



RESEARCH CENTRE NEWS

Pushpagiri Research Centre Monthly Highlights – March 2025 **MoU Signed Between Chinmaya Vishwavidyapeeth and Pushpagiri Research Centre**

On March 5, 2025, Pushpagiri Research Centre signed a Memorandum of Understanding (MoU) with Chinmaya Vishwavidyapeeth (CVV) to strengthen collaboration in scientific research, curriculum development, faculty and student exchange, and joint publications. The MoU was signed at CVV's Warriam Road facility by Dr. T. Asokan, Dean–Academics and Registrar (in charge), CVV, and Rev. Dr. Mathew Mazhavancheril, Director & Head, Pushpagiri Research Centre.

Key attendees included Dr. Anand H. S. (Principal i/c, CVV IST), Dr. Praveen K. M. (Assistant Dean – Learning and Innovation, CVV-IST), Mr. Athul Ravi (Assistant Director, Centre of Excellence for IKS-CKS Integration), Prof. S. M. Sharma (Director, Research & Development Cell, CVV), Dr. Nebu George Thomas (Scientist in Charge, Tissue Engineering and Regenerative Medicine Lab, Pushpagiri), and Dr. Aniket Naha (Scientist, Pushpagiri Research Centre).

The MoU outlines areas of cooperation, including research collaboration, joint curriculum development, faculty and student exchange programs, co-supervision of doctoral theses, and joint scientific publications. This partnership is expected to foster interdisciplinary research and innovation in material science, biomedical research, and other emerging fields.





From initial discussions with the CMC Vellore team, which laid the groundwork for Pushpagiri's selection as an NRS Spoke for Rickettsial Surveillance

Pushpagiri Selected as NRS Spoke for Rickettsial Surveillance

Pushpagiri has been chosen as a National Rickettsial Surveillance (NRS) spoke for the Southern region, marking a significant milestone in its infectious disease research initiatives. The project is under ICMR CAR grant of 12 crore spearheaded by the National Reference Centre for Rickettsial Diseases (NRCRD), Department of Clinical Microbiology, at CMC Vellore with Dr. John Antony Jude Prakash, Professor and Head as PI.

This prestigious selection, made by the NRCRD at CMC Vellore, recognizes Pushpagiri's expertise in clinical diagnostic microbiology with Immunofluorescence assay (IFA), NABL accredited molecular laboratory at Centre for Virology and the growing contributions to public health and epidemiological research.

As an NRS spoke, Pushpagiri will play a crucial role in early detection, diagnosis, and surveillance of rickettsial infections, which are often underdiagnosed but can lead to severe health complications if untreated. The centre will work in close collaboration with Kasturba Medical College, Manipal (the designated regional hub) and NRCRD, CMC Vellore, facilitating rapid case identification, molecular diagnostics, data sharing, and capacity building for healthcare professionals.

This initiative will not only strengthen Pushpagiri's research infrastructure but also position it as a regional leader in infectious disease surveillance and public health preparedness. The project is expected to improve clinical awareness, early detection & interventions, and targeted treatment strategies for rickettsial diseases, ultimately contributing to better patient outcomes and reduced disease burden in the region. George Varghese, Assistant Professor Microbiology, In charge - Centre for Virology & Molecular Diagnostics will be Co-PI and overall site supervisor from our centre. Dr. Mercy John, HOD Microbiology, Dr. Tomy Philip, HOD, General Medicine, Dr. Sunil Mathew, Professor General Medicine, Dr. Maria Davis, Assistant Professor General Medicine, Dr. Jacob Abraham, HOD Paediatrics & Dr. Teena Jacob, Assistant Professor Microbiology will be contributing as investigators.

Indo-German Project with Charité – Universitätsmedizin Berlin

Pushpagiri Research Centre (PRC) is collaborating with Charité – Universitätsmedizin Berlin on an Indo-German research project titled "Development and Preclinical Testing of Surface Modified Nanofibrous Scaffolds" (German registered title: Optimierung der Zelladhäsion an Biomaterialien durch Oberflächenvernetzung). This project focuses on engineering advanced biomaterials to enhance bone and periodontal regeneration by improving osteogenic potential, cell adhesion, and mechanical stability through bioactive fillers, antimicrobial agents, and surface modifications.

The project has been approved for Dr. Avneesh Chopra by Charité – Universitätsmedizin Berlin under the esteemed supervision of Prof. Dr. Nora Renz and Prof. Dr. Andrej Trampuz. It is being conducted in collaboration with Prof. Dr. Nebu G. Thomas as part of the Indo-German Program with PRC, which fosters international partnerships in regenerative medicine and biomaterials research.

This initiative is expected to pioneer novel approaches in scaffold design, contributing to breakthroughs in clinical applications for bone tissue engineering. By integrating multidisciplinary expertise in biomedical engineering, material science, and microbiology, the project will enhance the translational potential of biomaterials for improved patient outcomes.

Renovation of Animal House Underway

The renovation of the Animal House at Pushpagiri Research Centre commenced on March 15, aiming to upgrade the facility in compliance with standard guidelines. To ensure continuity of research activities, all animals have been temporarily relocated to the Pharmacy College's Animal House. Veterinary expert Dr. Ampadi A N is overseeing all ongoing animal studies, ensuring that research remains uninterrupted during this transition period.



Dr. Ampadi Completes Training in Fertility Management of animals

Dr. Ampadi A N successfully completed specialized training in Fertility Management of Animals as part of the Continuing Veterinary Education (CVE) program organized by the Kerala State Veterinary Council on March 6, 2025. This advanced training enhances the expertise available at Pushpagiri Research Centre, reinforcing the institution's commitment to advancing research in reproductive sciences and animal health.

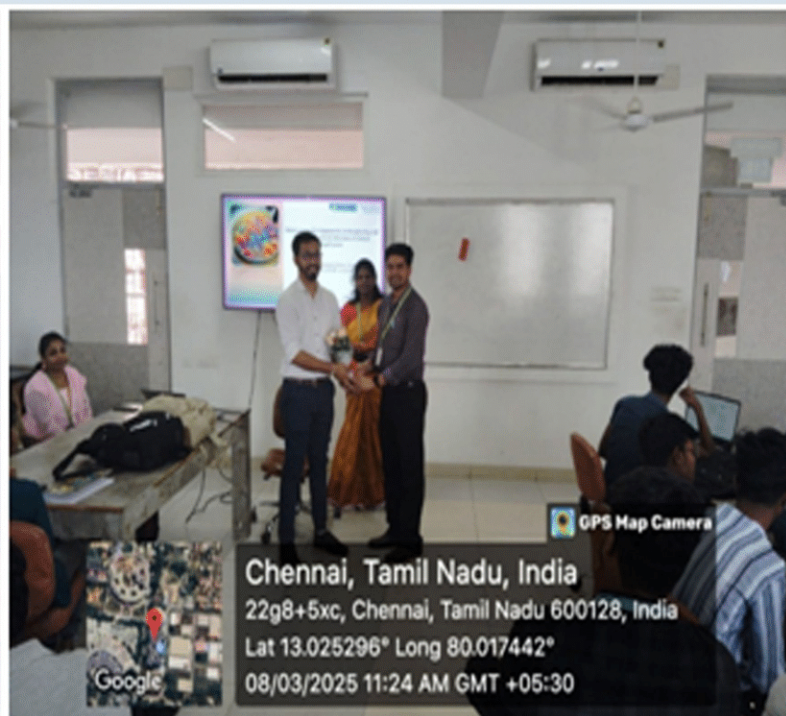


IRB Meeting Held on March 11, 2025

The Institutional Review Board (IRB) convened on March 11, 2025, and reviewed 33 research proposals submitted by faculty, postgraduate, and undergraduate researchers from various Pushpagiri institutions as well as external institutions. The meeting facilitated discussions on ethical considerations, feasibility, and scientific rigor, ensuring high-quality research standards.

Faculty Engagements and Invited Talks

Dr. Aniket Naha delivered a **lecture** on Advancements in Biological Databases and Computational Sequence Analysis – A Launch Pad and conducted **hands-on training** on Advanced In-Silico Approaches in Deciphering and Combating Bacterial Infections of Clinical Relevance at SIMATS Engineering, Chennai, on March 8, 2025.



Dr. Nebu George Thomas presented an invited talk on Bioactive Scaffolds: Unveiling Recent Advances in Soft and Hard Tissue Regeneration at the Indo-French Workshop on Functional Materials for Emerging Applications, held at MG University on 18/03/25.



Dr. Soumya R.S. delivered a talk as Keynote Speaker in the topic "Sustainable Nanomedicine: Green-Synthesized Metal and Biopolymer Nanoparticles in Therapy" at the International Conference on Recent Advances in Biotechnology and Bioenergy (ICRABB-25), organized by International Research Centre in association with Department of Biotechnology, Sathyabama Institute of Science and Technology, Chennai, Tamil Nadu, India from March 19th to March 21st, 2025. The three-day conference brought together leading experts, researchers, and academicians to discuss cutting-edge developments in Biotechnology and Bioenergy. The talk sparked engaging discussions, emphasizing the future of green nanotechnology in therapeutic advancements.



Research Methodology Workshop for Dental Post Graduate Residents at Pushpagiri College of Dental Sciences



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

The Research Methodology Workshop 2025 for postgraduate residents of Pushpagiri College of Dental Sciences was successfully conducted on 4th & 5th February 2025 by the Clinical Epidemiology Unit (CEU), Pushpagiri Research Centre, in collaboration with the Department of Community Medicine. This two-day workshop featured interactive academic sessions in the forenoon and group work in the afternoon, ensuring a balanced mix of theoretical and practical learning. Sessions were led by CEU members, faculty from the Department of Community Medicine, PIMS & RC, and Dr. Aniket Naha, Scientist, PRC. On Day 1, delegates worked on their research topics, formulating research questions, listing study objectives, and identifying the appropriate study design for their research. On Day 2, Dr. Aniket Naha conducted a hands-on training session on Mendeley, guiding participants in effective reference management. The afternoon group work session focused on developing research protocols, where each delegate prepared the protocol for their proposed thesis topic. The workshop was attended by first-year postgraduate residents and faculty of Pushpagiri College of Dental Sciences, providing a strong foundation in research methodology for their academic journey.



Send-Off Meeting for Dr. Yogesh and Dr. Leya

A send-off meeting was held on March 10, 2025, for Dr. Yogesh Bharat Dalvi and Dr. Leya Elizabeth Babu, acknowledging their contributions to Pushpagiri Research Centre. Their dedication and research efforts have significantly contributed to the institution's progress, and we wish them success in their future endeavors.



New Joinee Dr. Ajay Krishnan U

Pushpagiri Research Centre warmly welcomes Dr. Ajay Krishnan U, who has joined as Scientist & In-Charge of the Molecular Biology Lab. Dr. Ajay earned his Master's and Doctoral degrees in Biochemistry from Annamalai University, Chidambaram and is a recipient of ICMR Senior Research Fellowship. With extensive research experience in diabetes, obesity, non-alcoholic fatty liver disease, and cancer, he has made significant contributions to the field. Prior to joining Pushpagiri, he served as a Research Associate at the Molecular Bioassay Laboratory, Institute of Advanced Virology, Thiruvananthapuram. His expertise in molecular research is expected to strengthen ongoing and future projects, furthering the centre's mission in cutting-edge biomedical research.

Patents Filed in Biomedical Research

Dr. Yogesh Bharat Dalvi and Dr. Nebu George Thomas have successfully filed two patents in the field of tissue engineering and wound healing:

Patent 1: **3D-PORED NANOCELLULOSE-CURCUMIN COMPOSITES: A NOVEL MATERIAL FOR TISSUE ENGINEERING APPLICATIONS**

Application Number: 202541023124

Patent 2: **PEG-Plasticized Nanocellulose-ZnO Hybrid Scaffold: A Biocompatible and Antimicrobial Platform for Wound Healing Applications**

Application Number: 202541023125

These patents represent a significant milestone in biomedical innovation, marking a collaborative effort with Dr. Remya, HoD, Department of Oral Biology, Saveetha Dental College, Chennai.

Publications:

1. Book Chapter

1. Dr. Anil Sukumaran and Dr. Nebu George Thomas have contributed a book chapter titled Biomedical Imaging: Scope for Future Studies and Applications in Multimodal Biomedical Imaging Techniques, published by Springer Nature Singapore Pte Ltd. 2025. The chapter, part of the Biological and Medical Physics, Biomedical Engineering series, provides insights into cutting edge imaging technologies and their future applications.

2. Dr. Nebu George Thomas has co-authored a book chapter titled "Marine Biopolymers in Cosmetics", published in the book Marine Biopolymers by Elsevier. This chapter explores the growing role of marine-derived ingredients in cosmetic formulations, highlighting their unique bioactive properties and potential skin and hair care benefits.

2. Original Article:

1. Murali AJ, Vasudevan B, Varghese RG, Joseph J, A S, Areekal B, et al. Palliative care needs of patients and caregivers in a rural low and middle-income country setting. Palliative Medicine in Practice [Internet]. 2025 Mar 10 [cited 2025 Mar 14]. Available from:

https://journals.viamedica.pl/palliative_medicine_in_practice/article/view/104411