Laboratory,
Pushpagiri Research Centre, PMS&RC, Tiruvalla

Registration Fees:

₹1500 (Ph.D. Scholars/Faculty)
₹1000 (Undergraduate/Postgraduate)

PAYMENT QR



Account Number: 024804176659190008
IFSC Code: CSBK0000248
MICR code: 689047003

Registration Link: <https://forms.gle/8sHfkn7STUzWqLUJ9>

15-16 November 2024

09:00 AM - 03:00 PM

Conference Hall, PRC

+91 - 8473912790

<http://prc.pushpagiri.in>

draniketnaha@pimsrc.edu.in

Two days Workshop and Hands - on - Training on Structural Bioinformatics and
Computer Aided Drug Designing (CADD) by Dr. Aniket Naha at Pushpagiri
Research Centre on 15-16th November 2024



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

School of Bio Sciences and Technology

8th Module Expert Lecture

Topic: “*In-silico* Approaches to Understand Antimicrobial Resistance
in Clinically Important Bacterial Pathogens”

Dr. Aniket Naha

Scientist, Medical Biotechnology and Computational Drug Designing
Laboratory, Pushpagiri Research Centre, Pushpagiri Medical Society,
Tiruvalla-689101, Kerala, India

Date: 26th September, 2024

Time: 09:00 A.M. to 11:00 A.M.

Venue: SMV- 209 (Smart Classroom)

Dr. Anand Anbarasu
Coordinator

Dr. Anand Anbarasu, M.Sc., M.Tech., Ph.D.,
Professor – Higher Academic Grade
Department of Biotechnology
School of Biosciences and Technology
Vellore Institute of Technology (VIT)
(Deemed to be University under section 3 of UGC Act, 1956)
Vellore- 632 014, Tamil Nadu, India

Dr. Ramesh Pathy M
Head of the Department

Department of Biotechnology

Head of the Department
Department of Biotechnology
School of Bio-Sciences & Technology (SBST)
Vellore Institute of Technology (VIT)
(Deemed to be University under section 3 of the UGC Act, 1956)
Vellore – 632 014, Tamil Nadu, India

Dr. R. Siva
Dean, SBST

Dean
School of Bio Sciences & Technology
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)
Vellore – 632 014, Tamil Nadu, India

**Dr. Aniket Naha, Scientist PRC was invited for delivering an expert lecture at
Vellore Institute of Technology, Vellore on 26.09.2024**



VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

School of Bio Sciences and Technology

8th Module Expert Lecture

Topic: “Systems Biology and Structural Bioinformatics to Elucidate Novel Therapeutic Biomarkers and Effective Lead Molecules Against Priority Bacterial Pathogens”

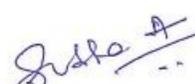
Dr. Aniket Naha

Scientist, Medical Biotechnology and Computational Drug Designing Laboratory, Pushpagiri Research Centre, Pushpagiri Medical Society, Tiruvalla-689101, Kerala, India

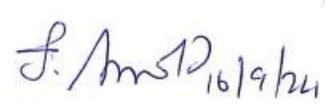
Date: 26th September, 2024

Time: 04:00 P.M. to 06:00 P.M.

Venue: SMV- GI5


Dr. Sudha Ramaiah
Coordinator

Dr. Sudha Ramaiah, M.Sc., M.Phil., PhD,
Professor
Department of Biosciences
School of Biosciences and Technology
Vellore Institute of Technology
(Deemed to be University under Section 3 of UGC Act, 1956)
Vellore - 632 014


Dr. Arnold Emerson I
Head of the Department
Department of Biosciences

Head of the Department
Department of Bio-Sciences
School of Bio-Sciences & Technology (SBST)
Vellore Institute of Technology (VIT)
(Deemed to be University under section 3 of the UGC Act, 1956)
Vellore -- 632 014, Tamil Nadu, India

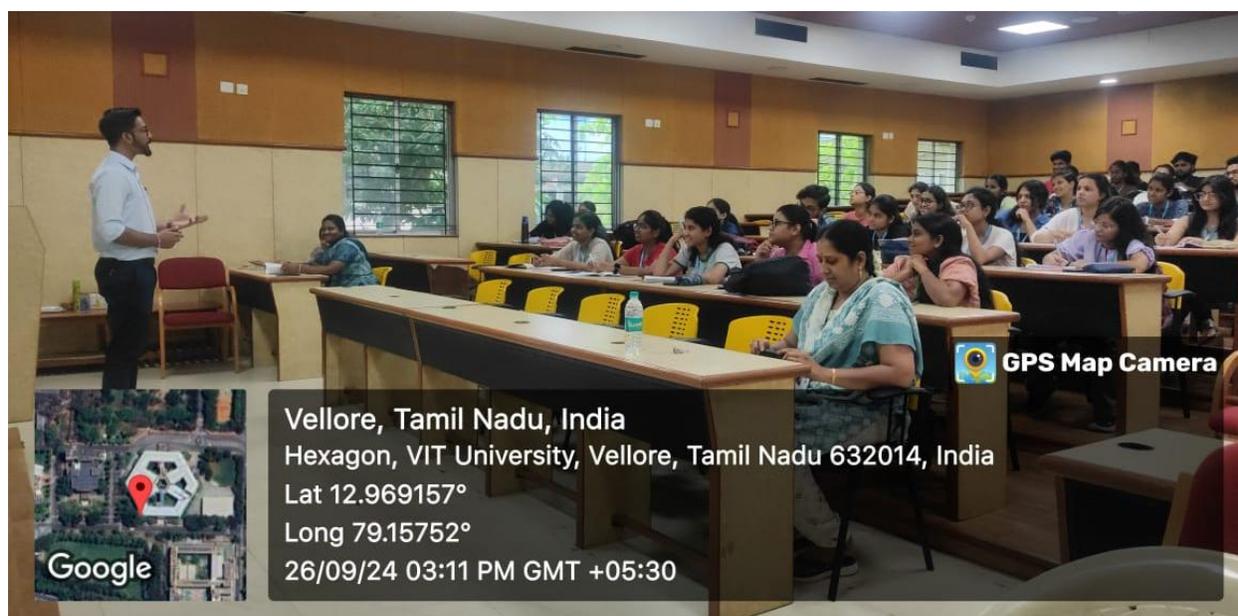

Dr. R. Siva
Dean, SBST

Dean
School of Bio Sciences & Technology (SBST)
Vellore Institute of Technology (VIT)
(Deemed to be University under section 3 of UGC Act, 1956)
Vellore -- 632 014, Tamil Nadu, India

Dr. Aniket Naha, Scientist PRC was invited for delivering a Expert lecture at Vellore Institute of Technology, Vellore on 26.09.2024



Dr. Aniket Naha, Scientist PRC delivered a Guest Lecture in Vellore Institute of Technology (VIT), Vellore on 'In-silico Approaches to Understand Antimicrobial Resistance in Clinically Important Bacterial Pathogens' on 26th September 2024



Dr. Aniket Naha, Scientist PRC delivered a Guest Lecture in Vellore Institute of Technology (VIT), Vellore on 'Systems Biology and Structural Bioinformatics to Elucidate Novel Therapeutic Biomarkers and Effective Lead Molecules Against Priority Bacterial Pathogens' on 26th September 2024

Microbial Technology & Infectious Disease Laboratory

Scientist: Dr. Aniket Naha, M.Sc., Ph.D., draniketnaha@pimsrc.edu.in

Involved in the testing of antimicrobials from natural products as well as synthetic materials that can lead to drug innovations and remediation strategies. The emergence of antimicrobial resistance is a global health problem. Hence solutions encouraging and facilitating the evolution of new antimicrobials are the necessity of the hour. Also new emerging & re-emerging infectious diseases are scrutinized with in depth analysis of the agents of infectivity, their molecular characterization and co-relation to severity of disease manifestations. Short term training programmes in basic clinical microbiology are offered.

Key Research Areas

- Identifying, characterising New emerging & re-emerging infectious diseases causing agents.
- Surveillance of Antimicrobial Resistance in microbiota.
- Molecular characterisation of pathogens and co-relation to severity of disease manifestations.
- Testing of antimicrobial activity of natural products as well as synthetic materials against standard and clinical strains of both bacteria and fungi.

Instrumentation Facilities

- BSL-2 facilities to perform and handle pathogenic organisms like nosocomial ESKAPE pathogens,
- Anaerobic culturing system also equipped with Anaerobic jar 3.5L, Anaerobic gas packs and indicators
- Biosafety Cabinets, autoclave and bacteriological oven
- Refrigerators and deep freezers (-20°C) for storing biological tissues, serum and bacterial samples

Activities



SIMATS
ENGINEERING



SIMATS
Saveetha Institute of Medical And Technical Sciences
(Declared as Deemed to be University under Section 3 of UGC Act 1956)



Internal Quality Assurance Cell

Presents

One Day Seminar on ADVANCED IN-SILICO APPROACHES IN DECIPHERING AND COMBATING BACTERIAL INFECTIONS OF CLINICAL RELEVANCE



Resource Person

Dr Aniket Naha

Scientist, Department of Microbiology,
Pushpagiri Research Centre, Kerala

08 Mar 2025 | 10.30 am | AHS 9 D1

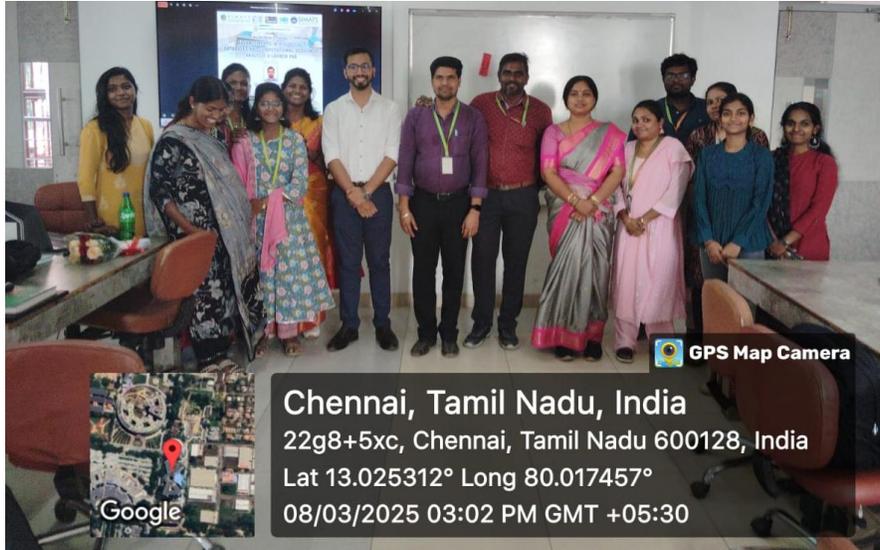
Organised by Department of Molecular Analytics

www.simatsengineering.com

[simatsengineering](https://www.simatsengineering.com)



Dr. Aniket Naha, Scientist PRC was invited for delivering a keynote lecture on at Saveetha Institute of Medical and Technical Sciences, Chennai on 08.03.2025



Dr. Aniket Naha served as the Guest Speaker for One day Seminar on ‘Advanced *In-silico* Approach in the Deciphering and Combating bacterial Infections of Clinical Relevance’ at SIMATS, Chennai on 08.03.2025



Dr. Aniket Naha delivered a Guest Lecture on the Topic ‘Advanced In-Vitro and In-Silico Strategies to Combat Antimicrobial Resistance in Priority Pathogens’ at the Department of Microbiology, Dr. N.G.P Arts and Science College, Coimbatore on 12.09.2024



VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

School of Bio Sciences and Technology

8th Module Expert Lecture

Topic: “Understanding the Molecular Basis of Multidrug Resistance
in ESKAPE Pathogens”

Dr. Aniket Naha

Scientist, Medical Biotechnology and Computational Drug Designing
Laboratory, Pushpagiri Research Centre, Pushpagiri Medical Society,
Tiruvalla-689101, Kerala, India

Date: 26th September, 2024

Time: 03:00 P.M. to 04:00 P.M.

Venue: SMV- 209 (Smart Classroom)

Dr. Sudha Ramaiah
Coordinator

Dr. Sudha Ramaiah, M.Sc., M.Phil., PhD.,
Professor
Department of Biosciences
School of Biosciences and Technology
Vellore Institute of Technology
(Deemed to be University under Section 3 of UGC Act, 1956)
Vellore - 632 014

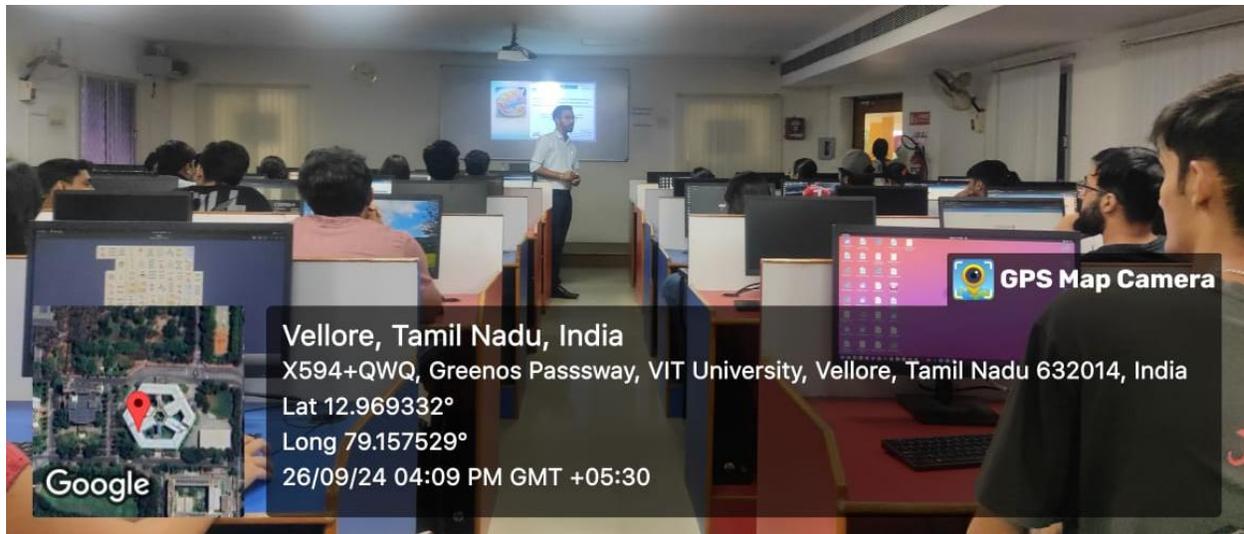
Dr. Arnold Emerson I
Head of the Department
Department of Biosciences

Head of the Department
Department of Bio-Sciences
School of Bio-Sciences & Technology (SBST)
Vellore Institute of Technology (VIT)
Deemed to be University under section 3 of the UGC Act, 1956
Vellore – 632 014, Tamil Nadu, India

Dr. R. Siva
Dean, SBST

Dean
School of Bio Sciences & Technology (SBST)
Vellore Institute of Technology (VIT)
(Deemed to be University under section 3 of UGC Act, 1956)
Vellore – 632 014, Tamil Nadu, India

**Dr. Aniket Naha, Scientist PRC was invited for delivering a Expert lecture at
Vellore Institute of Technology, Vellore on 26.09.2024**



Dr. Aniket Naha, Scientist PRC delivered a Guest Lecture in Vellore Institute of Technology (VIT), Vellore on 26th September 2024 on 'Understanding the Molecular Basis of Multidrug Resistance in ESKAPE Pathogens'



Dr. Aniket delivering Guest Lecture on 'Advanced *in-silico* approaches in deciphering and combating bacterial infections of clinical significance at Saveetha Institute of Medical and Technical Sciences on 08.03.2025

Molecular Biology Laboratory

Scientist: Dr. Ajay Krishnan U, M.Sc., Ph.D., dr.ajaykrishnanu@pimsrc.edu.in

The Molecular Biology Laboratory at Pushpagiri Research Centre, affiliated with the Pushpagiri Institute of Medical Sciences and Research Centre, Kerala focuses research in the area of molecular biology, toxicity and cell culture. The lab provides practical knowledge of various molecular biology techniques to students and other researchers.

Currently, the lab focuses research on screening various plant-derived compounds for their biological activities using *in vitro* and *in vivo* experimental models, thereby providing better understanding of the real efficacy and mechanism of these compounds in management of various disease conditions like obesity, type 2 diabetes, non-alcoholic fatty liver disease and cancer.

Cell Culture Facility

The Cell Culture Facility of Molecular Biology Laboratory is well equipped with instruments for performing various cellular assays which include cytotoxicity studies and differential stainings. The lab offers facilities like subculturing and maintenance of various cell lines, determination of toxicity of various drugs or extracts (MTT assay) and various stainings for analysing lipid accumulation (oil red O), reactive oxygen species generation (DCFH-DA), apoptosis (acridine orange and ethidium bromide dual staining and DAPI) and mitochondrial membrane potential (Rhodamine). The lab is also equipped with multimode reader which facilitates protein expression studies using Enzyme-linked Immunosorbent Assay technique. The Cell Culture Facility also provide imaging facilities with the aid of simple, compound and inverted fluorescence microscope attached with camera. The lab also offers facilities, guidance and trainings to students, interns and research scholars to complete their academic projects.



Certificate of Excellence received by Dr. Yogesh Bharat Dalvi for his research work 'Assessing the anti-cancer potential of *Ganoderma applanatum*: In-vitro and In-vivo Approaches' on 10.04.2024

PUSHPAGIRI PUSHPAGIRI RESEARCH CENTRE
origin

MOLECULAR BIOLOGY WORKSHOP

UNRAVELING THE SECRETS OF LIFE

Jointly Organised by:
PUSHPAGIRI RESEARCH CENTRE & ORIGIN DIAGNOSTICS AND RESEARCH

28 TUESDAY
MAY 2024
9.00 AM

PRC, 6TH FLOOR, MOTHER & CHILD BLOCK
PIMS & RC, TIRUVALLA

WORKSHOP OVERVIEW

Join us for an exciting journey into the world of molecular biology! This comprehensive workshop covers the fundamental techniques of nucleic acid extraction, quantification, gel electrophoresis, and PCR. Our expert instructors will guide you through hands-on training, lectures, and discussions, providing a thorough understanding of these essential tools in molecular biology.

WORKSHOP OUTLINE

- 1. Nucleic Acid Extraction:** Learn the techniques for isolating high-quality DNA and RNA from various biological samples.
- 2. Quantification:** Understand the methods for measuring nucleic acid concentration and purity.
- 3. Gel Electrophoresis:** Visualize and analyze nucleic acids using agarose and polyacrylamide gel electrophoresis.
- 4. PCR (Polymerase Chain Reaction):** Amplify specific DNA sequences using this powerful technique.

OUR RESOURCE TEAM



Dr. Maneesh Mailankot
CEO at Origin



Dr. Aditya Menon
Scientist and GM (Operations)
Origin Diagnostics and Research



Mr. Atul Philip Varghese
Manager - OEM & Overseas Operations,
Origin Diagnostics and Research



Dr. Yogesh Bharat Dalvi
Scientist, PRC

CONTACT DETAILS:

Dr. Yogesh Bharat Dalvi ☎ 091-7972366799

yogesh_dalvi@pushpagiri.in | www.prc.pushpagiri.in

PRC, 6th floor, mother & child block, PIMS & RC, Tiruvalla, Kerala, India 689101



SCAN ME

<https://shorturl.at/dyU14>

Molecular Biology Workshop on 'Unraveling the Secrets of Life' by Dr. Yogesh Bharat Dalvi on 28.05.2024 at Pushpagiri Research Centre



Workshop on Molecular Biology Techniques on 28.05.2025



Molecular Biology Workshop on 27.05.2024



Visit by Dr. Yogesh Bharat Dalvi & Dr. Ampadi A. N to St. Mary's College for Women, Tiruvalla for discussion with Principal and Vice-Principal regarding student exchange on 29.08.2024



St Berchmans College
Founded 1999

AUTONOMOUS | College with Potential for Excellence | A+ in the Fifth Cycle of Reaccreditation by NAAC

Changanassery, Kerala, India 686101 | Affiliated to Mahatma Gandhi University, Kottayam

DEPARTMENT OF BIOTECHNOLOGY

Association INAUGURATION

2024

CHIEF GUEST

Dr. Yogesh Bharat Dalvi

Scientist, Pushpagiri Research Centre



TALK ON:

"Engineering the Future : Bio-mimetic Scaffolds and Hydrogels for Tissue Regeneration"



Friday, August 16, 2024

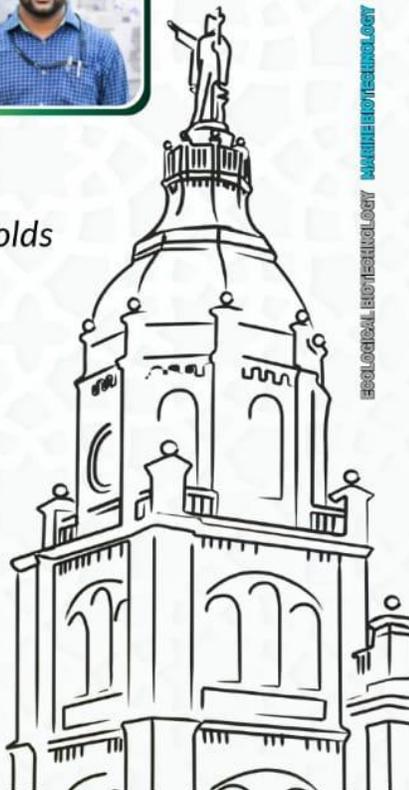


09:30 AM



Kallarackal Hall

Rev. Fr. Reji P Kurian, Principal
Tessmol P George - Head of the Department
Rositta Varghese - President, Biotechnology Association
Anagha Satheesh - Secretary, Biotechnology Association



Dr. Yogesh was invited for inauguration of Association of SB College, Changanacherry and for the invited lecture on 14.08.2024

Stem Cell & Tissue Engineering Laboratory

Scientist: Dr. Nebu George Thomas, MDS, Ph.D.; nebugeorgethomas@pushpagiri.in

Involved in the development of scaffolds, using principles of engineering and life-sciences, which may help regenerate tissue lost due to various diseases or injuries. The goal of the lab is to develop scaffolds that have the ability to induce cellular response and stimulate regenerative cells. Focus on bone and skin regeneration in general, and periodontal tissue in particular. Also involved in studying interaction of various biomaterials with tissue structures in the body. Preclinical analysis of scaffolds were performed as per ISO guidelines. The lab performs pre-clinical analysis of biomaterial as per ISO standard. The biomaterial are developed from marine sources and animal origin for tissue engineering application the test performed in the labs are:

- ***In-vitro* facilities:** Biomaterials Preparation and Extraction, Cytocompatibility, Cytotoxicity elution test, MTT cell proliferation assay, Surface culture test, Agar overlay assay
- **Clean room facility** for fabrication of tissue engineering scaffolds for application in regenerative medicine with Lyophilizer facility
- ***In-vivo* facilities:** Genotoxicity, Mammalian test systems, Nonmammalian test systems, Intracutaneous Reactivity, Skin Sensitization Assay, Acute Systemic Toxicity, Hemocompatibility, Complement Activation, Thrombogenicity, Pyrogenicity, Carcinogenicity Implantation, Performance and Efficacy Evaluation Osseointegration and Critical-Size Defects, Long-Bone Pressure Fitted Transcortical Placement, Trepined bone core repair, Mandibular Osteotomy Defect Repair, Osteomyelitis and Antimicrobial Treatments, Osteoinduction Models, Dental Implants and Guided Bone Regeneration, Teeth extraction procedure, Bone graft implantation procedure, Dental implant placement, Imaging, Live computed tomography (Cone beam CT-scan), Magnetic resonance imaging (MRI), Micro-computed tomography (micro-CT), Necropsy and

Macroscopic Grading (Gross Pathology), Histology, Sample preparation , Nondecalcified (plastic) histology, Decalcified histology, Histopathology, Local effects on hard tissue, Local effects on soft (cartilage) tissues, Effects on major organs, Abnormal macroscopic findings and gross lesions, Histology Imaging, Histomorphometry

- **Histopathology lab-** Adaptor for disposable knife attachment, Albuminometer, Automated hematology analyzers-sysmex XN 1000, Mindray BC 6200, Automated urine analysers: FUS 1000, Uriplus 600, Balance for weighing organs, Binocular microscope, Bone saw, Hot air oven, Hot plate, Incubator

Activities



PUSHPAGIRI CLINICAL CLUB

DIRECTOR
PRINCIPAL
EVALUATORS
CONVENERS

REV. FR. GEORGE VALIYAPARAMPIL
DR. REENA THOMAS
DR. VIKRAM GOWDA N.R DR. MATHEW PULICKEN DR. M.O ANNAMMA
DR. MIDHUN M DR. JIMI JOSE DR. SR. LIZA SIC DR. NEETHA KURIAN

Dear Sir / Madam / Colleague / Student

The details of the upcoming clinical club session scheduled for the coming **Thursday 8.00 am** at Senate Hall are as follows

CYCLE 1 - 2024-25
SESSION 720
23 JANUARY 2025 - THURSDAY

CHAIR



DR. JESSY M M
Professor & HoD
Pathology

8.00 - 8.20 AM



UNUSUAL CASE OF NHL MASKED BY PREGNANCY

Dr. Tanisha Thomas
Junior Resident,
Department of Oncology

8.30 - AM



TISSUE ENGINEERING AND REGENERATIVE MEDICINE LAB - PUSHPAGIRI INSTITUTE OF MEDICAL SCIENCES AND RESEARCH CENTRE

Dr. Nebu George Thomas
Professor, Department of Periodontology
Professor & Scientist, Pushpagiri Research Centre

Humbly requesting your presence and active participation for this session and the sessions to follow. Kindly note that Pushpagiri Clinical Clubs will be on **Thursdays From January to March 2025**. All Clinical Club presentations are digitally archived at our central library. Kindly make use of this facility. Please sign the attendance register kept near the front entrance of the Senate Hall before **8.15 AM**.

Clinical Club Presentation by Dr. Nebu George Thomas, Scientist, PRC



UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
INSTITUTO DE MACROMOLÉCULAS PROFESSORA ELOISA MANO
TRADIÇÃO, SOLIDEZ E INOVAÇÃO.

Rio de Janeiro, 05/08/2024

Certificate of Acceptance for Postdoctoral

From: Professor Paulo H. S. Picciani
To: Dr. Nebu George Thomas

This is to certify that Dr. Nebu George Thomas has been accepted as a Postdoctoral Fellow in the Biopolymers and Sensors Lab at the Macromolecules Institute, UFRJ, to be conducted remotely. Dr. Nebu George Thomas will work with us between 05 August 2024 and 04 August 2025, with the possibility of renewal upon request.

Dr. Nebu George Thomas will participate in the project titled "Core-Shell Nanocomposite Membranes: Advancing Wound Healing Through Polymer Functionalization." The project aims to develop core-shell nanocomposite membranes for the treatment of diabetic foot ulcers through polymer functionalization. The methodology includes the electrospinning process, material characterization using SEM, TEM, FTIR, TGA, DSC, in vitro cytotoxicity assays, and in vivo biocompatibility and wound healing studies.

Dr. Nebu George Thomas's extensive expertise in tissue engineering and biomaterials, including skills in electrospinning, MTT cytotoxicity assay, scratch wound healing assay, osteoblast cell line assays, hemocompatibility, acute toxicity, and biocompatibility assessments, will significantly contribute to the successful execution of this project. Machine Learning modeling will be supervised by Professor Fernando Gomes (IMA-UFRJ), while all other project steps will be supervised by Professor Sabu Thomas (Mahatma Gandhi University).

Dr. Nebu George Thomas's contributions to this project are highly valued, and his participation is expected to advance the research in wound healing and polymer functionalization.

Documento assinado digitalmente
 PAULO HENRIQUE DE SOUZA PICCIANI
Data: 05/08/2024 09:22:58-0300
Verifique em <https://validar.it.gov.br>

Prof. Paulo Picciani
Graduate Program Coordinator

Documento assinado digitalmente
 FERNANDO GOMES DE SOUZA JR
Data: 05/08/2024 09:57:18-0300
Verifique em <https://validar.it.gov.br>

Fernando Gomes de Souza Jr
Full Professor
LaBioS - IMA - UFRJ

▪ INSTITUTO DE MACROMOLÉCULAS PROFESSORA ELOISA MANO
Cidade Universitária. Centro de Tecnologia. Bloco J. Rio de Janeiro. Brasil. CEP: 21945-970. www.ima.ufrj.br

Acceptance Letter for doing Post-Doc at Brazil by Dr. Nebu George Thomas,
Scientist, Pushpagiri Research Centre



Dr. Nebu attending the seminar “Foundational Insights and Advanced Techniques in Tissue Engineering and 3D Bioprinting: A Seminar for New Beginnings” at MG University, Kottayam on 09.08.2024



Dr. Nebu presenting his research endeavours with British High Commission members at Mar Baselios Engineering College, Trivandrum on 04.07.2024



Meeting with Dr. TV Anil Kumar Head of Histopathology, Sree Chitra Institute Trivandrum, regarding commercialisation of Decellularized collagen based-GTR membrane intended for Periodontal regeneration. Patent filed on 13.09.2024



Indian Dental Association honoured Dr. Nebu George Thomas for his contributions to biomaterials received on 23.09.2024



Collaborative discussion at MG University with Dr. Sabu Thomas, MG University, Dr. Sreekala, MG University, Dr. Avneesh Chopra Charite University Germany, Dr. Ampadi and Dr. Nebu from PRC on 05.11.2024



Discussions with officials from Otago University, New Zealand on 19.11.2024



Ernakulam, Kerala, India
Cvv Rd, Kerala 686662, India, Ernakulam, Kerala
686662, India
Lat 9.882218° Long 76.526149°
18/02/2025 09:52 AM GMT +05:30

Dr. Nebu George Thomas, Professor and Scientist, PRC served as a Resource Person at Chinmaya Viswa Vidyapeeth, Kochi in FDP on Engineered Materials for Multidisciplinary Applications on 18.02.2025



Dr. Nebu George Thomas, Professor and Scientist, PRC gave an Invited talk on Bioactive scaffolds Unveiling recent advances in soft tissue and hard tissue regeneration in Indo French workshop on functional materials for emerging applications at MG University on 18.03.2025

LIST OF ONGOING OR NEWLY GRANTED PROJECTS

International

Sl. No.	Title of the Project	PI & Co-PI(s)	Funding Agency	Collaborating Institutions
1.	Family Resilience Assessment Instrument Tool (FRAIT)	Principal Investigators: Dr. Betsy A Jose Carolyn Wallace Co-Principal Investigators: Dr. Meena Isaac Dr. Rosin George Varghese Sr. Mary Jyothi OSS	University of South Wales	University of South Wales
2.	Comprehensive Cancer Screening and Care for Women in Kerala	Principal Investigator: Dr. Nibu Varghese Co-Principal Investigators: Dr. Betsy A Jose Dr. Vinod Mathew Dr. Vipin V	Conferenza Episcopale Italiana	Pushpagiri Research Centre
3.	Identification of Casual Genetic Variants in Early-Onset Severe Periodontitis: A Large-Scale Whole-Exome Sequencing Study	Investigators: Dr. Nebu George Thomas, Dr. Thomas George V	DAAD PRIME Grant	Charite university Germany
4.	Fabrication of fish skin and collagen composite scaffolds loaded with drug molecules for simultaneous management of wounds	Principal Investigator: Dr. Nebu George Thomas Co-Principal Investigator:	Oman Research council	Pushpagiri Research Centre Oman Research council

	and associated bacterial infections	Dr. Ampadi A. N		
5.	Optimierung der Zelladhäsion auf Biomaterialien durch Oberflächenvernetzung - Indo- German Project	Principal Investigator: Dr. Nebu George Thomas Co-Principal Investigator: Dr. Ampadi A. N	Charite Universitätmedizin in	Charite Universitätsmedizin in
6.	Cancer related awareness and behavior among adolescents and young adults.	Principal Investigator: Sheeja Pathrose Co-Investigators: Nisha Kurian, Kerry Sutcliffe, Fiona McDonald, Dorothy Lall, Anu Mary Oommen, Vibisha D.,, Twinkle Agrawal Naveen Ramesh, Sunu Alice Cherian, Lucie Ramjan,	JBIC Brighter Futures Grant Program	Western Sydney University School of Nursing and Midwifery Liverpool, Australia; PCEBP, Tiruvalla; CMC, Vellore; St Johns Medical College, Bangalore
7.	Central Venous Access Device Management in Critical Care Units: A Multicentric Implementation Project in Low Resource Setting	Dr. Sunu Alice Cherian (PI), Sr Teres Kochuvilayil, Dr. Saritha Susan Varghese, Ms. Nisha Kurian	JBIC Brighter Futures Grant Program, 2023-25	Critical Care Unit (CCU), PIMS&RC CCU of BCMCH Tiruvalla CCU of SH Hospital, Kottayam

National

Sl. No.	Title of the Project	PI & Co-PI(s)	Funding Agency	Collaborating Institutions
1.	Virology and Department of Microbiology has been selected as a NRS (National Rickettsial Surveillance) spoke for the Southern region.	Principal Investigators: Dr. John Jude Antony Prakash Co-Principal Investigator: George Varghese	ICMR CAR Grant	CMC&H, Vellore; PIMS&RC, Tiruvalla
2.	Design, Synthesis and Anti-Alzheimer's Evaluation of Novel Small Molecular Hybrids	Investigators: Dr. Sasidhar B. S, Dr. Soumya R. S	MoU work	CSIR-NIIST
3.	In-silico designing and validation of novel antimicrobial peptide mutants against pathogens of clinical significance	Principal Investigators: Dr. Aniket Naha, Dr. Anand Anbarasu Co-Principal Investigators: Dr. Sudha Ramaiah, Elizabeth Annie George	VIT, Vellore	Vellore Institute of Technology, Vellore
4.	Development and validation of biomedical and cosmetic products from secondary fishery raw materials	Principal Investigator: Dr. Nebu George Thomas Co-Principal Investigators: Dr. Binsy P.K Dr. Ampadi A. N	CIFT, Cochin	Central institute of fisheries technology, Cochin India Kerala

5.	In-vitro and Genomic characterization of novel probiotic strains from indigenous fermented foods	Principal Investigator: Dr. Aniket Naha Co-Principal Investigators: Dr. Soumitra Nath Ms. Ancy Sara Mathew	Assam (Central) University, Assam	Assam Central University, Silchar; Gurucharan College, Silchar; PRC, Tiruvalla
6.	Bio molecular interaction of a novel drug carrier Carnosine with anti- TB drug through in-vitro and in-silico investigations	Principal Investigators: Dr. Anand Anbarasu; Dr. Aniket Naha Co-Principal Investigators: Dr. Saravanan N, Ms. Elizabeth Annie George	NIRT Chennai	NIRT, Chennai and VIT, Vellore
7.	Structural Bioinformatics and Computer Aided Drug Designing to Elucidate the Functionality of Novel Phytocompounds Against Putative Drug Targets of WHO priority pathogens	Principal Investigator: Dr. Aniket Naha Co-Principal Investigators: Dr. Anand Anbarasu, Dr. Sudha Ramaiah Ms. Elizabeth Annie George	VIT, Vellore	VIT, Vellore; GCC, Silchar (Under Assam Central University)
8.	<i>BRCA</i> gene mutation analysis and histopathological correlation in female breast carcinoma patients attending a	Principal Investigator: Dr. Reeba Mary Issac	PIMS&RC	PIMS&RC

	tertiary care center in Kerala.	Co-Principal Investigator: Dr. Jessy M.M		
9.	Human Milk based Human Milk Fortifier for Preterm Infants	Principal Investigator: Dr. Yogesh Bharat Dalvi Co-Principal Investigator: Dr. Nebu George Thomas	DBT, Ministry of Science and Technology, Government of India, New Delhi, India.	Bishop Moore College; PIMS&RC MACFAST; SJRI, Bangalore
10.	Fabrication and Preclinical Evaluation of PVDF-TRFE Nanofibers Incorporated with Cobalt Ferrite Nanoparticles Intended for Wound Healing Applications	Principal Investigator: Dr. Nebu George Thomas Co-Principal Investigator: Dr. Ampadi A. N	Intramural Funding	Pushpagiri Research Centre
11.	Fabrication and Preclinical Evaluation of PCL- PLA Loaded with Dopamine and Zinc Oxide Nanoparticles Intended for Wound Healing Applications.	Principal Investigator: Dr. Nebu George Thomas Co-Principal Investigator: Dr. Ampadi A. N	Intramural Funding	Pushpagiri Research Centre
12.	Evaluation of in vivo biocompatibility and bone regeneration potential of 3D printed CAD-CAM assisted PLA Fish scale derived Hap composite scaffolds	Investigator: Dr. Nebu George Thomas	Institutional funding (JSS Academy of Higher Education and Research, Mysore)	Pushpagiri Research Centre

13.	Evaluation of in vivo biocompatibility and wound healing ability of PCL-PVDF Core shell membrane loaded with Ag NPs, Astaxanthin and Bioglass	Investigator: Dr. Nebu George Thomas	Institutional funding (JSS Academy of Higher Education and Research, Mysore)	Pushpagiri Research Centre
14.	Bioactivity and surface performance of Fucoidan-modified 45ss bioglass and nano fish scale derived hydroxyapatite coatings on titanium implants	Principal Investigator: Dr. Nebu George Thomas Co-Principal Investigators: Dr. Ampadi A. N Dr. Haseena Ummer	Institutional funding (Sree Balaji Vidyapeeth)	Pushpagiri Research Centre
15.	Surface modification of Titanium implant surface using curcumin nanoparticles and hydroxyapatite nanoparticles	Principal Investigator: Dr. Nebu George Thomas Co-Principal Investigator: Dr. Ampadi A. N	Institutional funding (Helsinki University, Finland)	Pushpagiri Research Centre
16.	Evaluating selected endothelial protein biomarkers as prognostic indicators for severe dengue- An invitro, clinical and machine learning approach	Principal Investigator: Mr. George Varghese Co-Principal Investigator: Dr. Tomy Philip, Dr. Jacob Abraham, Dr. Mercy John Idikula	Institute Of Advanced Virology, Trivandrum	Institute Of Advanced Virology, Trivandrum

PAPERS PRESENTED / GUEST LECTURES / RESOURCE PERSON

Sl. No.	Name of the Conference/ Workshop/ CME/ webinar	Title of the Paper or Talk	Place & Date	Name of Scientist
1	Bioradiance 2024	Invitro antioxidant and free radical scavenging activity of <i>Oldenlandea corymbossa</i>	PIMS&RC, May 16-18 th 2024	Dr. Soumya R. S
2	Bioradiance 2024	Designing Potential Anti-Bacterial Peptides Against Clinically Pertinent Extended Spectrum β -Lactamase Producing <i>Escherichia coli</i> : An <i>in-silico</i> Approach	PIMS&RC, 16-18 th May, 2024	Dr. Aniket Naha
3	Bioradiance 2024	Enhancing The Efficacy of Susceptible Antibiotics in Combination with Phytocompound Against Nosocomial Pathogens	PIMS&RC, 16-18 th May, 2024	Dr. Aniket Naha
4	Bioradiance 2024	Enhanced Antibacterial Efficacy against Multi-Drug-Resistant <i>Escherichia coli</i> through the Combined Use of <i>Piper betle</i> and Susceptible Antibiotics	PIMS&RC, 16-18 th May, 2024	Dr. Aniket Naha
5	Bioradiance 2024	Exploring The Antibacterial and Antibiofilm Potency of	PIMS&RC, 16-18 th May, 2024	Dr. Aniket Naha

		<i>Terminalia bellirica</i> In Synergism with Susceptible Antibiotics Against Nosocomial <i>Pseudomonas aeruginosa</i> & <i>Acinetobacter baumannii</i>		
6	Bioradiance 2024	Cu-Mofs Embedded Gellan/ Zein Based Hydrogel for Wound Healing	PIMS&RC, 16-18 th May, 2024	Dr. Yogesh Bharat Dalvi
7	Bioradiance 2024	Bioresorbable flexible biopolymeric hydrogel for effective wound management in Type1 Diabetes Mellitus	PIMS&RC, 16-18 th May, 2024	Dr. Yogesh Bharat Dalvi
8	Bioradiance 2024	Biomedical Application of Polyherbal Extract Infused Chitosan Hydrogel	PIMS&RC, 16-18 th May, 2024	Dr. Yogesh Bharat Dalvi
9	Bioradiance 2024	Unveiling Nature's Potential: <i>Phellinus Caryophylli</i> , a therapeutic fungal bio factory	PIMS&RC, 16-18 th May, 2024	Dr. Yogesh Bharat Dalvi
10	Pushpagiri Clinical Club	An Introduction to the Laboratory Animal House	Senate Hall, Pushpagiri	Dr. Ampadi. A N
11.	Molecular Biology Workshop	Molecular Biology Workshop: Unraveling the Secrets of Life	Pushpagiri Research Centre and Origin, 28 th May 2024	Dr. Yogesh Bharat Dalvi
12.	Invited talk	Mitochondria-Fascinating therapeutic targets	SN College for Women, Kollam 07/02/2025	Dr. Soumya R.S.

13.	National conference on OMICS in redefining healthcare	Synthesis of nanoparticles of vanadium as potent antioxidants: An invitro approach	Jublie center for medical research, 23& 24 August 2024	Dr. Soumya R.S.
14.	One day workshop and Hand-on-training	'HPLC Essentials: Phytochemical Techniques in Developing Phytomedicines'	PRC conference Hall, Biochemistry lab 29 th July 2024	Dr. Soumya R.S.
15.	Guest Lecture	Advanced In-Vitro and In-Silico Strategies to Combat Antimicrobial Resistance in Priority Pathogens	Dr. N.P.N. College of Arts and Science, Coimbatore on 12/09/2024	Dr. Aniket Naha
16.	Hands-on-Workshop	Mastering Sequence Alignment and Phylogenetic Analysis: Tools and Techniques for Evolutionary Insights	Karunya Institute of Technology and Sciences, Coimbatore on 13/09/2024	Dr. Aniket Naha
17.	Guest Lecture	In-silico Approaches to Understand Antimicrobial Resistance in Clinically Important Bacterial Pathogens	Vellore Institute of Technology, Vellore on 26/09/2024	Dr. Aniket Naha
18.	Guest Lecture	Understanding the Molecular Basis of Multidrug Resistance in ESKAPE Pathogens	Vellore Institute of Technology, Vellore on 26/09/2024	Dr. Aniket Naha
19.	Guest Lecture	Systems Biology and Structural Bioinformatics to Elucidate Novel Therapeutic Biomarkers and Effective Lead	Vellore Institute of Technology, Vellore on 26/09/2024	Dr. Aniket Naha

		Molecules Against Priority Bacterial Pathogens		
20.	Guest lecture	Engineering the future: Biomimetic Scaffolds and Hydrogel for Tissue Engineering	SB College, Changanacherry on 16 th August 2024	Dr. Yogesh Bharat Dalvi
21.	Guest lecture	International Colloquium on Biochemical Engineering	Catholicate College, Pathanamthitta on 2 nd August 2024	Dr. Yogesh Bharat Dalvi
23.	International Conference on Progress in Mitochondrial Research and Therapy	Tissue- specific Expression of Mitochondrial Genes in Buffalo for Insights into Energy Metabolism	Dharwad, Karnataka	Dr. Ampadi A N
24.	2 Days Workshop cum Hands-on-Training	Structural Bioinformatics and Computer aided Drug Designing	Pushpagiri Research Centre, 15-16th November, 2024	Dr. Aniket Naha
25.	Training on Fertility Management of Animals	CVE (Continuing Veterinary Education)	KLDB Farm, Mattupetty	Dr. Ampadi A N
26.	Research Methodology Workshop for postgraduate residents	Experimental Study Designs & Diagnostic Test Evaluation	Pushpagiri College of Dental Sciences, 4 th & 5 th February 2025	Dr. Rosin George Varghese
27.	Research Methodology Workshop for postgraduate residents	How to write a research protocol?	Pushpagiri College of Dental Sciences, 4 th & 5 th February 2025	Dr. Rosin George Varghese

28.	Research Methodology Workshop for postgraduate residents	Computer aided data analysis	Pushpagiri College of Dental Sciences, 4 th & 5 th February 2025	Dr. Rosin George Varghese
29.	Research Methodology Workshop for postgraduate residents	Mastering Reference Management using Mendeley Reference Management System	Pushpagiri College of Dental Sciences, 4 th & 5 th February 2025	Dr. Aniket Naha
30.	Guest Lecture for One day Seminar	“Advanced In-silico Approaches in Deciphering and Combating Bacterial Infections of Clinical Relevance”	Saveetha Institute of Medical and Technical Sciences (SIMATS), Chennai, 8 th March, 2025	Dr. Aniket Naha
31.	Resource Person for One day Hands-on-Training	Advancements in Biological Databases and Computational Sequence Analysis	Saveetha Institute of Medical and Technical Sciences (SIMATS), Chennai, 8 th March, 2025	Dr. Aniket Naha
32.	4 Days Training	Laboratory management systems and internal audit as per IS/ISO15189:2022	Govt Medical College, Kottayam 28 th January to 31 st January 2025	Dr. Soumya R. S
33.	Key Note Speaker in International Conference on Recent Advances In Biotechnology And Bioenergy 2025	Sustainable Nanomedicine: Green-Synthesized Metal and Biopolymer Nanoparticles in Therapy	Sathyabhama Institute of Science and Technology, Chennai, Tamil Nadu, 19 th	Dr. Soumya R. S

			March 2025 to 21 st March 2025	
34.	Research Methodology Workshop for postgraduate residents	Research methodology for postgraduate	Pushpagiri College of Dental Sciences, 4 th & 5 th February 2025	Dr. Rosin George Varghese
35.	Quiz	World Health Day Quiz Prelims	PIMS&RC, 2 nd April, 2024	Dr. Betsy A Jose
36.	Chairperson / Judge for PG and UG	NATCON24- 14th National Conference on Students Medical Research	Government Medical College, Thiruvananthapuram, 5 th – 6 th April, 2024	Dr. Betsy A Jose
37.	Quiz	World Health Day Final Quiz	PIMS&RC, 8 th April, 2024	Dr. Betsy A Jose
38.	Scientific Committee	DNB & Superspeciality students	PIMS&RC, 8 th April, 2024	Dr. Betsy A Jose
39.	Global Evidence Summit	Utilization of Artificial Intelligence in Emerging Diseases: A Scoping Review	Prague, Czech Republic September 6-13, 2024	Dr. Sunu Alice Cherian, Nisha Kurian, Anjum John, Reshma VR, Neetha Mary Kurian
40.	5 th International Clinical Nursing Research Congress (Online)	Advanced Statistical Methods in Health Research	Faculty of Health Sciences, Istanbul Aydin University, Turkey; University of Newcastle, Australia and Cyprus Science University, Cyprus Turkey, 5-8 th Dec, 2024	Nisha Kurian

41.	5 th International Clinical Nursing Research Congress (Online)	Ethics	Faculty of Health Sciences, Istanbul Aydin University, Turkey; University of Newcastle, Australia and Cyprus Science University, Cyprus Turkey, 5-8 th Dec, 2024	Dr. Sunu Alice Cherian
42.	Indo-US Conference on Climate Change Impacts on Occupational and Environmental Health (CliCON-OEH 2025)	Exploring the Impact of Urban Heat Islands on Health in India – A Systematic Review	Ahmedabad, India 26–28 th February, 2025	Chinnu Sara Varughese, Sapna Meryl Mani, Vineetha Vincent, Sunu Alice Cherian, Nisha Kurian
43.	Training Programme	Implementing Evidence into Practice: A JBI gLOCAL Solution Room 2024 in collaboration with the Ethiopian Evidence Based Healthcare and Development Centre: A JBI Centre of Excellence (EEBHCC)	Online (June 7, 2024)	Nisha Kurian, Prof. Chandrashekar Janakiram, Ms Hiwot Berhanu, Dr. Sunu Alice Cherian
44.	Training Programme	Comprehensive Systematic Review Training Program (CSRTP)	Pushpagiri Research Centre, June 11 - 13 and 17 - 18 (5 days)	Sr Mary Jyothi OSS, Nisha Kurian, Dr. Sunu Alice Cherian

RESEARCH TRAINEES

Sl. No.	Name of the Student	Date of Joining	Title of the Project	Name of the Scientist
1	Treesa Sani	11 th September 2023	Synthesis and Characterization of calcium carbonate nanoparticles and its invitro for various applications	Dr. Soumya R.S.
2	Elizabeth Annie George	1 st January, 2024	Designing Potential Anti-Bacterial Peptides Against Clinically Pertinent Extended Spectrum β -Lactamase Producing <i>Escherichia coli</i>	Dr. Aniket Naha
3	Ms. Inthu Suresh	22 nd January, 2024	Development and validation of biomedical and cosmetic products from secondary fishery raw materials	Dr. Nebu George Thomas
4	Ms. Rehna Babu	9 th Feb 2024	Development and validation of biomedical and cosmetic products from secondary fishery raw materials	Dr. Nebu George Thomas
5	Jiya Tomy	12 th June 2024	<i>In vitro</i> and <i>in vivo</i> evaluation of biomaterials	Dr. Yogesh Bharat Dalvi

6	Shahanas Seethi	19 th August 2024	CIFT collaborative project	Dr. Nebu George Thomas
7	Nair Sreelekshmi Ramachandran	19 th August 2024	CIFT collaborative project	Dr. Nebu George Thomas
8.	Ancy Sara Mathew	19 th August 2024	Synergistic effect of indigenous medicinal plants with susceptible antibiotics as alternate therapeutic regimen for nosocomial pathogens	Dr. Aniket Naha
9.	Aswathy Balakrishnan	19 th August 2024	Anti-inflammatory effect of methanolic fractions of <i>Cissus quadrangularis</i> in RAW 264.7 macrophage cell lines	Dr. Soumya R. S
10.	Aleesha Anilkumar	18 th September 2024	Invitro Antioxidant activity of methanolic extract of <i>Oldenlandia corymbosa</i> (Linn.) on HepG2 cell lines	Dr. Soumya R. S
14.	Shifina A.S	1 st January 2025	Invitro Antioxidant activity of methanolic extract of <i>Oldenlandia corymbosa</i> (Linn.) on HepG2 cell lines	Dr. Soumya R. S

STUDENT PROJECTS

B.Sc. Project Students

Sl. No.	Name of Student	Research Thesis Title	Name of the Institution	Name of Scientist
1.	Nafiya Rasheed	<i>In-vitro</i> evaluation, safety assessments and technological speculations of potential probiotic strain isolated from fermented tender coconut water	St. Mary's College for Women, Tiruvalla	Dr. Aniket Naha
2.	Shifana Fathima	Assessing the probiotic potential of novel lab strain isolated from fermented cucumber- An <i>In-vitro</i> approach	St. Mary's College for Women, Tiruvalla	Dr. Aniket Naha
3.	Deepthi Prasad	<i>In-vitro</i> evaluation, safety assessments and technological speculations of potential probiotic strain isolated from fermented tender coconut water	St. Mary's College for Women, Tiruvalla	Dr. Aniket Naha
4.	Vaishnavi Harikumar	Assessing the probiotic potential of novel lab strain isolated from fermented cucumber- An <i>In-vitro</i> approach	St. Mary's College for Women, Tiruvalla	Dr. Aniket Naha

M.Sc. Project Students

Sl. No.	Name of Student	Research Thesis Title	Name of the Institution	Name of Scientist
1	Ms. Bessy Benny	<i>In Vitro</i> Antioxidant and Inhibitory Potential of <i>Calotropis gigantea</i> flower and key enzymes linked To Type 2 Diabetes	St. Berchmans College, Changanacherry	Dr. Soumya R. S
2	Ms. Sreelakshmi B	Synthesis of Micro/Nanoparticles of Vanadium as potent antioxidants: An <i>In Vitro</i> approach.	St. Berchmans College, Changanacherry	Dr. Soumya R. S
3	Ms. Joshna Mary Saji	<i>In Vitro</i> free radical scavenging potential of methanolic fraction of <i>Cissus quadrangularis</i>	St. Berchmans College, Changanacherry	Dr. Soumya R. S
4	Mrs. Anju P	<i>In Vitro</i> antioxidant & anti-Inflammatory activity of <i>Sechium edule</i> (Jacq.) Swartz	St. Berchmans College, Changanacherry	Dr. Soumya R. S
5	Mr. Adwaith S	Synthesis and characterization of fenugreek nanoparticles and evaluation of its anti-oxidant activity	St. Berchmans College, Changanacherry	Dr. Soumya R. S
6	Mrs. Ashina M Ismayel	Synthesis of Micro/Nanoparticles of Vanadium as potent antioxidants: An <i>In Vitro</i> approach	St. Mary's College for Women, Tiruvalla	Dr. Soumya R. S
7	Ms. Nayana. P. Das	<i>In Vitro</i> antioxidant & anti-Inflammatory activity of <i>Sechium edule</i> (Jacq.) Swartz	St. Mary's College for Women, Tiruvalla	Dr. Soumya R. S

8	Ms. Anjana Pradeep	<i>In Vitro</i> free radical scavenging potential of methanolic fraction of <i>Cissus quadrangularis</i>	St. Mary's College for Women, Tiruvalla	Dr. Soumya R. S
9	Mrs. Athira Krishnan	<i>In Vitro</i> Antioxidant and Inhibitory Potential of <i>Calotropis gigantea</i> flower and key enzymes linked To Type 2 Diabetes	St. Mary's College for Women, Tiruvalla	Dr. Soumya R. S
10	Ms. Kavyalekshmi G Prasad	Synergistic effect of phytochemicals extracted from <i>Terminalia chebula</i> in association with susceptible antibiotics against nosocomial <i>Staphylococcus aureus</i> and <i>Klebsiella pneumoniae</i>	Amrita School of Biotechnology, Amritapuri Campus, Kollam	Dr. Aniket Naha
11	Ms. Hanna Sherin N K	Exploring The Antibacterial and Antibiofilm Potency of <i>Terminalia bellerica</i> in Synergism with Susceptible Antibiotics against Nosocomial <i>Pseudomonas aeruginosa</i> and <i>Acinetobacter baumannii</i> : An <i>In-silico</i> and <i>In-vitro</i> approach	University of Calicut, Calicut	Dr. Aniket Naha
12	Ms. Aleena Mary Jijo	Elucidating the synergism of gentamicin with <i>Terminalia bellerica</i> to combat MDR. <i>Escherichia coli</i> through <i>in-vitro</i> experimentations and <i>in-silico</i> validations	St. Berchmans College, Changanassery	Dr. Aniket Naha

13	Ms. Joby Rose Jacob	<i>In-vitro</i> screening and genomic characterization of <i>Weissella confusa</i> as novel probiotic strain from indigenous rose matta rice	St. Berchmans College, Changanassery	Dr. Aniket Naha
14	Ms. Adithi Aneesh	Scrutinizing the probiotic potency of <i>Pediococcus pentosaceus</i> and <i>Lactiplantibacillus plantarum</i> from idli batter through <i>in-vitro</i> and <i>in-silico</i> approaches	St. Berchmans College, Changanassery	Dr. Aniket Naha
15	Nair Sreelekshmi Ramachandran	In vivo and in vitro biocompatibility assessment of P(VDF-TRFE) nanofiber coreshell membrane loaded with cobalt ferrite nanoparticles intended for tissue engineering applications	St. Mary's College for Women, Tiruvalla	Dr. Nebu George Thomas
16	Shahanas Seethi	Fabrication and Preclinical Evaluation of PCL- PLA Loaded with Dopamine and Zinc Oxide Nanoparticles Intended for Wound Healing Applications	St. Mary's College for Women, Tiruvalla	Dr. Nebu George Thomas
17	Akshara S.	Assessment of Biocompatibility and Wound Healing Properties of Neodymium Oxide-infused PLA scaffolds: preclinical investigations	School of life Sciences, JSS academy of higher Education & Research, Mysuru	Dr. Yogesh Bharat Dalvi
18	Varsha Murali	In vitro and in vivo analysis of a novel	Amrita School of Biotechnology,	Dr. Yogesh Bharat Dalvi

		hydrogel formulation for wound healing	Amritapuri Campus, Kollam	
19	Kirthi Ann Mathews	Assessment of Biocompatibility and Wound Healing Properties of core-shell membrane PLA scaffolds: preclinical investigations	MACFAST College, Tiruvalla	Dr. Yogesh Bharat Dalvi
20	Greeshma Chandran	Incidence of acute Cytomegalo Virus (CMV) Infection in pregnant women: An Exploratory Study Among Antenatal Cases in Tertiary Care Hospital	Indira Gandhi College of Arts and Science	Mr. George Varghese
21	Anagha CK	Assessment of Biocompatibility of nano- cellulose extracted from Flax stem incorporated with Curcumin and Chitosan	SME College Gandhi Nagar Kottayam	Dr. Yogesh Bharat Dalvi & Dr. Ampadi A. N
22	Rinky Abraham	In Vivo Biocompatibility analysis of Poly Lactic Acid (PLA) Scaffold infused with Nanohydroxyapatite.	SME College Gandhi Nagar Kottayam	Dr. Yogesh Bharat Dalvi & Dr. Ampadi A. N
23	Anu John	Assessing The synergistic effects of PVDF/Nano cellulose Blend Scaffold and Nickel Ferrite Nanoparticles on Wound Healing Potential	SME College Gandhi Nagar Kottayam	Dr. Yogesh Bharat Dalvi & Dr. Ampadi A. N
24	Benny Babu Mathai	Assessment of Wound Healing properties of injectable lignin Based	SME College Gandhi Nagar Kottayam	Dr. Yogesh Bharat Dalvi & Dr. Ampadi A. N

		Adhesive Hydrogel - Preclinical Investigation		
25	Sandra Sam	Comparison of Wound Healing potential of fish acellular skin collagen membrane derived from Air Bladder and Gall bladder.	SME College Gandhi Nagar Kottayam	Dr. Yogesh Bharat Dalvi & Dr. Ampadi A. N
26	Aleena	Evaluation of <i>in vivo</i> biocompatibility and <i>in vivo</i> wound healing ability of PCL-PVDF coreshell membrane loaded with silver nanoparticles, Astaxanthin and Bioglass.	JSS Mysore	Dr. Nebu George Thomas & Dr. Ampadi A. N
28.	Anitta	Evaluation of <i>in vivo</i> biocompatibility and bone regeneration in potential of cad-cam assisted 3D printed PLA fish scale derived hydroxyapatite composite scaffolds.	JSS Mysore	Dr. Nebu George Thomas & Dr. Ampadi A. N
29.	Ashitha Ashish	Synergistic effect of methanolic phytoextracts against nosocomial ESKAPE pathogens	Vellore Institute of Technology (VIT), Vellore	Dr. Aniket Naha
30.	Jitty Elsa Jacob	Seroprevalence of West Nile Fever Virus among healthy subjects - a cross-sectional study	SB College Changanassery	George Varghese

INTERNSHIP STUDENTS

Sl. No.	Name of Student	Name of the Institution	Supervising Guide
1.	D. Dhanushma	Central University of Kerala, Trivandrum	George Varghese
2.	Amisha Mary Bijo	Amrita School of Nanosciences and Molecular Medicine, Ernakulam	George Varghese Dr. Yogesh Bharat Dalvi
3.	Samon Baby	Amrita School of Nanosciences and Molecular Medicine, Ernakulam	George Varghese Dr. Yogesh Bharat Dalvi
4.	Ariya Anil Nair	Christ College, Bangalore	Dr. Soumya R. S
5.	Ann Susan Mathew	Christ College, Bangalore	Dr. Somya R. S
6.	Arya V.V.	University of Kerala, Trivandrum	Dr. Soumya R. S
7.	Amritha Pratheep	SRM University, Kattankulathur	Dr. Aniket Naha
8.	Minu Joy	St. Thomas College, Palai	Dr. Aniket Naha
9.	Shelin Jose V.	St. Thomas College, Palai	Dr. Aniket Naha
10.	Sandra Krishnan	SB College, Changanaserry	Dr. Yogesh Bharat Dalvi
11.	Anjana V.A.	SB College, Changanaserry	Dr. Yogesh Bharat Dalvi
12.	Himanshu Raj	Fergusson College, Pune	Dr. Yogesh Bharat Dalvi
13.	Komal Bungle	Fergusson College, Pune	Dr. Yogesh Bharat Dalvi
14.	Aditi Jain	Fergusson College, Pune	Dr. Yogesh Bharat Dalvi
15.	Yuvraj Mirgale	Fergusson College, Pune	Dr. Yogesh Bharat Dalvi
16.	Haobijan Topmost Singh	Fergusson College, Pune	Dr. Yogesh Bharat Dalvi
17.	Kritibas Salam	Fergusson College, Pune	Dr. Yogesh Bharat Dalvi

18.	Umesh C. Bhavare	Fergusson College, Pune	Dr. Yogesh Bharat Dalvi
19.	Ashwin Kumar K.A.	SRM College, Chennai	Dr. Yogesh Bharat Dalvi
20.	Nisha Mariam Shaji	SRM College, Chennai	Dr. Yogesh Bharat Dalvi
21.	Uma S	Amrita School of Nanosciences and Molecular Medicine	Dr. Yogesh Bharat Dalvi
22.	Prevyia Skariah	St. Joseph University, Bangalore	Dr. Nebu George Thomas
23.	Angel Mary Varghese	St. Joseph University, Bangalore	Dr. Nebu George Thomas
24.	Abraham Jomon Varghese	National Institute of Technology, Calicut	Dr. Yogesh Bharat Dalvi
25.	Rani Shine Raju	MACFAST College, Tiruvalla	Dr. Nebu George Thomas
26.	Nandana B Nair	MACFAST College, Tiruvalla	Dr. Nebu George Thomas

ICMR SHORT-TERM STUDENTSHIP (STS) PROJECTS

Sl. No.	Research Thesis Title	Student	Name of Scientist
1.	IgM-IgG Avidity Combination Screening for CMV Infection in Antenatal Women in a Tertiary Care Centre in South India	Ms. Jennath M Ashraff	George Varghese
2.	Seroprevalence of West Nile Fever Virus at a tertiary care centre in Kerala - a cross-sectional study	Ms. Angela Aji	George Varghese

MDS THESIS

Sl. No.	Student Name	Research Thesis Title	Name of the Institution	Name of Scientist
1	Dr. Betsy Thomas	Pre-clinical evaluation of a porcine cholecystic extracellular	Pushpagiri College of	Dr. Nebu George Thomas

		membrane (CECM) for periodontal regeneration	Dental Sciences	
2	Dr. Revu	Development and pre-clinical analysis of electrospun membrane	Pushpagiri College of Dental Sciences	Dr. Nebu George Thomas, Dr. Yogesh Bharat Dalvi
3	Dr. Johnson John	Evaluation of the Antimicrobial Efficacy of Double Antibiotic Paste, Catechin loaded Chitosan Nanoparticles and Calcium Hydroxide with Catechin against <i>Enterococcus faecalis</i> : An in vitro Study	Pushpagiri College of Dental Sciences	Dr. Nebu George Thomas, Dr. Yogesh Bharat Dalvi, Dr. Aniket Naha
4	Dr. Vimal Thomas Oommen	In vitro biocompatibility assessment of chitosan hydrogel loaded with 45S5 BG intended for periodontal regeneration.	Pushpagiri College of Dental Sciences	Dr. Nebu George Thomas, Dr. Yogesh Bharat Dalvi
5	Dr. Lekshmi. M	Comparative Assessment of Bone Regenerative Potential of Fish Scale Derived Hydroxyapatite Loaded with Simvastatin and Fish Scale Derived Hydroxyapatite- An <i>In Vitro</i> Study	Pushpagiri College of Dental Sciences	Dr. Nebu George Thomas
6	Dr. Karthik Chandran. R. J	Cbct Assisted In Vivo Assessment of Regenerative Potential of Chitosan Hydrogel Loaded with Fish Scale Derived Hydroxyapatite	Sri Sankara Dental College Varkala, Trivandrum	Dr. Nebu George Thomas, Dr. Yogesh Bharat Dalvi
7	Dr. Merin Basil	The Comparative Evaluation of Biocompatibility in Synthetic and Fish Scale Derived Hydroxyapatite Coated Titanium Implant: - An <i>In vitro</i> Study.	Pushpagiri College of Dental Sciences	Dr. Nebu George Thomas, Dr. Yogesh Bharat Dalvi

8.	Dr. Namitha Jayan	Comparative evaluation of changes in vertical dimension of occlusions and gingival cervicular fluid biomarker TNF- α following the placement of stainless-steel crowns by the hall technique and conventional technique: A split mouth study.	Pushpagiri College of Dental Sciences	Dr. Soumya R. S
9.	Dr. Nandita	Implant surface modification with natural hydroxyapatite	University of Helsinki	Dr. Nebu George Thomas
10.	Dr. Haseena Ummer	Assessment of surface properties and biological performance of titanium implants with novel triple-layer coatings: fucoidan, 45s5 bioglass, and fish scale-derived nano hydroxyapatite."	Sri Balaji Vidyapeeth University, Pondicherry	Guide: Dr. David Livingstone Co-guides: Dr. Nebu George Thomas and Dr. Anil Sukumaran
11.	Sruthy Prathap	Bone Regeneration	Yenepoya Dental College, Mangalore, Karnataka, India	Guide: Dr. Nebu George Thomas and Dr. Rajesh K.S
12.	Dr. Nimisha A	Fabrication, Characterization and In Vivo Biocompatibility Assessment of Melatonin Incorporated PCL-PVDF Electrospun Guided Tissue Regeneration Membrane Intended for Periodontal Regeneration	Shri Shankara Dental College,	Dr. Nebu George Thomas
13.	Dr. Aswathy S	Evaluation of In Vivo Bone Regeneration of 3D-Printed PCL Scaffold Loaded with Fish Scale Derived Nanohydroxyapatite Intended for Periodontal Regeneration"	Shri Shankara Dental College,	Dr. Nebu George Thomas

DETAILS OF Ph.D. SCHOLARS

SI. No.	Name of the Ph.D. Candidate	Name of the Guide & Co-Guide	Research Topic	Collaborative Institution
1	Dr. Sharlene Sara Baby	Guide: Dr. S. Sunil Co Guide: Dr. Yogesh Bharat Dalvi	DNA Methylation Biomarker as an Early Diagnostic Tool in the progression of Oral Squamous Cell Carcinoma	Kerala University of Health Sciences, Pushpagiri College of Dental Sciences
2	Dr. Julie Toby Thomas	Anil Sukumaran, Dr. Nebu George Thomas	Cardiometabolic risk and periodontal disease	University of Helsinki, Finland
3	Dr. Sruthy Prathap	Dr. Nebu George Thomas	Evaluation of the activity of composite graft material synthesised from eggshell derived bone substitute (hydroxyapatite) in a biocompatible matrix (fish collagen) on bone healing and regeneration in animal model (Wistar rats)	ICAR- Central Institute of Fisheries Technology
4	Saira Siraj E	Guide: Dr. Benley George Co-Guide: Dr. Betsy A Jose	Development and validation of a tool to analyze the social determinants of oral health outcomes among adults in rural and urban areas of south Kerala - a mixed methods approach	Azeezia College of Dental Sciences and Research, Kollam
5	Abdul Saheer P	Guide: Dr. Benley George Co-Guide: Dr. Betsy A Jose	The assessment of oral health status among older adults residing in old age homes and its association with factors affecting their Quality of life & Nutritional	Malabar Dental College, Edappal

			status- A multi centric cross-sectional study	
6	Dr. Arun R Nair.	Guide: Dr. H Venkatesan Co-Guide: Dr. Soumya RS	A Comprehensive Characterization and in Silico Analysis of the Various Potencies of Homeopathic Medicine Arsenicum Album and Assessing its Effects on In Vitro Studies of Acute Promyelocytic Leukemia	Vinayaka Mission's Homoeopathic Medical College and Hospital, Salem
7.	Dr. Nandita	Dr. Nebu George Thomas	Implant surface modification with natural hydroxyapatite	University of Helsinki
8.	Dr. Haseena Ummer	Guide: Dr. David Livingstone Co-guides: Dr. Nebu George Thomas & Dr. Anil Sukumaran	Assessment of surface properties and biological performance of Titanium Implants with novel triple-layer coatings: Fucoidan, 45S5 bioglass, and fish scale-derived nano hydroxyappetite.	Sri Balaji Vidyapeeth University, Pondicherry
9.	Sruthy Prathap	Guide: Dr. Nebu George Thomas, Dr. Rajesh K.S	Bone Regeneration	Yenepoya Dental College, Mangalore, Karnataka, India
10.	Elizabeth Annie George	Guide: Dr. Sudha Ramaiah Co-Guide: Dr. Aniket Naha	Elucidating Novel Therapeutic Strategies Integrating Genomics, Systems Biology, Structural Bioinformatics and AI/ML for Combating Antimicrobial Resistance Amongst Clinically Significant Pathogens	Vellore Institute of Technology, Vellore

PUBLICATIONS IN PEER-REVIEWED JOURNALS & BOOK CHAPTERS

Patents

1. Application No. :202411090199; Title of the invention: Nanofibers and a process for their preparation; Inventors: Binsi Puthanpurakkalkizhakkethil Kamalamma, Sobi Kannamkulam Chacko, Raneesh Balakrishnan, Nebu George Thomas; Publication Date: 27/12/2024
2. Application Number: 202541023124; Title: 3D-pored nanocellulose -curcumin composites: A novel material for tissue engineering applications; Inventors: Dr. Nebu George Thomas
3. Application Number: 202541023125; Title: PEG-Plasticized Nanocellulose-ZnO hybrid scaffold: a biocompatible and antimicrobial platform for wound healing applications; Inventors: Dr. Nebu George Thomas
4. Application Number: 202541023124; Title: 3D-pored nanocellulose -curcumin composites: A novel material for tissue engineering applications; Inventors: Dr. Yogesh Bharat Dalvi
5. Application Number: 202541023125; Title: PEG-Plasticized Nanocellulose-ZnO hybrid scaffold: A biocompatible and antimicrobial platform for wound healing applications; Inventors: Dr. Yogesh Bharat Dalvi

Research Articles

1. Vellappally, S., Naik, S., Al Kheraif, A.A., Alayadi, H., Alageel, O., Alsarani, M.M., Ramadoss, R., Thomas, N.G., Alateek, M. and Anil, S., 2025. Fluoride Concentrations in Different Brands of Toothpaste Marketed in Saudi Arabia. *International Journal of Dental Hygiene*, 23(2), pp.353-361.
2. George SS, Elenjickal MG, Naik S, Thomas NG, Vellappally S, Varghese N, Mathew A, Narayan V, Varughese RP, Sukumaran A. Oral health status and

- dental treatment needs in children with autism spectrum disorder. *Heliyon*. 2024 Sep 10. Impact factor: 3.7
3. Mohammed, R., Chacko, S.K., Balakrishnan, R., Thomas, N.G., Binsi, P.K., Muhamed Ashraf, P., Krishnan, N. and Anil, S., 2025. Catechin as a functional additive in electrospun PCL/gelatin/nHA nanocomposite fibers for tissue engineering applications. *Journal of Applied Polymer Science*, 142(1), p.e56308.
 4. Prathap, S., Rajesh, K.S., Thomas, N.G., Venkateshan, J., Prathap, M.S. and Surya, S., 2024. Domestic Chicken Eggshell-Derived Bone Substitute: Synthesis, Characterization and In Vitro Cell Viability. *Journal of Pharmacy and Bioallied Sciences*, 16(Suppl 4), pp. S3116-S3119.
 5. Thomas, N.G., Varghese, M.G., John, P.K., Raj, S.S., Jacob, R.S. and Francis, A.M., 2024. Application of nanocomposites in dentistry. In *Nanostructured Materials for Biomedical Applications* (pp. 313-337). Elsevier.
 6. Shilpa, J. and Nebu, G.T., 2024. Functional regulation of hydroxyproline, ascorbic acid and lipid peroxidation during GABA chitosan nanoparticles mediated liver regeneration. *Journal of Cellular Biotechnology*, 10(1), pp.75-84.
 7. Soumya, R.S., Antony, S., Biju, D.T. and Kurian, R., 2024. Medical additive manufacturing—the magic wand for cardiology. In *Medical Additive Manufacturing* (pp. 475-496). Elsevier.
 8. Prathibha, P.M., Thomas, N.G., Dalvi, Y.B., Varghese, K.G., Binsi, P.K., Zynudheen, A.A., Lekshmi, M., Shilpa, J., Sajith, V. and Sukumaran, A., 2024. Fish scale-derived hydroxyapatite for alveolar ridge preservation. *Biotechnology and Applied Biochemistry*, 71(6), pp.1272-1280.
 9. Kumar, A.S., Thomas, N.G., Dalvi, Y.B., Letha, S.S., Sreelekshmi, S. and Rosemary, M.J., 2024. Tailoring biodegradable electrospun membrane for the potential treatment of periodontics: In vitro and in vivo evaluations. *Materials Today Communications*, 40, p.109647.

10. Anil, S., Thomas, N.G., Chalisserry, E.P., Dalvi, Y.B., Ramadoss, R. and Vellappally, S., 2024. Isolation, culture, and characterization of dental pulp stem cells from human deciduous and permanent teeth. *J Visualiz Exper*.
11. Naha, A. and Ramaiah, S., 2024. Novel antimicrobial peptide SAAP mutant as a better adjuvant to sulbactam-based treatments against clinical strains of XDR. *Acinetobacter baumannii. Probiotics and Antimicrobial Proteins*, 16(2), pp.459-473.
12. Nath, S., Astapati, A.D., Naha, A., Sharma, I. and Shah, M.P., 2024. Algal-based membrane bioreactors for effective removal of hazardous and toxic contaminants: a comprehensive review. *Current Research in Biotechnology*, 7, p.100201.
13. Nagarajan, U., Naha, A., Ashok, G., Balasubramanian, A., Ramaiah, S., V Kanth, S., Dusthacker, A., Anbarasu, A. and Natarajan, S., 2024. Biomolecular interaction of carnosine and Anti-TB drug: preparation of functional Biopeptide-Based nanocomposites and characterization through in vitro and in silico investigations. *ACS omega*, 10(1), pp.567-587. Role of biodegradable polymeric nanohydrogel in bone regeneration: an engineering conception
14. ur Rehman, S.R., Ullah, A., Augustine, R., Dalvi, Y.B., Zahid, A.A., Ashammakhi, N., Gaharwar, A.K., Al-Saad, K., Alfkey, R. and Hasan, A., 2024. Enhanced wound healing by nanoengineered hydrogel patch loaded with connective tissue growth factor. *Materials Today Communications*, 40, p.109825.
15. Venugopalan, V.K., Kumaran, A.K., Varghese, R., Dalvi, Y.B., Benjakul, S., Mathew, S., Hatha, A.A.M. and Chatterjee, N.S., 2024. Microencapsulated sardine Oil using vanillic acid grafted chitosan as wall material: Alleviating effect on streptozotocin-induced hyperglycemia in rats. *Pharmacological Research-Natural Products*, 4, p.100076.
16. Sowndarya, A., Thangadurai, T.D., Thomas, N.G., Sreedharan, R., Anil, S., Manjubaashini, N., Babu, T.S. and Kumar, S.M., 2025. Effect of surface-engineered AuNPs on gene expression, bacterial interaction, protein denaturation, and toxicology assay: an in vitro and in vivo model. *Journal of Materials Chemistry B*, 13(7), pp.2409-2417.

17. Suresh, N., Thomas, N.G., Mauramo, M., Waltimo, T., Sorsa, T. and Anil, S., 2025. Phytonanoparticles as novel drug carriers for enhanced osteogenesis and osseointegration. *Discover Nano*, 20(1), p.11.
18. Aswathy, S.H., Thomas, N.G., Dalvi, Y.B., Balraman, M., NarendraKumar, U. and Manjubala, I., 2025. Unravelling the Potential of Carboxymethyl Cellulose Hydrogels for Articular Cartilage Repair: A Rat Model Study. *Regenerative Engineering and Translational Medicine*, pp.1-12.
19. Thomas, J.T., Joseph, B., Varghese, S., Thomas, N.G., Kamalasanan Vijayakumary, B., Sorsa, T., Anil, S. and Waltimo, T., 2025. Association between metabolic syndrome and salivary MMP-8, myeloperoxidase in periodontitis. *Oral Diseases*, 31(1), pp.225-238.
20. Anil, S., Vikas, B., Thomas, N.G. and Sweety, V.K., 2025. Biomedical imaging: Scope for future studies and applications. In *Multimodal Biomedical Imaging Techniques* (pp. 319-338). Singapore: Springer Nature Singapore.
21. Murali, A.J., Vasudevan, B., Varghese, R.G., Joseph, J., Areekal, B., Bhaskar, A. and Madhavikutty, G.D., 2025. Palliative care needs of patients and caregivers in a rural low and middle-income country setting. *Palliative Medicine in Practice*.
22. Krupa, S., Dalvi, Y.B., Aranganathan, V. and Varghese, R., 2025. Microgreens: A Novel Source of Functional Nutraceuticals. *Recent Trends and Applications of Leguminous Microgreens as Functional Foods*, pp.87-101.
23. Sani, T., Sruthi, V.P., Jomol, N.J., Varghese, N. and Soumya, R.S., 2024. Green synthesis of calcium carbonate nano scale particles using *Benincasa hispida* (Thunb.) Cogn. pulp and their qualities: Green synthesis of calcium carbonate nano scale particles. *Indian Journal of Experimental Biology (IJEB)*, 62(07), pp.530-539.
24. Sic, T.K., Cherian, S.A., Vargese, S.S., McArthur, A. and Lizarondo, L., 2024. Pelvic floor muscle training for urinary incontinence in older adults: a best practice implementation project. *JBI Evidence Implementation*, 22(3), pp.242-249.

25. Cherian, S.A. and Kurian, N., 2024. Raising awareness: The key to improving outcomes of colorectal cancer. <https://worldcbhcd.org/blog/2024/raising-awareness-key-improving-outcomes-colorectal-cancer>
26. Sreedharan, M., Kumar, J.J., Anjali, G., Thomas, N.G., Joy, S., Kalarikkal, N. and Thomas, S., 2024. Biomedical Applications of Magnetic Nanomaterials/Ferrites. In *Physics and Mechanics of New Materials* (pp. 31-60). Apple Academic Press.
27. Prabhakaran, J.V., Varghese, N., Rupesh, S., Thomas, A.S., Sameer, K.M. and Thomas, N.G., 2024. Evaluation of the Anticandidal Effect of Medicinal Plant Extracts to Drug Resistant Candida Albicans Isolates from Type Two Diabetic patients with Stage Three Periodontitis. *Journal of Pharmacy and Bioallied Sciences*, 16(Suppl 5), pp.S4532-S4535.
28. Jackson, P., Ponath Sukumaran, G., Babu, C., Tony, M.C., Jack, D.S., Reshma, V.R., Davis, D., Kurian, N. and John, A., 2024. Artificial intelligence in medical education-perception among medical students. *BMC Medical Education*, 24(1), p.804.
29. Ashin T Senoj (2024) "To monitor the adverse drug reactions associated with the use of antihypertensive agents in a tertiary care hospital in central Kerala", *Asian Journal of Pharmaceutical and Clinical Research*, 17(7), pp. 103-109. doi: 10.22159/ajpcr.2024v17i7.50010.

Book Chapters

1. Varghese, R., Lochana, P., Vijay, N. and Dalvi, Y.B., 2024. Microalgal and Fungal Biotechnology: A Path Forward in Assistance of the Sustainable Development Goals for the Management of Natural Resources. In *Bioresources and Bioprocess in Biotechnology for a Sustainable Future* (pp. 93-107). Apple Academic Press.
2. Varghese, R., Binu, N. and Dalvi, Y.B., 2024. Role of biodegradable polymeric nanohydrogel in bone regeneration: an engineering conception. In *Application of Engineering Principles and Practices In Biotechnology* (pp. 107-120). Apple Academic Press.

3. Mishra, A., Soundharya, H., Naha, A., Nath, S., Varghese, N. and Soumya, R.S., Designing Novel Serine Protease Inhibitors against Potential Biomarkers Specific to Lung Adenocarcinoma through Systems Biology and Structural Bioinformatics Approaches. In *Handbook of Proteases in Cancer* (pp. 401-415). CRC Press.
4. Soumya, R.S., Antony, S., Biju, D.T. and Kurian, R., 2024. Medical additive manufacturing – the magic wand for cardiology. In *Medical Additive Manufacturing* (pp. 475-496). Elsevier.
5. Biju, D.T., Kurian, R., Antony, S. and Soumya, R.S., 2024. Medical additive manufacturing – The way to the future!. In *Medical Additive Manufacturing* (pp. 363-380). Elsevier. Association between metabolic syndrome and salivary mmp-8, myeloperoxidase in periodontitis
6. Thomas, N.G., Joy, S., Binci, P.K., Jayachandran, V.P., Prasad, P.G., Jacob, S., George, S.S. and Sukumaran, A., 2024. Biomaterials from Sustainable Natural Sources for Tissue Engineering. In *Application of Engineering Principles and Practices In Biotechnology* (pp. 43-86). Apple Academic Press.
7. Ittycheria, P.G., George, T., John, M., Meenu, G., Thomas, V., Aswathy, S., Kuriakose, R. and Thomas, J., 2024. Application of Hydroxyapatite in Regenerative Dentistry. In *Novel Biomaterials for Tissue Engineering*. IntechOpen.
8. Varghese, M.G., Thomas, A., Joseph, D. and Thomas, N.G., 2024. Fabrication techniques for scaffolds applied in regenerative medicine. In *Novel biomaterials for tissue engineering*. IntechOpen.
9. Anil, S., Thomas, N.G., Sweet, V.K. and Varghese, N., 2024. Bone and Cartilage Tissue Engineering Scaffolds with Nanocellulose.
10. Soumya, R.S., Varghese, G. and George, G., 2025. Cathepsin-responsive nanomaterials for targeted delivery of malignant tumors. In *Pathophysiological Aspects of Proteases in Cancer* (pp. 589-601). Academic Press.

SPECIAL ACHIEVEMENTS - AWARDS, MEMORANDUM OF UNDERSTANDINGS (MoUs), ORATIONS & PATENTS

1. **MoA Signed** Between Pushpagiri Research Centre, PIMS & RC, Tiruvalla, Kerala, India, and Fergusson College (Autonomous), Pune (21 June 2024 Tiruvalla, Kerala, India)
2. **Dr. Yogesh Dalvi's** collaboration won **Best Paper Award in "Research Student" category** in *International Conference BIORADIANCE-2024: Frontiers in antimicrobial Sciences: Global Advances & updates on antimicrobial research and resistance strategies 16-18th May, 2024*
3. **Dr. Yogesh Dalvi's** collaboration won **Best Paper Award in "Faculty" category** in *International Conference BIORADIANCE-2024: Frontiers in antimicrobial Sciences: Global Advances & updates on antimicrobial research and resistance strategies 16-18th May, 2024*
4. **Dr. Nebu George Thomas**, Post Doctoral Fellowship in the Biopolymers and Seniors Lab, Macromolecules Institute, UFRJ (Universidade Federal Do Rio De Janeiro), Brasil, from 05 August -04 August 2025.
5. **Dr. Rosin George Varghese** received the Best Presentation Award in the Faculty Category during Clinical Club - Cycle 1 (2023-2024) for the talk titled 'Clinical Trials - The Ultimate Frontier of Scientific Discovery.
6. **Dr. Aniket Naha** delivered a 'Guest Lecture' on the topic 'Advanced In-silico Approaches in Deciphering and Combating Bacterial Infections of Clinical Significance' at Saveetha Institute of Medical and Technical Sciences, Chennai on 8th March, 2025
7. **Dr. Aniket Naha** was the 'Resource Person' for the Hands-on-Training Workshop on 'Biological Sequence Retrieval and Analysis' at Saveetha Institute of Medical and Technical Sciences, Chennai on 8th March, 2025
8. **Dr. Aniket Naha** served as 'Resource Person' for the Research Methodology Workshop and delivered a lecture on Mastering Mendeley Reference Management System on 4-5th February, 2025

9. **Dr. Aniket Naha** served as 'Resource Person' and conducted a Bioinformatics Workshop on Structural Bioinformatics and Computer Aided Drug Designing for post graduates and Ph.D. students on 15-16th November, 2024 at Pushpagiri Research Centre, Tiruvalla
10. **Dr. Aniket Naha** served as Expert Lecture on 'In-silico Approaches to Understand Antimicrobial Resistance in Clinically Important Bacterial Pathogens' at Vellore Institute of Technology, Vellore on 26th September, 2024
11. **Dr. Aniket Naha** served as Expert Lecture on 'Systems Biology and Structural Bioinformatics to Elucidate Novel Therapeutic Biomarkers and Effective Lead Molecules Against Priority Bacterial Pathogens' at Vellore Institute of Technology, Vellore on 26th September, 2024
12. **Dr. Aniket Naha** served as Expert Lecture on 'Understanding the Molecular Basis of Multidrug Resistance in ESKAPE Pathogens' at Vellore Institute of Technology, Vellore on 26th September, 2024
13. **Dr. Aniket Naha** served as Resource Person for Hands-on-Workshop on 'Mastering sequence alignment & phylogenetic analysis' at KITS on 13th September, 2024
14. **Dr. Aniket Naha** served as Guest Lecture on 'Advanced in-vitro & in-silico strategies to combat antimicrobial resistance in priority pathogens' at Dr. N.G.P Arts and Science College on 12th September, 2024
15. **Dr. Betsy A Jose** received the Zacharias Mar Athansious Research Endowment Award under International Conference Paper presentation.
16. **Dr. Betsy A Jose** functioned as the Judge for paper presentation (NASCON) at Government Medical College, Ernakulam on 21st July 2024
17. **Dr. Betsy A Jose** received the Zacharias Mar Athanasios Research Endowment Award for "International Conference Paper presentation" for the year 2023-24 instituted by Pushpagiri Institute of Medical Sciences & Research Centre
18. **Elizbeth Annie George** received **Second price** for oral presentation in *Designing Potential Anti-Bacterial Peptides Against Clinically Pertinent Extended Spectrum β -*

Lactamase Producing Escherichia coli: An in-silico Approach at International Conference BIORADIANCE-2024: Basic oral research. Under the guidance of **Dr. Aniket Naha** in Medical Biotechnology and Computational Drug Designing Laboratory.

19. **Aleena Mary Jijo** received **First price** for Poster presentation in *Enhanced Antibacterial Efficacy against Multi-Drug-Resistant Escherichia Coli through the Combined Use of Piper betle and Susceptible Antibiotics* at International Conference BIORADIANCE-2024: Basic research. Under the guidance of **Dr. Aniket Naha** in Medical Biotechnology and Computational Drug Designing Laboratory.
20. **Hanna Sherin N K** received **Second price** for Poster presentation in *Exploring the Antibacterial and Antibiofilm Potency of Terminalia bellirica in Synergism with Susceptible Antibiotics Against Nosocomial Pseudomonas aeruginosa and Acinetobacter baumannii* at International Conference BIORADIANCE-2024: Basic research. Under the guidance of **Dr. Aniket Naha** in Medical Biotechnology and Computational Drug Designing Laboratory.
21. **Dr. Betsy A Jose** functioned as the Judge for paper presentation at the National Conference NATCON at Government Medical College, Thiruvananthapuram on 21st July 2024.
22. **Nisha Kurian** received the Zacharias Mar Athanasios Research Endowment Award for “International Conference Paper presentation” for the year 2023-24 instituted by Pushpagiri Institute of Medical Sciences & Research Centre
23. **Nisha Kurian** received the Zacharias Mar Athanasios Research Endowment Award for “Publication of Research Articles” for the year 2023-24 instituted by Pushpagiri Institute of Medical Sciences & Research Centre

UNDER GRADUATE PROJECT ABSTRACTS - B.Sc., BDS, MBBS

***In-vitro* evaluation, safety assessments and technological speculations of potential probiotic strain isolated from fermented tender coconut water**

Deepthi Prasad, Nafiya Rasheed & Aniket Naha

Probiotics are known to enhance gut microbiota and gut health preventing from several gut related diseases. The purpose of the study was to identify and characterise a novel probiotic strain of bacteria from fermented tender coconut water, followed by *in-vitro* screening of presumptive probiotic properties and safety assessments to ensure safe human consumption. Characterisation of bacteria includes identifying and studying the physical and biochemical properties of the bacteria found in the fermented tender coconut water sample. In vitro screening is performed by testing these bacteria for probiotic properties like their ability to survive in acidic environments, bile tolerance, adherence to intestinal cells and antimicrobial activity against pathogens. Safety assessment is done to ensure that these bacterial strains are safe for consumption by checking for harmful characteristics such as antibiotic resistance, DNases activity and haemolytic activity. The isolate was Gram-positive, rod-shaped, catalase-negative, non-motile and facultatively anaerobic. The biochemical test and 16S rDNA sequencing identify the isolate as *Pediococcus pentosaceus* strain. The strain showed significant viability in acidic gastric juice, pancreatin, lysozyme and bile. PRC-AND1 showed tolerance to 5% NaCl, and a low-to-moderate percentage of hydrophobicity and auto-aggregation was recorded. It met all safety criteria, including haemolytic activity, DNase activity, antibiotic sensitivity, and growth inhibition of other bacteria. Evaluation of its technological properties showed negative results for amylolytic and lipolytic activities; however, positive results were obtained for proteolytic activity. It could be concluded from the gathered data that *Pediococcus pentosaceus* strain isolated from fermented tender coconut water, might serve as a potential functional probiotic food.

Assessing the probiotic potential of novel LAB strain isolated from fermented cucumber - An *in-vitro* approach

Vaishnavi Harikumar, Shifana Fathima & Aniket Naha

Probiotics are considered as dietary supplements which have reported beneficial and therapeutic roles maintaining the gut health and microbiota. The purpose of the study was to identify and characterise a novel probiotic strain from fermented cucumber, followed by *in-vitro* screening of presumptive probiotic properties and safety assessments to ensure safe human consumption. Characterisation of bacteria includes identifying and studying the physical and biochemical properties of the bacteria found in the fermented cucumber sample. *In vitro* screening was performed by testing these bacteria for probiotic properties like their ability to survive in acidic environments, bile tolerance, adherence to intestinal cells and antimicrobial activity against pathogens. Safety assessment is done to ensure that these bacterial strains are safe for consumption by checking for harmful characteristics such as antibiotic resistance, DNases activity and haemolytic activity. The isolate was Gram-positive, rod-shaped, catalase-negative, non-motile and facultatively anaerobic. The biochemical test and 16S rDNA sequencing identify the isolate (PRC-AVS1) as *Lactiplantibacillus plantarum* strain. The strain showed significant viability in acidic gastric juice, pancreatin, lysozyme and bile. PRC-AVS1 showed tolerance to 5% NaCl, and a low- to-moderate percentage of hydrophobicity and auto-aggregation was recorded. It met all safety criteria, including haemolytic activity, DNase activity, antibiotic sensitivity, and growth inhibition of other bacteria. Evaluation of its technological properties showed negative results for amylolytic and lipolytic activities; however, positive results were obtained for proteolytic activity. It could be concluded from the gathered data that PRC-AVS1 strain isolated from fermented cucumber might serve as a potential functional probiotic food. Discovering new probiotic strains that can be used in functional foods and dietary supplements to promote gut health and overall well-being.

POST GRADUATE PROJECT ABSTRACTS - M.Sc., MD, MDS

In vitro antioxidant & anti-inflammatory activity of *Sechium edule* (jacq.)

Swartz

Anju P & Soumya R.S.

The plant *Sechium edule* belongs to the family Cucurbitaceae, also known as chayote. This herb has been proven to treat a variety of diseases including asthma, bronchitis, cancer, constipation, diabetes, jaundice, etc. They are rich in several important amino acids and phytoconstituents. *Sechium edule* is considered as a therapeutic plant since it contains different ingredients that can be utilized in treating various disease. The purpose of this study is to monitor the phytochemical constituents in methanolic extract of *Sechium edule*, FTIR analysis, investigate the antioxidant and anti-inflammatory properties and morphological screening of Raw 264.7 cell line using different concentration of the methanolic extract of *Sechium edule*. Assessed the antioxidant, anti-inflammatory potential and phytochemical constituents of *Sechium edule* using tests involving inhibition of DPPH, Reducing power, Total antioxidant activity, Superoxide anions, BSA, Egg Albumin. Phytochemical constituent of methanolic extract were also determined using standard phytochemical reactions methods. The bioactive compounds of *Sechium edule* have been evaluated using FTIR. The quantitative analysis of total phenolic content was carried out. Phytochemical analysis of methanolic extract revealed the presence of phytochemicals, including carbohydrate, glycosides, steroids, quinone, terpenoids, flavonoids and proteins. FTIR analysis showed different absorption peaks of the functional group present in the methanolic extract of *Sechium edule*. In addition, methanolic extract showed the presence of potential antioxidant and anti-inflammatory on various assays. Findings of the present study suggested that methanolic extract from *Sechium edule* fruit could be a potential source of antioxidants and anti-inflammatory, and it justified its use in traditional medicines.

In Vitro Antioxidant and Inhibitory Potential of *Calotropis Gigantea* Flower and Key Enzymes Linked to Type 2 Diabetes

Bessy Benny & Soumya R.S.

Medicinal plants are potentially important source for the development of chemotherapeutic agents and possesses medicinal properties that can treat or cure ailments. *Calotropis gigantea* (*C. gigantea*) is a common wasteland weed and known for various medicinal properties. The aim of this study was to evaluate in vitro antioxidant activity and inhibitory potential of *Calotropis gigantea* and key enzymes linked to type 2 diabetes. The solvent ethanol was used for the extraction, subjected to qualitative phytochemical screening for the presence of bioactive ingredients. The analysis shows the presence of many biologically active molecules such as carbohydrates, glycoside, terpenoids, saponin, phenolics, flavanoids, sterioids, quinones and coumarins. The quantitative analysis of total flavanoids content (TFC) and phenolic content (TPC) were carried out. FT-IR analysis showed different absorption peaks of the functional group present in the ethanolic extract. Further the in vitro antioxidant properties of the *C.gigantea* flowers were evaluated by various antioxidant assays, including 1, 1-diphenyl-2-picrylhydrazyl (DPPH), total Reducing Power Assay and total Antioxidant Activity. The results showed the presence of potential antioxidants. The anti-diabetic effect of ethanolic extract from *C.gigantea* flower possessed the best inhibition of α -amylase (IC₅₀ 249.37 μ g/mL) and α -glucosidase (194.47 μ g/mL) respectively. The findings of the present study suggested that the flower extract from *C. gigantea* could be a potential natural source of antioxidants and could have greater importance as therapeutic agent in preventing or slowing diabetic activity.

In Vitro Free Radical Scavenging Potential of Methanolic Fraction of Cissus Quadrangularis

Joshna Mary Saji & Soumya R.S.

The plant *Cissus quadrangularis* is a native medicinal plant of India this is a member of Vitaceae family, also known as devil's backbone. These plants are useful for various treatment of obesity, gout, syphilis, healing bone fracture, venereal disease, high cholesterol and irregular menstruation. *Cissus quadrangularis* is considered being as a therapeutic plant since it contains different ingredients which can be utilized in treating various disease, also in development of drug and synthesis. The purpose of the current study is to monitor the phytochemical constituents in hexane and methanolic extract of *Cissus quadrangularis*, FTIR analysis, investigate the antioxidant and free radical scavenging properties of methanolic extract, anti-inflammatory activity and morphological screening of HepG2 Cell using different concentration of methanolic extract of *Cissus quadrangularis*. Assessed the antioxidant, anti-inflammatory potential and phytochemical constituents of *Cissus quadrangularis* using tests involving inhibition of DPPH, Reducing power, Total antioxidant activity, Superoxide anions, Nitric oxide, BSA. Phytochemical constituent of the hexane and methanolic extract were also determined using standard phytochemical reactions methods. The bioactive compounds of *Cissus quadrangularis* have been evaluated using FTIR. The quantitative analysis of Total Phenolic and Total Flavonoid content were carried out. Phytochemical analysis of hexane extract revealed the presence of carbohydrate and steroid but the methanolic extract revealed the presence of carbohydrate, steroid, saponins, flavonoids, glycosides, terpenoids. Methanolic extract is more efficient than hexane extract. FTIR analysis showed different absorption peaks of the functional group present in the methanolic extract. In addition, methanolic extract showed the presence of potential antioxidant and anti-inflammatory on various assays. Findings of the present study suggested that methanolic extract from *Cissus quadrangularis* stem could be a potential source of antioxidants and anti-inflammatory, and it's justified its uses in folkloric medicines.

Synthesis Of Micro/Nanoparticles of Vanadium as Potent Antioxidants: An In Vitro Approach

Sreelakshmi B. & Soumya R.S.

In this study, vanadium micro and nanoparticles were synthesized by green synthesis method using *Cassia fistula* flower extract. The green synthesis is an ecofriendly and effective process for nanoparticle synthesis. Various phytochemicals present in plant extract act as capping agent and provide stability to nanoparticles produced. Nanoparticles were synthesized at two different temperatures (40 °C and 150 °C), Then the synthesized particles were characterized by various techniques such as particle size analysis, FTIR, XRD, SEM, and TEM. The particle size analysis results showed that the synthesized particles have sizes in both micro and nanoscale, which is confirmed with SEM, TEM and XRD data. SEM and TEM analysis revealed that the particles synthesized were present as irregular flake like crystal. XRD result also confirmed that nanoparticles are formed by increasing the temperature up to 600 °C and crystalline nature is formed only by increasing temperature up to 600 °C. FTIR results showed different absorption peaks and reduction in number of peak than the parent compound which further confirms the formation of micro/nanoparticles. The synthesized particles were assayed for their antioxidant and antidiabetic properties in vitro. The results concluded that the nanoparticle synthesized at 150 °C have high antioxidant and antidiabetic activity than vanadium and nanoparticle synthesized at 40 °C. Further HepG2 cell lines were used to analyze the nanoparticles effect on cancerous cells. The results revealed that the cells lost its viability and undergo apoptosis upon treating above concentration of 5 µg/ml with nanoparticles. Anti-inflammatory nitric oxide assay was also used to study particle. Results concludes that particles synthesized have antioxidant, antidiabetic, and anti-inflammatory activity.

Bioactive Potential of *Sechium edule* (Jacq.) Swartz: In Vitro Antioxidant and Anti-Inflammatory Activities

Nayana. P. Das & Soumya R.S.

Sechium edule (Jacq.) Swartz, commonly known as chayote and a member of the Cucurbitaceae family, is a medicinal plant traditionally used to manage a variety of ailments such as asthma, bronchitis, cancer, diabetes, jaundice, and constipation. Rich in essential amino acids and phytoconstituents, it holds significant therapeutic potential. This study aimed to evaluate the phytochemical composition, antioxidant, and anti-inflammatory properties of the methanolic extract of *Sechium edule* fruit. The extract was subjected to standard phytochemical screening, FTIR spectroscopy for functional group analysis, and quantitative assessment of total phenolic content. Phytochemical analysis revealed the presence of various bioactive compounds including carbohydrates, glycosides, steroids, quinones, terpenoids, flavonoids, and proteins. FTIR spectra confirmed the existence of diverse functional groups indicative of active phytoconstituents. Antioxidant and anti-inflammatory activities were assessed through multiple in vitro assays, including DPPH radical scavenging, reducing power, total antioxidant capacity, superoxide anion inhibition, BSA denaturation, and egg albumin denaturation assays. Additionally, the anti-inflammatory potential was further validated using RAW 264.7 macrophage cell line, with morphological observations confirming the bioactivity of the extract at different concentrations. The findings suggest that the methanolic extract of *Sechium edule* possesses significant antioxidant and anti-inflammatory activities, supporting its traditional use and indicating its potential as a natural therapeutic agent.

Synthesis And Characterization of Fenugreek Nanoparticles And Evaluation of Its Anti-Oxidant Activity

Adwaith S & Soumya R.S.

Polysaccharide have exceptional qualities, including biocompatibility, biodegradability, renewable origin, and ease of modification, polysaccharides have recently received a lot of interest in a wide range of applications. Development of polysaccharide nanoparticles and promotion of their usage in a variety of fields, particularly biomedicine, have received significant attention. Nanotechnology for the treatment and diagnosis has been emerging as a potential area of research. In the present study, the preparation of fenugreek nanoparticle have been prepared by nanoprecipitation method and were characterized by particle size analyzer, scanning electron microscopy (SEM), UV Visible spectroscopy and Fourier transform infra-red spectroscopy (FTIR). Further anti-oxidant activity of the nanoparticle sample had been found out by different methods. DPPH assay. Total antioxidant assay, Total reducing power assay were employed. The toxicity screening analysis of fenugreek nanoparticle at different concentration (5 μ g/ml, 10 μ g/ml, 20 μ g/ml, 50 μ g/ml and 100 μ g/ml) had been employed against Hep G2 cell lines.

***In Vitro* Assessment of the Antioxidant and Antidiabetic Enzyme Inhibition Properties of *Calotropis gigantea* Flowers**

Athira Krishnan & Soumya R.S.

Medicinal plants serve as valuable sources for the development of chemotherapeutic agents due to their diverse therapeutic properties. *Calotropis gigantea* (*C. gigantea*), a common wasteland plant, is recognized for its broad medicinal potential. This study aimed to investigate the *in vitro* antioxidant activity and the inhibitory effects of *C. gigantea* flower extract on key enzymes associated with type 2 diabetes. Ethanolic extraction was employed, followed by qualitative phytochemical screening, which confirmed the presence of several bioactive compounds including carbohydrates, glycosides, terpenoids, saponins, phenolics, flavonoids, steroids, quinones, and coumarins. Quantitative estimation of total phenolic content (TPC) and total flavonoid content (TFC) was also performed. FT-IR analysis revealed various functional groups within the extract, indicating chemical diversity. Antioxidant activity was assessed using multiple assays such as 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging, total reducing power, and total antioxidant capacity, all of which demonstrated notable antioxidant potential. Additionally, the ethanolic extract exhibited significant inhibitory activity against α -amylase ($IC_{50} = 249.37 \mu\text{g/mL}$) and α -glucosidase ($IC_{50} = 194.47 \mu\text{g/mL}$), enzymes linked to postprandial hyperglycemia in type 2 diabetes. These findings suggest that *C. gigantea* flower extract may serve as a promising natural source of antioxidants and enzyme inhibitors, supporting its potential role as a therapeutic agent for managing type 2 diabetes.

Antioxidant Efficacy of Methanolic Fraction of *Cissus quadrangularis*: An *In Vitro* Study

Anjana Pradeep & Soumya R.S.

Cissus quadrangularis, a medicinal plant native to India and belonging to the Vitaceae family, is commonly referred to as devil's backbone. Traditionally, it has been used to treat a variety of ailments including obesity, gout, bone fractures, syphilis, high cholesterol, venereal diseases, and menstrual irregularities. Due to its rich phytochemical profile, this plant holds significant potential in therapeutic applications, drug development, and pharmaceutical synthesis. The present study aims to evaluate the phytochemical composition of both hexane and methanolic extracts of *C. quadrangularis*, along with an FTIR spectral analysis to identify functional groups. Additionally, the methanolic extract was investigated for its antioxidant and free radical scavenging activities, anti-inflammatory potential, and morphological effects on HepG2 cells at various concentrations. Antioxidant and anti-inflammatory activities were assessed using several assays including DPPH radical scavenging, reducing power, total antioxidant capacity, superoxide anion, nitric oxide, and BSA denaturation assays. Phytochemical screening revealed that the hexane extract contained carbohydrates and steroids, while the methanolic extract was richer, showing the presence of carbohydrates, steroids, saponins, flavonoids, glycosides, and terpenoids. Quantitative estimations of total phenolic and flavonoid contents further supported the bioactive potential of the methanolic extract. FTIR analysis confirmed the presence of various functional groups contributing to its biological activities. Overall, the methanolic extract demonstrated superior antioxidant and anti-inflammatory properties compared to the hexane extract, supporting its traditional use in folk medicine and highlighting its potential as a natural therapeutic agent.

Development and In Vitro Assessment of Vanadium Micro/Nanoparticles for Antioxidant Applications

Ashina M Ismayel & Soumya R.S.

This study focuses on the green synthesis of vanadium micro- and nanoparticles using *Cassia fistula* flower extract, an environmentally friendly and efficient method for nanoparticle production. Phytochemicals present in the plant extract function as natural capping agents, enhancing the stability of the synthesized particles. The synthesis was carried out at two different temperatures, 40 °C and 150 °C, and the resulting particles were characterized using techniques such as particle size analysis, FTIR, XRD, SEM, and TEM. The particle size analysis, along with SEM, TEM, and XRD data, confirmed the formation of both micro- and nanoscale particles. Morphological analysis via SEM and TEM revealed that the particles were irregular and flake-shaped. XRD analysis indicated that the crystalline structure of the nanoparticles developed at elevated temperatures, particularly around 600 °C. FTIR spectra showed a reduction in the number of peaks compared to the parent compound, confirming successful particle synthesis. The antioxidant and antidiabetic potential of the synthesized particles was evaluated in vitro. Results demonstrated that nanoparticles synthesized at 150 °C exhibited superior antioxidant and antidiabetic activities compared to both vanadium alone and particles synthesized at 40 °C. Additionally, cytotoxicity studies using HepG2 cell lines revealed that nanoparticle concentrations above 5 µg/mL induced apoptosis, reducing cell viability. Anti-inflammatory activity was assessed using the nitric oxide inhibition assay, which further supported the biological efficacy of the synthesized particles. Overall, the findings suggest that the vanadium nanoparticles produced through green synthesis possess significant antioxidant, antidiabetic, and anti-inflammatory properties.

Scrutinizing the Probiotic Potency of *Pediococcus pentosaceus* and *Lactiplantibacillus plantarum* from Idli Batter Through *In-Vitro* and *In-Silico* Approaches

Adithi Aneesh & Aniket Naha

Malnutrition and gut dysbiosis has been reported to be a significant global issue, encompassing both undernutrition and overnutrition. It affects millions worldwide, leading to stunted growth, weakened immune systems, and increased susceptibility to diseases. Probiotics, which are live beneficial bacteria, can play a supportive role in treating malnutrition, especially in children. They mainly help in restoring gut microbiota, provides immune support and helps in reducing anti-inflammatory effects. Probiotics, especially which are isolated from traditional Indian fermented foods found to provide many beneficial effects, which includes, the restore of gut microbial balance, boosting immunity and also anti-pathogenic effects. The present study focused on isolation of a novel bacterial strain from traditional Indian fermented food idli batter, and screening of its probiotic properties. Biochemical characterization, growth on selective media which is De Man-Rogosa-Sharpe (MRS) agar and various other growth parameters including pH and temperature requirements has proven that the isolated strain was a probiotic. The strain was then screened to check their potential probiotic activity and survival property within the gastrointestinal tract, which includes pancreatin tolerance test, lysozyme tolerance test, bile tolerance test, acid tolerance test, in which they were found to be able to survive, which was then calculated by measuring the absorbance value at 590 nm. Safety assessment tests like hemolytic activity, DNase activity has confirmed that the strain was not having pathogenic properties. Cellular autoaggregation and cell surface hydrophobicity tests conducted revealed that they are capable of forming aggregates within the gut. The study revealed that the two novel probiotic strains isolated from idli batter were found to be *Pediococcus pentosaceus* as PRC-AAJA1 and *Lactiplantibacillus plantarum* as PRC-AAJA2 after subjecting to 16S rDNA sequencing.

Elucidating the Synergism of Gentamicin with *Terminalia bellirica* to Combat MDR. *Escherichia coli* Through *In-Vitro* Experimentations and *In-Silico* Validations

Aleena Mary Jijo & Aniket Naha

Escherichia coli is a normal commensal found in the human gut and an important model organism for research microbiology. Multi drug resistant *E. coli* has become a major concern for public health leading to serious health problems due to its resistance against antibiotics such as ceftriaxone, aztreonam, cefepime, cefotaxime, ofloxacin and ciprofloxacin. This study aims to discern the synergistic effect of the plant *Terminalia bellirica* in combination with susceptible gentamicin. Isolation onto selective media and biochemical characterization confirmed the isolates as MDR. *E. coli*. Furthermore, tests such as qualitative tests for biofilm were done that includes tube adherence and Congo red assay test where strong, intermediate and weak biofilms were produced. Phenotypic characterization interpreted that the zones were MDR. In thin layer chromatography bands were observed for rutin and quercetin for *Terminalia bellirica* plant. Presence of flavonoids, tannins, phenols, carbohydrates and total flavonoid content were done under qualitative and quantitative tests respectively. Polar and non-polar fractions were eluted by column chromatography. Pure compound (ascorbic acid) did not show any zone of inhibition alone and in synergism with susceptible antibiotic (gentamycin). Whereas, polar and non-polar fractions extracted from the plant showed zone of inhibition when alone and in synergism with susceptible antibiotic. The use of phytochemicals and pure compounds with the combination of antibiotics is a useful approach, however, the dosage and conditions are to be properly maintained.

Exploring The Antibacterial and Antibiofilm Potency of *Terminalia bellirica* in Synergism with Susceptible Antibiotics Against Nosocomial *Pseudomonas aeruginosa* and *Acinetobacter baumannii*

Hanna Sherin N K & Aniket Naha

Antimicrobial resistance (AMR) is a serious threat to public health due to the lack of sufficient treatments and high rate of infection spreading among people. Phytochemicals along with susceptible antibiotics has proven a successful strategy at this point. *Terminalia bellirica* is an oldest medicinal plant having a wide range of pharmacological activities such as antioxidant, antimicrobial, antidiarrheal, anticancer, antihypertensive, hepatoprotective & antipyretic agent. The study was aimed to explore the antibacterial and antibiofilm potency of *T. bellirica* in synergism with susceptible antibiotics against nosocomial *P. aeruginosa* and *A. baumannii*. The methanolic extract of *T. bellirica* fruit was prepared using Soxhlet extraction process and rotary evaporation and finally crude extract with concentration of 20 µg/ml was obtained. Crude extract was subjected to separate column chromatography based on polarity that resulted in the formation of non-polar and polar fractions. Presence of flavonoids, glycosides, reducing sugar, terpenoids, steroids and total carbohydrates were detected under qualitative analysis. Isolation, morphological characterization, biochemical test and cultural characteristics were done and identified as Gram-negative *Pseudomonas* (P1, P2, P3) and *Acinetobacter* (A1, A2, A3). Biofilm test tube assay was conducted and P3 was the stronger biofilm former P2, P3, A2, A3 were medium, A1 was the weak biofilm former compared to others. Antibiotic susceptibility test was performed and the strains P1, P2, P3, were confirmed as MDR, whereas, A1, A2, did not show any zones and hence was confirmed as PDR. A3 was found to be sensitive to all antibiotics. Zone of inhibition (ZOI) of phytocompound was analyzed. Crude extract was found to be more effective against all strains of *Pseudomonas* and *Acinetobacter* giving increased ZOI. Microtiter plate antibiofilm assay was used to determine inhibition of biofilm formation.

***In - Vitro* Screening and Genomic Characterization of *Weissella confusa* as Novel Probiotic Strain from Indigenous Rose Matta Rice**

Joby Rose Jacob & Aniket Naha

Fermented foods hold a significant importance for both culinary traditions and human health, driven by their unique nutritional sensory and probiotic property. The aim of this study is to identify and characterize novel probiotic bacteria in fermented rose matta rice through microbiological, molecular and genomic techniques. 16S rDNA sequencing revealed the novel probiotic strain PRC AAJA3 and PRC AAJA4 as *Weissella confusa* which was further scrutinised and validated from several biochemical and cultural characterization. The novel strain passed several tests for probiotic like survival at low pH 3.0, bile salt (0.5%), cholesterol assimilation (~51–64%), lysozyme (300 mg/l), phenol (0.4%) and pancreatin tolerance (0.5%) respectively. However, *Weissella confusa* displayed low cellular aggregation (~5.74–6%) and cell surface hydrophobicity (~ 12 – 23%) against toluene and n-hexadecane respectively. Safety assessments displayed that isolated strain was safe for human administration as it displayed γ -hemolysis, negative results for DNase, amylolytic, lipolytic, gelatinase and proteolytic potency. Antibiotic susceptibility profile revealed that the strain displayed sensitivity against netilmicin, streptomycin, ampicillin, tetracycline, imipenem, minocycline; intermediate against cefepime, cefdinir, ceftriaxone, meropenem and resistant against amikacin, gentamicin, kanamycin, penicillin-G, aztreonam, cefixime, co-trimoxazole, ciprofloxacin, levofloxacin, norfloxacin, ofloxacin, polymyxin-B and tigecycline. Additionally, the probiotic bacteria displayed antagonism when co-cultured with pathogenic and ATCC strains as evident from clear zone of inhibition ranging from 9–11mm. The novel probiotic *Weissella confusa* were moderate biofilm producers and physicochemical characterization revealed survival at temperatures ranging from 24–38°C and NaCl tolerance from 0.5–7.5% respectively. The study further demands more detailed *in-vivo* preclinical examination to regard it as a potential probiotic supplement.

Synergistic Effect of Phytochemicals Extracted from *Terminalia chebula* in Association with Susceptible Antibiotics Against Nosocomial *Staphylococcus aureus* and *Klebsiella pneumoniae*

Kavyalekshmi G Prasad & Aniket Naha

Antimicrobial resistance (AMR) posed a significant global health threat as newer antimicrobials and combination therapies have shown clinical ineffectiveness. The therapeutic spectrum of most susceptible antibiotics is narrowing due to indiscriminate and overuse of them. Therefore, the present study aimed to investigate the antibacterial potency of methanolic and ethanolic phytoextracts of *Terminalia chebula* in synergism with routine susceptible antibiotics administered against nosocomial strain to broaden the therapeutic spectrum of action. Bacteria isolated from urine and pus samples were subjected to morphological, cultural and biochemical characterization. Biochemical characterization and growth on selective media confirmed the selected strains as *Staphylococcus aureus* and *Klebsiella pneumoniae*. Antibiotic susceptibility test was thereafter performed showing *Staphylococcus aureus* and *Klebsiella pneumoniae* were MDR. and XDR. respectively. Biofilm forming potential indicated *Staphylococcus aureus* and *Klebsiella pneumoniae* were strong biofilm producers. Polar and nonpolar phytoextracts and the R_f value of different bands on TLC plates were identified as chebulagic acid, chebulinic acid, ellagic acid and gallic acid. Qualitative analysis of phytochemical determined the presence of phenols, tannins, flavonoids, amino acids, saponins and glycosides. Antibacterial potency of the extracts was examined through Kirby-Bauer disk-diffusion method, the efficacy of phytochemical against bacteria were performed by both plant extract alone and in association with susceptible antibiotics, resulted in enhanced zone of inhibition when compared to antibiotic alone. Broth macrodilution for MIC_{50} of plant extract were predicted as $8\mu\text{g/ml}$ for *S. aureus* and $12\mu\text{g/ml}$ for *K. pneumoniae*. Remarkably presence of phytochemicals found in plant extract provide therapeutic agents that can augment the antimicrobial activity of antibiotics and to develop a successful treatment strategy to overcome this multi-drug resistance.

Exploring the synergistic potential of novel phytochemicals from indigenous medicinal plants against ESKAPE Pathogens: An integrated *in-vitro* and *in-silico* approach

Ashitha Ashish & Aniket Naha

The rise of AMR, particularly the advent of carbapenem-resistant *P. aeruginosa* and *S. aureus* has caused substantial increase in resistant infections globally. Lack of new antimicrobial medications, accompanied by the overuse of existing ones and the rapid rate of AMR development has necessitated the adoption of combination therapies as a standardized strategy to effectively combat resistant infections. The decline in antibiotic effectiveness, driven by resistance mechanisms such as efflux pumps, β -lactamase production and porin loss, necessitates the exploration of plant-based antimicrobials as adjunct therapy due its broad-spectrum bioactivity and less toxicity. The study evaluates the antimicrobial and synergistic potential of *P. betle*, *C. papaya*, and *T. bellerica*, medicinal plants with known antimicrobial potential, in combination with conventional antibiotics against nosocomial *P. aeruginosa* and *S. aureus*. Methanolic extracts of the selected plants were prepared using Soxhlet extraction process and further fractionated through column chromatography to isolate polar and non-polar phytoconstituents. Clinical isolates of *S. aureus* and *P. aeruginosa*, obtained from blood, urine and pus samples, were characterized morphologically and biochemically and found to exhibit strong biofilm-forming capabilities. Phytochemical screening and TLC analysis revealed the presence of key bioactives such as eugenol, hydroxychavicol, gallic acid, chebulagic acid, ellagic acid, flavonoids and tannin compounds, all known for their antibacterial and antioxidant properties. Antibiotic susceptibility test identified S1 and S2 strains (*Staphylococcus*) as MDR. and P1 and P2 strains (*Pseudomonas*) as XDR. bacteriaSynergy test performed using well diffusion method demonstrated that the polar fractions of *T. bellerica* and *P. betle* significantly enhanced the activity of tetracycline against MRSA and colistin against *P. aeruginosa*, compared to antibiotics alone.

Incidence of Acute Cytomegalovirus (CMV) Infection in Pregnant Women: An Exploratory Study Among Antenatal Cases in Tertiary Care Hospital

Greeshma Chandran & George Varghese

Cytomegalovirus (CMV) infection during pregnancy, taking into consideration all relevant aspects, such as maternal diagnosis, fetal infection and prevention, prenatal diagnosis, and postnatal prognosis. General information regarding this viral infection and potential related medical conditions was provided, considering the issues of maternal infection during pregnancy, transmission to the fetus, and associated congenital infection management. Prenatal diagnosis includes maternal serum testing and the confirmation of the infection in amniotic fluid or fetal blood. If primary CMV infection occurs periconceptional or in the first trimester of pregnancy, it can impact fetal development and result in severe abnormalities, known as a congenital CMV infection. CMV is the most common cause of congenital infection and an that causes sensorineural hearing loss and intellectual disability in children worldwide. Congenital CMV infection can lead to permanent sequelae in 15% to 18% of births, including death in 1%, neurocognitive sequelae in 5% to 15%, and hearing loss in 12% of individuals with cCMV. Each year, thousands of children are born with or develop permanent disabilities such as hearing loss, vision loss, motor and cognitive deficits from congenital CMV infection. In this study, 97 samples were tested for CMV IgM antibody from pregnant women, 5 cases showed positive results. This evidence's that about 5.2% had the possibility of acute or reactivation infections during pregnancy. The presence of IgM antibodies against CMV in relation to their age is also surveyed. Out of 97 samples tested from pregnant women, 8 samples were from under the age 24, 55 were from 25 -30 years of age and 34 were from above 30 years old. The CMV IgM positivity is 12.5%, 7.2% and 0% respectively. The overall incidence of CMV IgM positivity is 5.2% and the highest incidence (12.5%) was found in the age group below 24 years. Hence, targeted approaches to screen new-borns and pregnant women for CMV infection need to be planned for disease management

IgM-IgG Avidity Combination Screening for CMV Infection in Antenatal Women in a Tertiary Care Centre in South India

Jennath M Ashraf, Soumya R S, George Varghese & Mercy John Idikula

Cytomegalovirus (CMV) infection during pregnancy can be mildly symptomatic but if the infection occurs during the early weeks of gestation the fetal effects can be more noxious. The present study was conducted in 92 pregnant women to get screened for CMV by a combination of laboratory investigations using IgM, IgG and IgG avidity tests. The population was predominantly 26-30 years old (43.5%), of upper socioeconomic background (38%) who lived in a joint family with at least one elderly person (60.9%) and one child (60.8%). Children and elderly are sources of CMV infection. To find any association with medical history and CMV infection, information on comorbidities and order of pregnancy were collected which showed hypothyroidism being the predominant comorbidity (15.2%) followed by diabetes (10.9%) and majority of participants are in their 1st pregnancy (41.3%). In our study, cases are mainly from the 29-34 weeks period of gestation (29.3%) followed by < 8 weeks (28.3%). Vertical transmission with primary CMV infection increases with advancing pregnancy. Higher incidence of fetal loss is an outcome of CMV infection during pregnancy, hence in our study history of abortion (21.7%) has been recorded. Among the study population 43.5% had fever predominantly at 7-9 weeks (47.5%) which may be a manifestation in CMV infection. The high rate of CMV IgG positivity, 93.6% (n=86), is comparable with published literature. Among all the tested pregnant women, detectable levels of CMV IgM is estimated as 5.4% (n=5) but detected with high avidity, hence not representing acute infection, which suggests the possible reactivation or reinfection of CMV. The age of the study population and IgG and IgM positivity was looked at but could not find any significance (P= 0.920 for IgG and P=0.519 for IgM). Correlation with socioeconomic status was looked at but did not show any significance with IgG positivity (P=0.574) and IgM positivity (P=0.419). However, highest IgG seropositivity was observed with the upper lower category. Correlation of mother's occupations with CMV seropositivity was

looked at as unemployed, skilled, semiskilled and professional and no significant relation obtained (IgG positivity (P=0.927) and IgM positivity (P=0.720)). Possible correlation with CMV seropositivity and number of children and elderly in the family, for which no significance was found (IgG positivity, P=0.942 and IgM positivity P=0.535. Any significance between order of pregnancy and CMV seropositivity was analysed, but could not find any significant relationship with order of pregnancy, IgG positivity, P=0.854 and IgM positivity P=0.636. However, the high seroprevalence with IgG is seen in fourth pregnancy followed by second, first and third pregnancies respectively. The recruited subject's period of gestation was analysed and no significant correlation was found IgG positivity, P=0.305 and IgM positivity P=0.737. Present study showed the highest IgG seropositivity in the 13 to 20 weeks, followed by 29 to 34 weeks. Comorbidities were considered, especially diabetes, to understand any correlation with CMV seropositivity but no significance found, IgG positivity, P=0.637 and IgM positivity P=0.442. History of abortion was considered to draw any significance with seropositivity but could not establish any associations with IgG positivity, P=0.755 and IgM positivity P=0.923. Mild to moderate fever with inflamed tonsils is a hallmark of CMV infection. To find any correlation with fever during the current pregnancy and CMV seropositivity but no significant correlation obtained IgG positivity, P=0.171 and IgM positivity P=0.090. Interestingly, CMV screening tests were found negative in 6 cases (6.5%) which suggests these women are at potential risk for contracting the disease during current or subsequent pregnancies. This study (i) reaffirms the presence of high levels of protective immunity among pregnant women as reported globally (ii) able to demonstrate acute infection from past infection and differentiate acute infection as primary or reactivation/reinfection and (ii) able to identify unexposed cases who are at risk of contracting CMV infection. With no vaccine available, these findings help improve our understanding of CMV epidemiology in the region and highlight the importance of continuing to work to reduce the risks associated with maternal transmission.

Seroprevalence of West Nile Fever Virus at a tertiary care centre in Kerala - A cross sectional study

Jitty Elsa Jacob & George Varghese

West Nile Virus, a mosquito-borne flavivirus, has been increasingly recognized as a public health concern in India. It can cause a range of clinical manifestations, from asymptomatic infection to severe neuroinvasive disease. Seroprevalence studies play a critical role in understanding the extent of WNV exposure in different populations and geographic regions. Seroprevalence studies in asymptomatic populations are essential for identifying silent circulation and potential transfusion or transplantation risks. This study evaluates the seroprevalence of WNV-specific antibodies among 80 pre-operative patients from various age groups, aiming to detect past exposure and assess age-related trends. A total of 80 serum samples collected during routine pre-operative screening were analysed for WNV specific IgG antibodies using Enzyme-linked immunosorbent assay. Participants were categorized into different age groups to determine variation in seropositivity. Out of 80 samples analysed, 18 (22.5%) were positive for WNV IgG antibodies, indicating prior exposure to the virus. Seropositivity was observed across all age groups but was more pronounced in older age groups, suggesting increased cumulative exposure with age. This is comparable with previous reports of 20-30% from several parts of the country and 21.5% in 2017 from Alappuzha district of Kerala. Therefore, neither an increase nor a drop in seroprevalence from earlier findings from the nation and the state of Kerala is suggested by our results from this short study. With the limitations of this study, which include its small sample size and restriction to individuals who appeared to be in good health and had already undergone screening for invasive operations, the findings are significant. The seroprevalence of WNV highlights continued viral circulation and the risk of underdiagnosed infections in the region. These findings reinforce the need for enhanced vector surveillance, public awareness and diagnostic capabilities in WNV-endemic areas and requirement of larger studies to get precise prevalence.

In vivo and in vitro biocompatibility assessment of P(VDF-TRFE) nanofiber coreshell membrane loaded with cobalt ferrite nanoparticles indented for tissue engineering applications

Nair Sreelekshmi Ramachandran & Nebu George Thomas

Magnetolectric nanocomposite scaffolds that can autonomously generate therapeutic stimuli represent a novel approach for next-generation wound healing. In this work, electrospun nanofibers composed of poly(vinylidene fluoride–trifluoroethylene) (PVDF-TrFE) incorporated with cobalt ferrite (CoFe_2O_4 , 2 and 4 wt%) nanoparticles were fabricated and investigated as self-activating platforms for tissue repair. Structural and morphological characterizations (XRD, FTIR, TEM, SEM) verified the successful embedding of CoFe_2O_4 and a marked enhancement in β -phase crystallinity. The resulting nanocomposites displayed superior ferroelectric properties and distinct magnetolectric coupling, enabling polarization under both mechanical stress and external magnetic fields. In vitro assays with L929 fibroblasts confirmed excellent cytocompatibility, alongside significantly improved migration and proliferation. Furthermore, in vivo studies in a rat wound model demonstrated faster re-epithelialization, reduced inflammatory response, and enhanced tissue regeneration, with the most pronounced effects observed in scaffolds containing 4 wt% CoFe_2O_4 . Collectively, these results establish PVDF-TrFE/CFO nanofibers as promising bioelectronic scaffolds for intelligent wound management and regenerative therapies.

Fabrication and Preclinical Evaluation of PCL- PLA Loaded with Dopamine and Zinc Oxide Nanoparticles Intended for Wound Healing Applications

Shahanas Seethi & Nebu George Thomas

Core-shell nanofiber membranes offer a versatile approach to design multifunctional scaffolds for wound healing. In this study, polycaprolactone (PCL) and polylactic acid (PLA) were fabricated into core-shell membranes and incorporated with zinc oxide (ZnO) nanoparticles and dopamine (DA) to enhance both antimicrobial activity and biofunctional properties. Structural and morphological characterizations verified the successful embedding of ZnO nanoparticles. In vitro evaluation with fibroblast cells confirmed excellent cytocompatibility, with ZnO/DA-loaded membranes significantly promoting cell adhesion, proliferation. The presence of dopamine contributed to improved hydrophilicity and cell-material interactions, while ZnO imparted strong antibacterial activity. In vivo assessment in a rat wound model revealed reduced inflammatory response, faster re-epithelialization, and superior tissue regeneration in the ZnO/DA-loaded groups. Collectively, these results establish PCL-PLA core-shell membranes loaded with ZnO and dopamine as promising bioactive scaffolds for infection-resistant wound healing and regenerative medicine applications.

Evaluation of *in vivo* biocompatibility and *in vivo* wound healing ability of PCL-PVDF coreshell membrane loaded with silver nanoparticles, Astaxanthin and Bioglass

Aleena & Nebu George Thomas

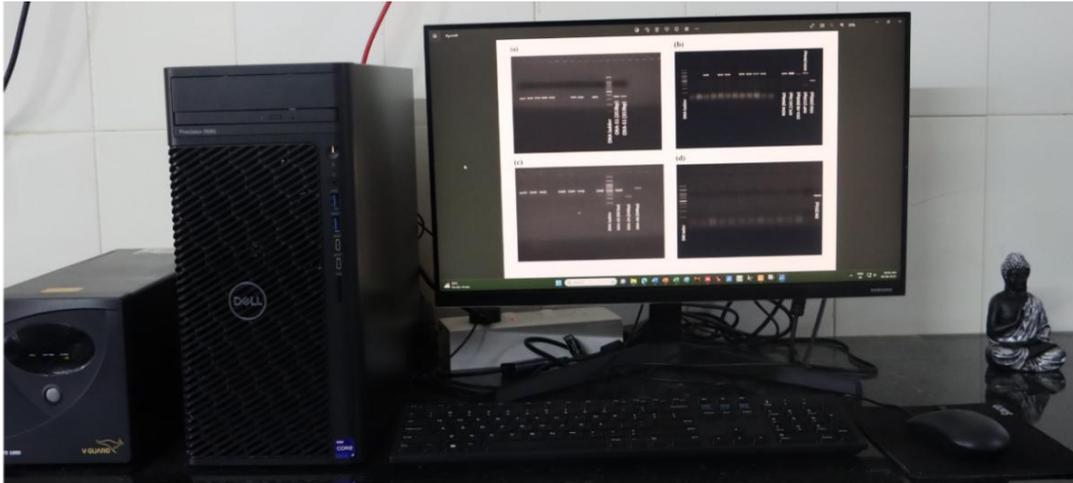
The development of multifunctional wound dressings that combine structural support, antibacterial activity, and enhanced tissue regeneration remains a critical challenge in wound management. In this study, polycaprolactone/polyvinylidene fluoride (PCL/PVDF) core-shell nanofibrous membranes impregnated with silver nanoparticles (AgNPs), arabinoxylan (AX), and bioglass were fabricated via electrospinning and systematically evaluated. Field emission scanning electron microscopy (FESEM) confirmed the formation of uniform, bead-free, cylindrical fibers, while Fourier-transform infrared spectroscopy (FTIR) validated the successful incorporation of functional additives. Functionalization led to a significant decrease in hydrophobicity, attributed to AX, bioglass, and AgNPs. MTT assays demonstrated excellent cytocompatibility, and scratch assays revealed accelerated cell migration, particularly in the AgNP/AX/bioglass-loaded membrane. Antibacterial studies confirmed the effectiveness of AgNP-functionalized membranes against both Gram-positive and Gram-negative bacteria. *In vivo* implantation showed no signs of inflammation, necrosis, or immune rejection, confirming the biocompatibility of the constructs. Full-thickness wound models treated with test group exhibited enhanced re-epithelialization, increased granulation tissue formation, and accelerated wound closure. These findings highlight the potential of PCL/PVDF core-shell nanocomposites functionalized with AgNPs, AX, and bioglass as advanced wound healing scaffolds with synergistic antibacterial and regenerative properties.

Evaluation of in vivo biocompatibility and bone regeneration in potential of cad-cam assisted 3D printed PLA fish scale derived hydroxyapatite composite scaffolds

Anitta & Nebu George Thomas

The integration of biomimetic design and additive manufacturing offers new possibilities for fabricating patient-specific scaffolds for bone regeneration. In this study, computer-aided design and computer-aided manufacturing (CAD-CAM) assisted 3D printing was employed to fabricate polylactic acid (PLA) scaffolds reinforced with fish scale-derived hydroxyapatite (HA). The composite scaffolds were characterized for structural, physicochemical, and biological properties. In vivo biocompatibility was evaluated following implantation, with no evidence of inflammation, necrosis, or immune rejection. These findings highlight the potential of CAD-CAM assisted 3D printed PLA/fish scale-derived hydroxyapatite scaffolds as biocompatible and osteogenic biomaterials for bone tissue engineering applications.

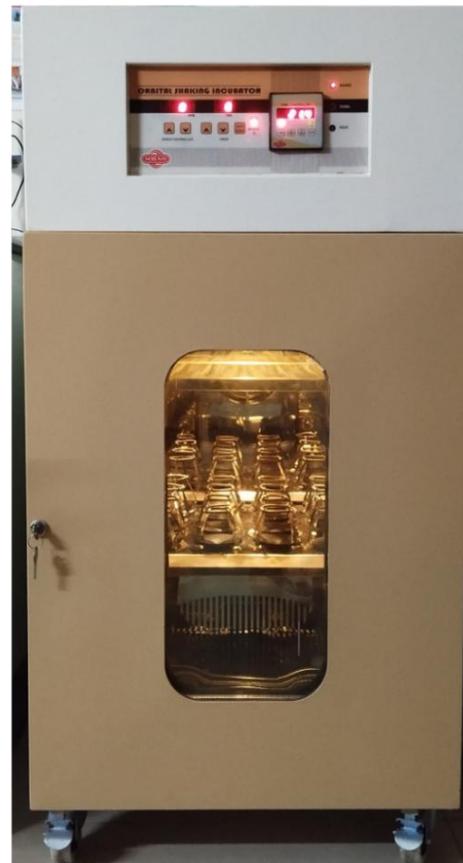
KEY FACILITIES FOR RESEARCH AT PRC



Precision Tower Dell Workstation



Gel Doc



Shaking Incubator



Miniature Centrifuge



Ultra Cooling Centrifuge



Rotary Evaporator



Double Distillation Unit



Colorimeter



**Heating Plate with
Magnetic Stirrer**



pH Meter



**Precision Weighing
Balance**



Cyclo Mixer



Heating Chamber



Heating Mantle



Microbial Colony Counter



Autoclave



Water Bath Shaker



Water Bath Sonicator



Orbital Shaker



ELISA Washer



Thermal Cycler



Ultra Cooling Refrigerator (-20°C)



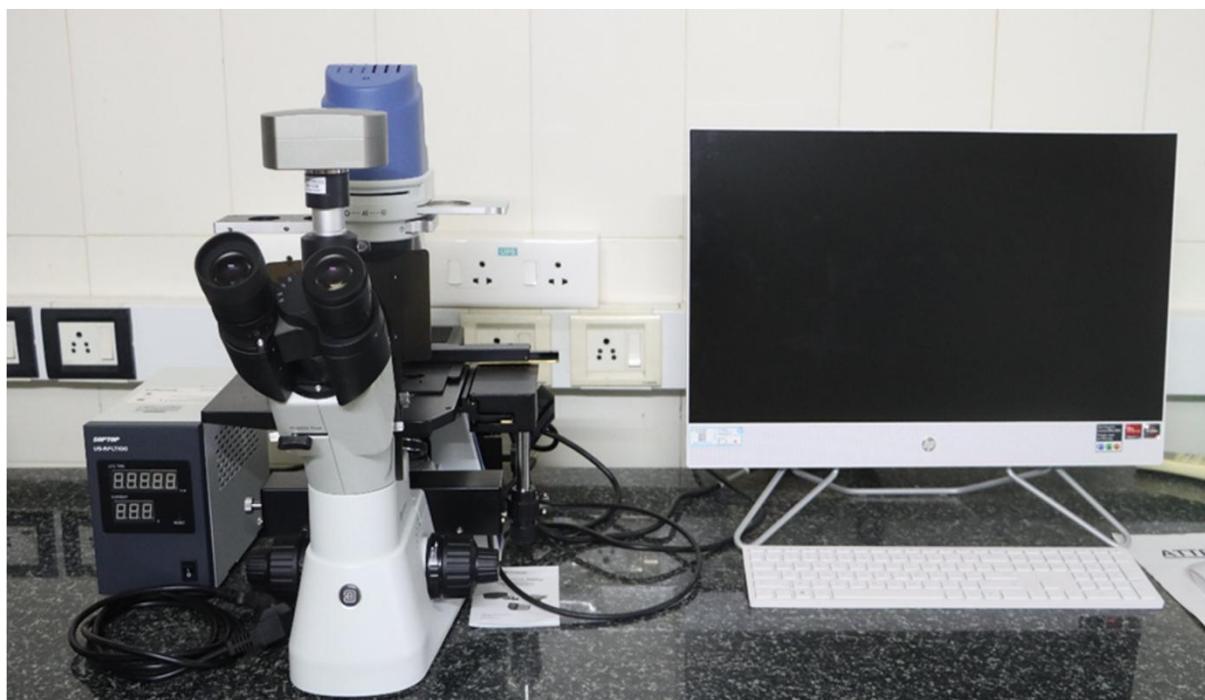
Deep Freezer (-80°C)



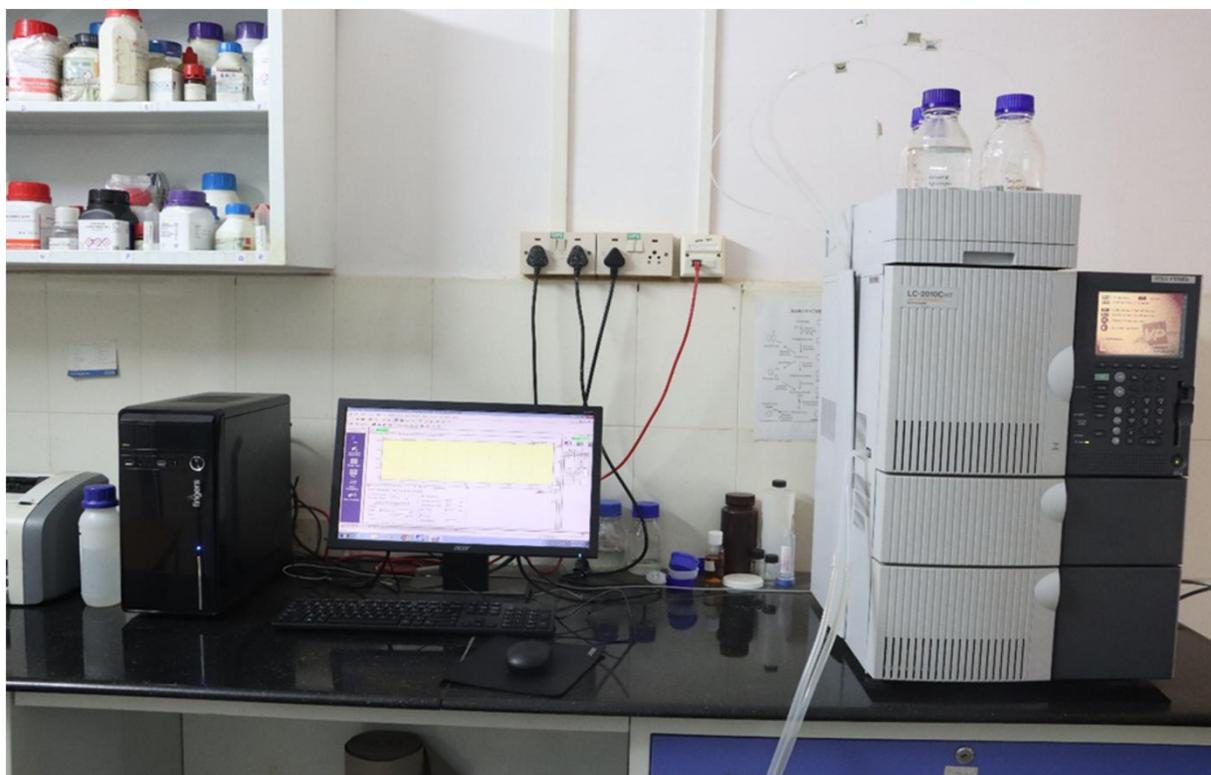
Dry Bath



Compound Microscope with Camera Attachment



**Fluorescence and Inverted Microscope
with PC Attachment**



Analytical HPLC with PC Attachment



RT PCR



Hot Air Oven



Isoflurane Anesthesia Machine



VIDA Enzyme Linked Fluorescent Assay (ELFA)



BIORAD Connect R1



UV-Vis Spectrophotometer



Abbot CLIA



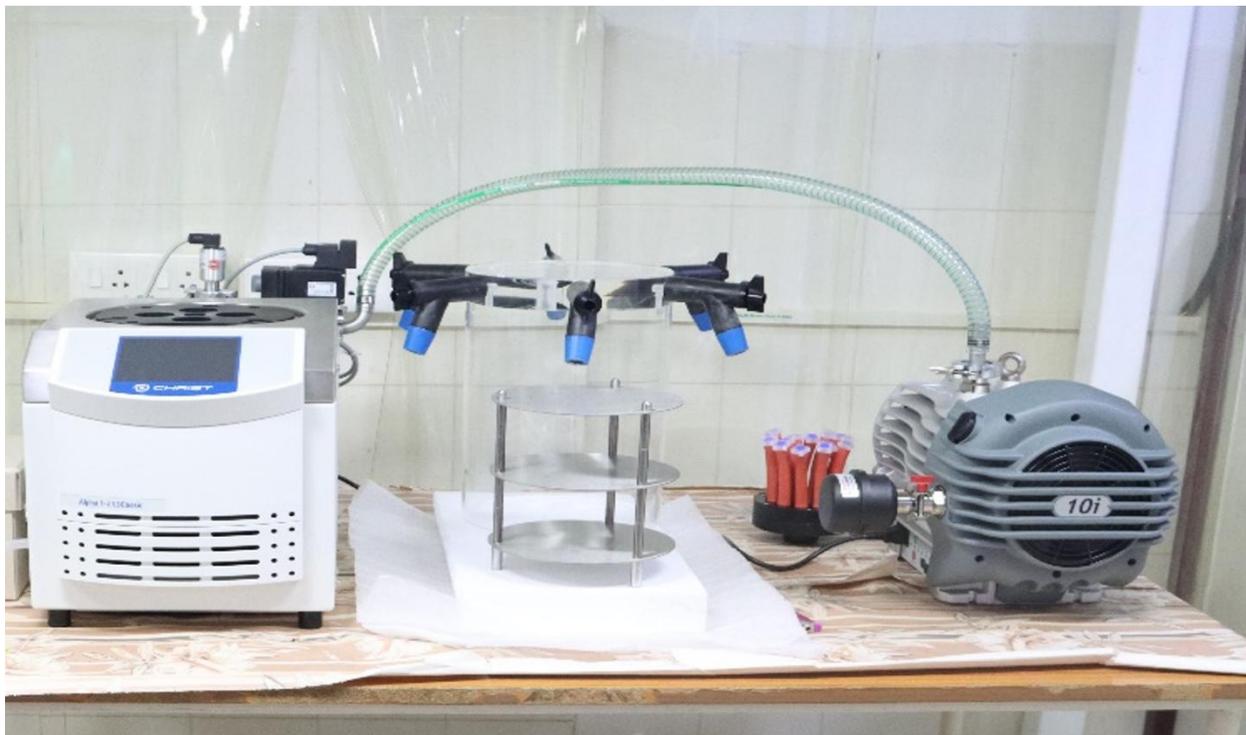
Microtome



Bacteriological Incubator



CO₂ Incubator



Lyophilizer - Christ Martin

MEMORANDUM OF UNDERSTANDINGS SIGNED BY PRC



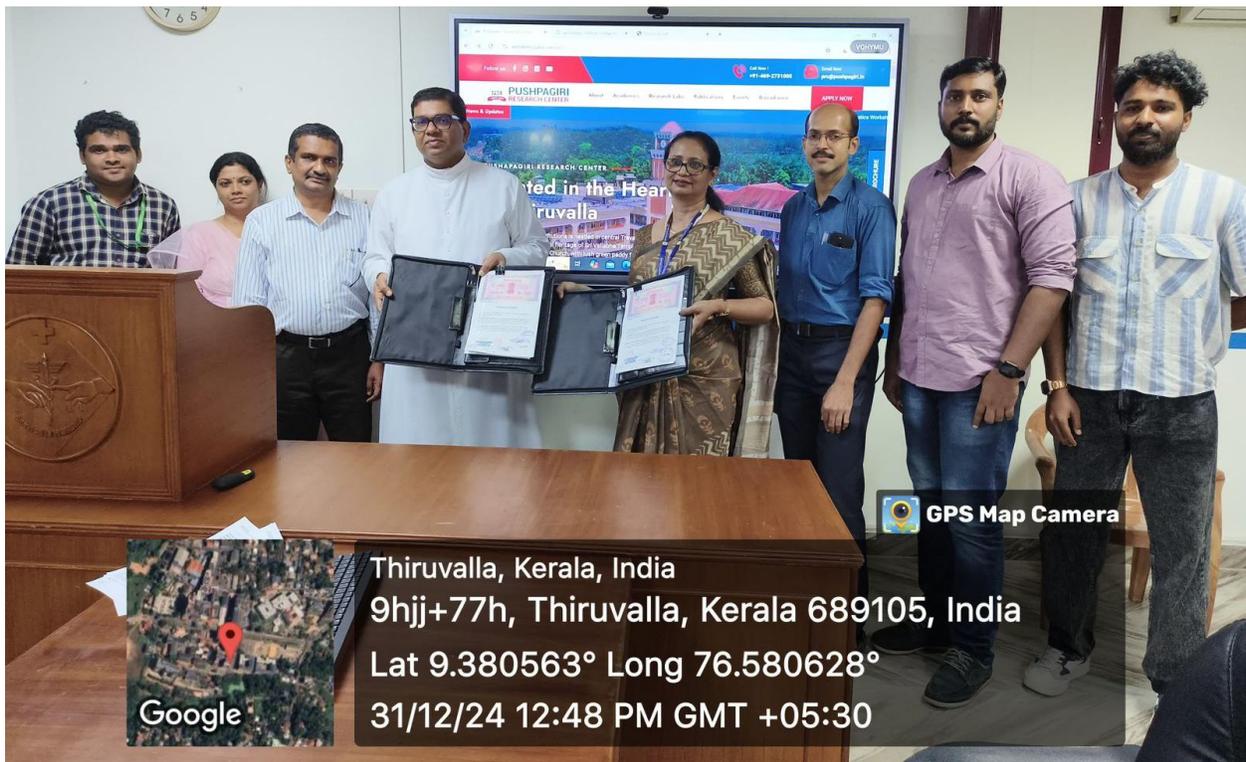
Renewal of MoU with Central Institute for Fisheries Technology, Kochi on 18.04.2024



PRC signed MoA with the Fergusson College, Pune on 21.06.2024



PRC has signed a MoU with KPR Institute of Engineering and Technology & Pushpagiri Research Centre, Tiruvalla on 29.08.2024



MoU signed with Catholicate College, Pathanamthitta & Pushpagiri Research Centre, Tiruvalla on 31.12.2024



MoU signed between Mar Ivanios College (Autonomous), Trivandrum & Pushpagiri Research Centre, Tiruvalla on 03.01.2025



Dr. E. Sreekumar MoU signed between PRC and Institute of Advanced Virology (Govt of Kerala), Trivandrum on 11.02.2025

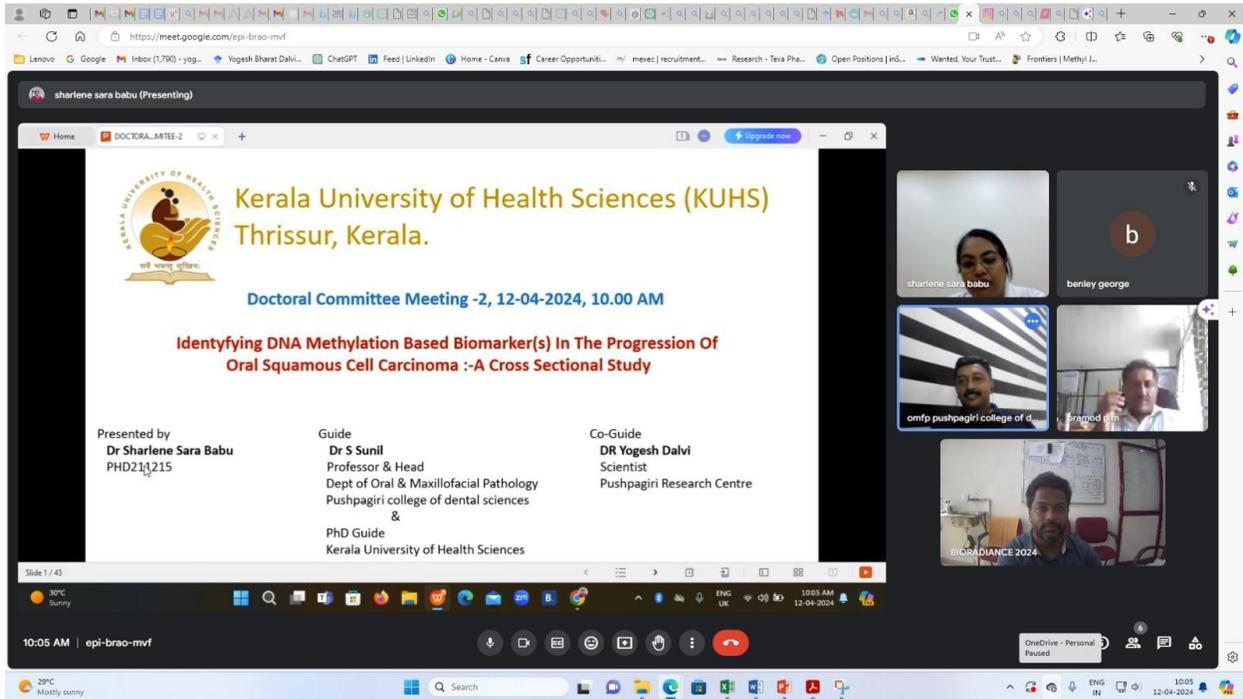


MoU signed between Chinmaya Vishwavidyalaya, Kochi & Pushpagiri Research Centre, Tiruvalla on 05.03.2025



MoU signed between SMO Connect & Pushpagiri Research Centre, Tiruvalla for Clinical Trials on 08.03.2025

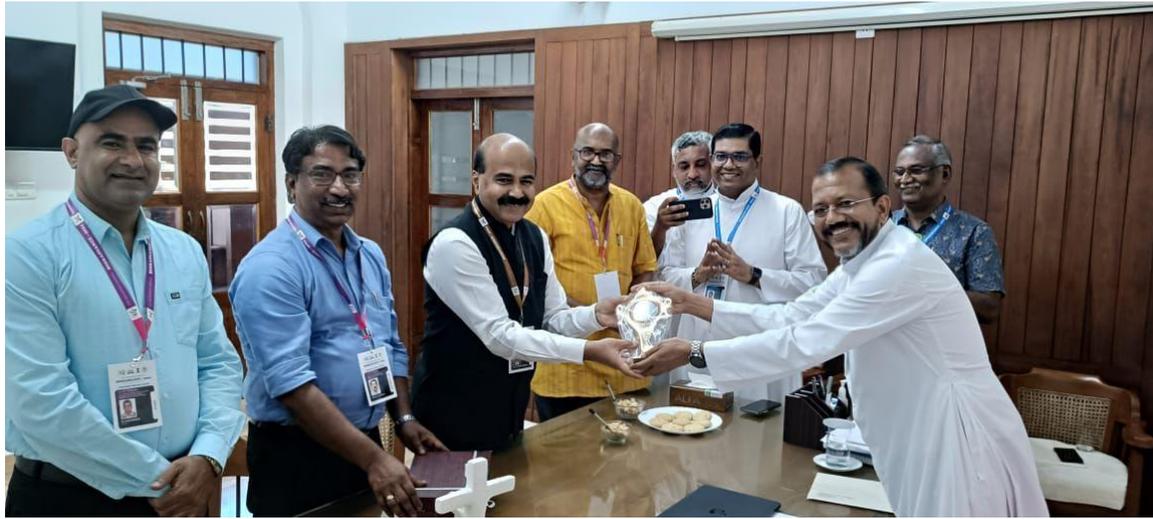
GALLERY OF PRC



The doctoral committee meeting of Dr. Sharlene Sara Babu, Ph.D. scholar under Kerala University of Health Sciences on 12.04.2024



Rev. Dr. Mathew Mazhavancheril, Director – PRC, inviting Prof. Dr. Mohanan Kunnummal, Vice Chancellor of KUHS for Bioradiance – 21024 on 18.04.2024



Presenting Aranmula Kannadi to Hon Vice Chancellor of Kerala University of Health Sciences, Prof. Dr. Mohanan Kunnummal by Rev. Dr. Biju Varghese, CEO, Pushpagiri Group of Institutions during the inauguration of Bioradiance 2024 on 17.05.2024



PRC House Boat Trip with the delegates and participants of Bioradiance 2024 on 18.05.2024



Rev. Dr. Mathew Mazhavancheril, Director - Pushpagiri Research Center with the students of Fergusson College, Pune who did their internship under Dr. Yogesh Bharat Dalvi



Director, PRC & Pushpagiri Research Center Faculty in a Meeting with British High Commission members at Mar Baselios Engineering College, Trivandrum on 04.07.2024



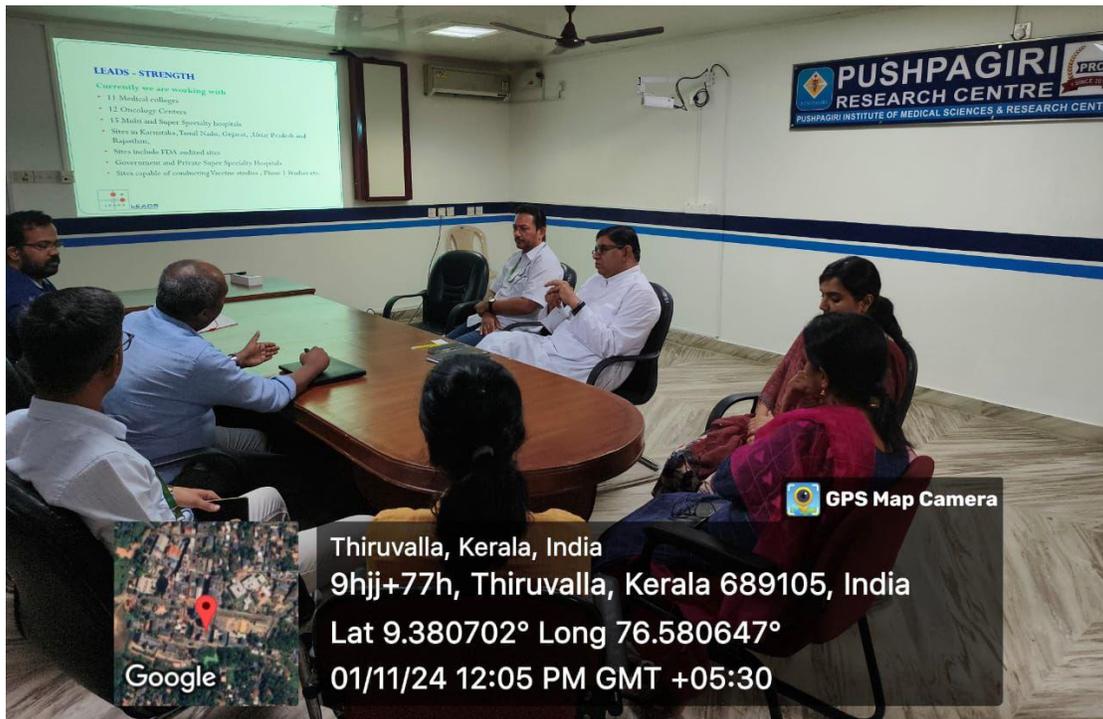
Meeting with Dr. TV Anil Kumar Head of Histopathology, Sreechitra Institute Trivandrum, regarding commercialisation of Decellularized collagen based GTR membrane intended for Periodontal regeneration. Patent filed on 13.09.2024



Pushpagiri Research Centre Onam Celebration on 17.09.2024



Presentation made by Dr. Avneesh Chopra from Charite University, Berlin, Germany. Dr. Nebu will be collaborating with Dr. Avneesh to start a project work on 08.10.2024



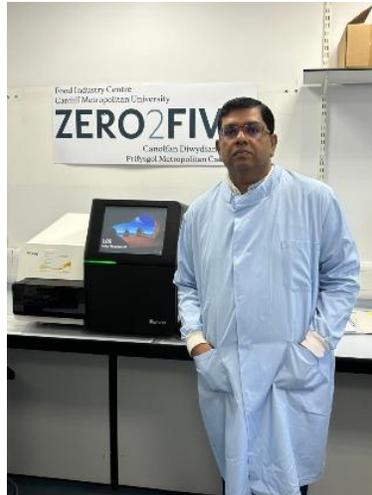
Meeting with LEADS Clinical Research and Bio Services Pvt. Ltd., Bangalore, for conducting Clinical Trials at PIMS&RC on 01.11.2024



Dr. Maneesh, CEO, Origin, sponsored Molecular Biology workshop and receiving a token of appreciation from Rev. Dr. Mathew Mazhavancheril, Director – Pushpagiri Research Center on 28.05.2024



Glimpses of UK visit by Rev. Dr. Mathew Mazhavancheril, Director – PRC and meetings with several Professors, Scientists and delegates at the Cardiff Metropolitan University, Cardiff & University of South Wales, UK



Rev. Dr. Mathew Mazhavancheril, Director - PRC led a delegation to Cardiff Metropolitan University, Cardiff & University of South Wales, UK and had a discussion with eminent professors fostering collaborations and future project discussions



Rev. Dr. Mathew Mazhavancheril, Director PRC was invited by Prof. Carolyn, Dr. Michelle and Dr. Anitha Livingstone from the University of South Wales for FRAIT project discussion. Dr. Ajeet Singh Bhadoria and Dr. Vartika Saxena from AIIMS Rishikesh were also present in the meeting for future collaborations with PRC on 27.11.2024



Rev. Dr. Mathew Mazhavancheril, Director PRC represented the facilities, fraternities and the scopes of medical and basic research in PRC at the University of South Wales and Cardiff Metropolitan University, Cardiff on his tour to UK



Inauguration of New PRC Website by Rev. Dr. Biju Varghese, CEO, Pushpagiri Group of Institutions on 14.02.2025



Rev. Dr. Mathew Mazhavancheril, Director PRC with Dr. G. M. Nair, the President of Kerala Academy of Sciences and Dr. Pandurangan, Former Director of TBGRI. They all have come for an International Conference on Phytochemistry at MACFAST on 11.11.2024



✓ **Director & Head**

Rev. Dr. Mathew Mazhavancheril

✓ **Chief Editor**

Dr. Aniket Naha

✓ **Cover Design**

Dr. Aniket Naha

✓ **Technical Support**

*Ms. Ancy Sara Mathew
Mr. Akhil Kumar CM
Mr. Jacob P. Ouseph*

✓ **Editorial Team**

*Dr. Ampadi A N
Dr. Ajay Krishnan U
Dr. Betsy A Jose
Mr. George Varghese
Dr. Nebu George Thomas
Mrs. Nisha Kurian
Dr. Reeba Mary Issac
Dr. Rosin George Varghese
Dr. Soumya R.S.*

Scan QR for Website



Correspondence: Rev. Dr. Mathew Mazhavancheril, Director & Head, PRC

Email: researchdirector@pushpagiri.in; prc@pushpagiri.in

Copyright: © 2025 by Pushpagiri Research Centre, All Rights Reserved