ARM 2024

10th Annual Research Meet

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7 December 2024, Chennai, India

CONFERENCE PROCEEDINGS

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Chennai – 88

This publication presents the proceedings of the 10th Annual Research Meet – ARM 2024 held at Chennai, India on 7 December 2024. The Conference was organized by Centre for Research and Innovation (CRI) of Venus International Foundation (VIF).

More information on ARM 2024 is given at: www.venusinfo.org/research/2024.html

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Acknowledgment

With great pleasure, we welcome you all to the 10th Annual Research Meet – ARM 2024 hosted by the Centre for Research and Innovation (CRI), Venus International Foundation (VIF), Chennai, India on 7 December 2024. This scientific conference is organized with the theme – "Diverse Approach to Address Societal Challenges and Deliver Novel Solutions". The conference focuses on recent research, developments, and challenges in the field of Agricultural Sciences, Engineering, Health and Medical Sciences, Humanities and Social Sciences, Management and Science.

The ARM 2024 conference serves as a catalyst and a driving force to enable the global flow of knowledge by connecting institutes and researchers to increase the probability of innovation. To strengthen universities, research institutes and industry to ensure the sustainable development of the society, ARM provides an opportunity to network, share ideas and present their work to a global community. The conference allows all participants to celebrate accomplishments, extend peer networks, and jointly explore future research directions. Further, the conference offers enlightening keynote lectures by renowned experts, followed by scientific sessions. The conference received an overwhelming response from researchers, which is leading to high-quality presentations and discussions. Finally, the conference team wishes every participant to have a productive and enjoyable time at this special conference.

Team, ARM 2024

Message from General Chair – ARM 2024

The Annual Research Meet is now a well-established platform for researchers and the key aim remains the opportunity to share ideas and meet the people to exchange new knowledge and innovation to stimulate fresh insights on different levels.

The Tenth Research Meet – ARM 2024, in particular, was a challenging exercise as the new format (Scientific Conference) allowed us to structure sessions differently, facilitating participation in innovative ways. The scope of papers will ensure an interesting day and the subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research.

I thank the Organizing Committee, Keynote Speakers, and Reviewers for their enthusiastic support. We would like to thank all the authors for submitting their work to ARM 2024 and for giving us the opportunity to assemble a high-quality program. We are happy to publish the proceedings of ARM 2024. I hope that ARM 2024 will be successful and enjoyable to all participants.

R.SATHISHKUMAR
General Chair – ARM 2024

Organizing Committee – ARM 2024

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Ms. Ramya, VIF, Chennai

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Ms. Pavithra, VIF, Chennai

Ms. Tanisha, VIF, Chennai

ARM 2024 Conference Schedule

Programme Venue: Green Park Hotel, Chennai

9:00 am onwards	Registration
INAUGRAL SESSION	
9.30 am	Welcome Address
9.35 am	Lighting of the Lamp
9.45 am	Thamiz Thai Vaazthu
9.50 am	Presidential Address by General Chair
Networking and Refreshment Break (10:00 –10:15 am)	

KEYNOTE SESSION – I Venue: Vauhini Hall (10:15 –11:45 am)	
Speaker	Title of Talk
Dr. Linda Bisello, Università della Svizzera Italiana, Switzerland	The Interplay Between Literature & Medicine: Two Paradigms of Knowledge in Renaissance Italy
Dr. Ali Asgar S. Bhagat, National University of Singapore, Singapore	Accelerating Research Commercialization – From Bench to Bank
Dr. Cheong Joo Ming, International Islamic University Malaysia, Malaysia	From X-Rays to Beauty: Bridging Sci. & Visual Perception to Enhance Facial Harmony in Orthodontics

ARM 2024 Conference Schedule

SCIENTIFIC SESSION – I Venue: Vijaya Hall (11:45 – 12:45 pm)	
Speaker	Title of Talk
Dr. Ganesha Udupa, Amrita Vishwa Vidyapeetham, Kollam, India	Solar Powered Electric Vehicle for Eco-friendly and Sustainable Transportation System
Dr. Ashwini Sood, Harcourt Butler Technical University, Kanpur, India	Butyl Acrylate Emulsion Polymerization Follows Smith-Ewart Nucleation Model
Dr. Gururaj Katti, ICAR – Indian Institute of Rice Research, Hyderabad, India	Innovative Rice Plant Health Management in India
Dr. Anooja Thomas K, Mahatma Gandhi University, Kottayam, India	Supplementation of Mango Ginger and the Changes in Lipid Profile Level of Selected Mild Hypercholesterolemic Adults
Dr. Liew Chee Yoong, UCSI University Malaysia, Malaysia	Navigating Biodiversity Challenges, Financial Resilience, and Climate Policy Dynamics
Dr. Annadanam V. Sesha Sainath, CSIR – Indian Institute of Chemical Technology, Hyderabad, India	Macromolecular Architecture Control and Incorporation of Selective Functional Groups in Polymer Chains for Membrane Applications
Dr. C. Rajamanickam, Horticulture College and Research Institute, Periyakulam, India	Evaluation of Citron (Citrus Medica) Genotypes Germplasm

AWARDS CEREMONY SESSION – I Venue: Vauhini Hall (12:45 –1:15 pm)

Lunch and Networking Break (12:45 to 2:00 pm)

ARM 2024 Conference Schedule

SCIENTIFIC SESSION – II Venue: Vijaya Hall (1:30 – 2:30 pm)	
Speaker	Title of Talk
Dr. Subbalakshmi Jayanty, Birla Institute of Technology and Science, Pilani, Hyderabad Campus, India	Polyaniline Templated Polymers-Synthesis, Characterization, Morphology and Conducting Properties
Dr. Abdullah Humaid Abdullah Al Abri, University of Technology and Applied Sciences, Nizwa, Oman	Generative AI Tools as Writing Assistance in Higher Education
Dr. Neha Sardana, Indian Institute of Technology Ropar, India	Turbidity Attachment for Smartphone
Dr. Devarapalli Kishore, Adikavi Nannaya University, Rajahmahendravaram, India	Identification and Control of a process using Relay Feedback and Subspace Approach
Dr. Krishan Kumar, The University of British Columbia, Canada	Design and Synthesis of Hole Transport Materials for OLEDs
Dr. Snigdha Singh, University of Delhi, Delhi, India	Highly Selective Dual-Channel Colorimetric/Fluorometric Probe based on Naphthoquinone Fused Indole Framework for Cyanide Detection using “ICT off” Approach in Aqueous Solution
Mr. Savar Suri, Sushant University, Gurgaon, India	The Curious Case of the Hidden Heritage of Gurgaon

ARM 2024 Conference Schedule

KEYNOTE SESSION – II Venue: Vauhini Hall (2:30 – 4:00 pm)	
Speaker	Title of Talk
Dr. Srineash V K, Indian Institute of Technology Bombay, India	Wave-Structure Interactions: Research Glimpses from IIT Bombay
Dr. Samuel S. Gnanamanickam, Biotech Innovations, United States	No Pesticide Rice Farming in India And in The United States
Dr. Mohammed Rabius Sunny, Indian Institute of Technology Kharagpur, India	Structural Health Monitoring of Fibre Reinforced Plastic Composite Structures

AWARDS CEREMONY SESSION – II Venue: Vauhini Hall (4:00 –4:30 pm)
Valedictory, Networking & Refreshment (4:30 –5:30 pm)

Glimpses











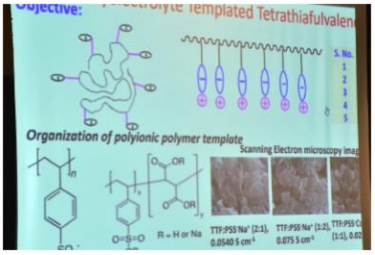


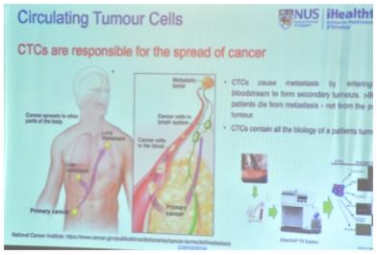


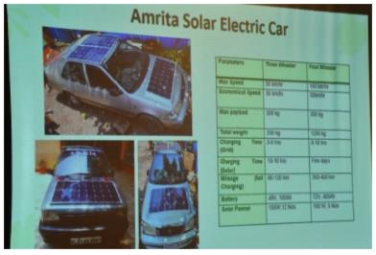
Glimpses


SOLAR POWERED ELECTRIC VEHICLE
FOR ECO-FRIENDLY & SUSTAINABLE
TRANSPORTATION SYSTEM

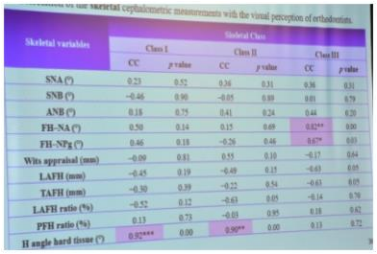

Innovative Rice Plant
Health Management
in India

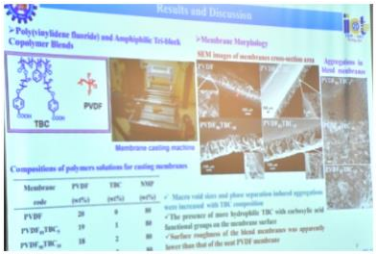

Organization of polyionic polymer template

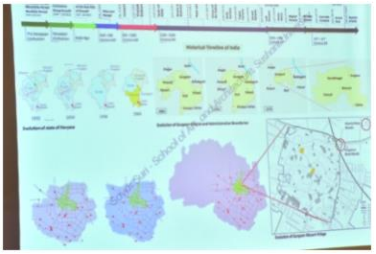

Circulating Tumour Cells
CTCs are responsible for the spread of cancer


Amrita Solar Electric Car


purposes in Asian Countries.
• Mango Ginger extract exhibits anti-hypercholesterole
MANGO GINGER


Skeletal variables


Results and Discussion



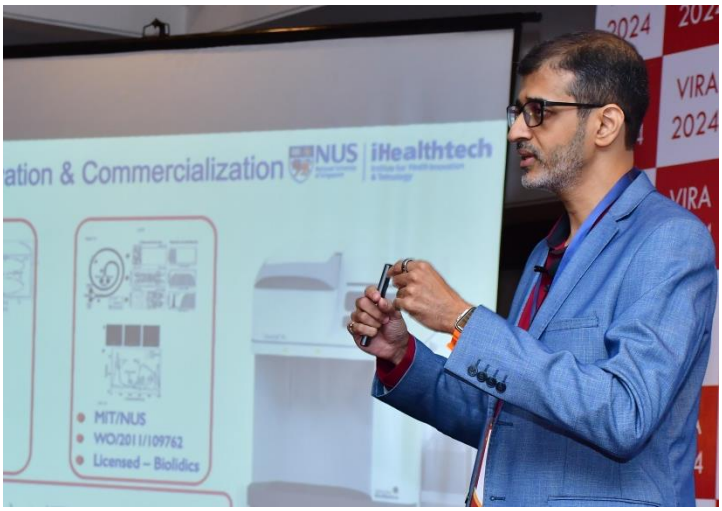
Keynote Speaker 1

Dr. Linda Bisello, Università della Svizzera Italiana, Switzerland

Title: The Interplay Between Literature & Medicine: Two Paradigms of Knowledge in Renaissance Italy

Abstract: My research is based on the hypothesis of tracing the historical pathways of an epistemological shift that took place from the Renaissance onwards in Europe, with a particular focus on Italian culture. To achieve this goal, it is necessary to transcend the disciplinary boundaries that, in my field—Italian literature—remain rigid and, in a sense, introverted, being predominantly oriented toward the formal description of literary textuality. My study surveys the transfer of concepts from anatomy to the humanities (in Latin: artes sermocinales: dialectics, rhetoric, grammar). As can be inferred, this approach is interdisciplinary, simultaneously engaging with the history of medicine, the verbal and visual arts, and methods of knowledge transmission (education) that adopt an analytical methodology from anatomy, inspired by dissection. The conception of my project, titled "The Civilization of Anatomy," originates from an unexpected discovery in major European libraries (Paris, Madrid, Venice, Rome) — a corpus of 17th-century Italian and Latin texts, not strictly medical, devoted to various topics and inspired by anatomical science. These are “literary anatomies”, a genre previously uncharted in the Italian tradition, which illustrate the extent to which the medical paradigm had permeated the reasoning and the mental landscape of the time, through gatherings of learned individuals, the Academies, where scholars engaged in dialogue with anatomist physicians.

Keynote Speaker 2

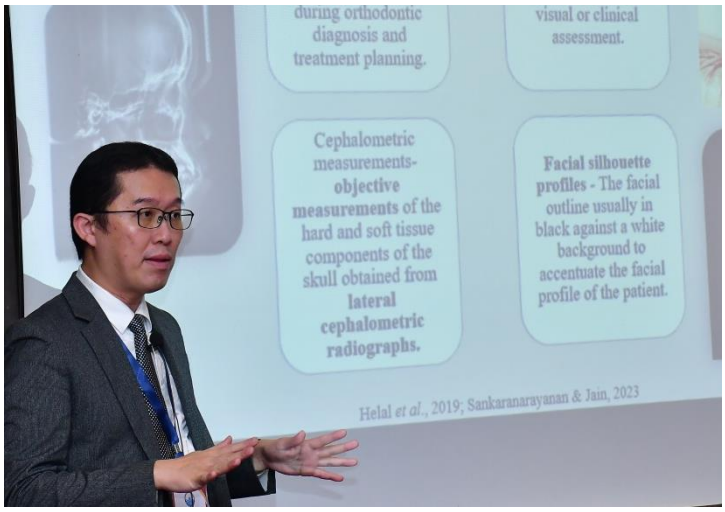


Dr. Ali Asgar S. Bhagat, National University of Singapore, Singapore

Title: Accelerating Research Commercialization – From Bench to Bank

Abstract: In this talk, I will introduce key considerations that promote translation and commercialization of academic research output. In today's rapidly evolving technological landscape, the ability to swiftly and effectively commercialize academic research is paramount to driving economic growth and societal advancement, especially for healthcare. This talk will explore the critical strategies and frameworks necessary to bridge the gap between groundbreaking research and successful market implementation. We will delve into the key challenges faced by researchers and entrepreneurs, including funding acquisition, and navigating regulatory landscapes. Attendees will also gain insights into building robust partnerships between academia, industry, and government, fostering an ecosystem that supports innovation and accelerates the journey from lab to market. Special emphasis will be placed on the Singapore ecosystem, showcasing how its unique and vibrant innovation culture can serve as a model for accelerating research commercialization.

Keynote Speaker 3



Dr. Cheong Joo Ming, International Islamic University Malaysia, Malaysia

Title: From X-Rays to Beauty: Bridging Sci. & Visual Perception to Enhance Facial Harmony in Orthodontics

Abstract: Our face's side view, often called the facial outline, is defined by the shape of the bones and soft tissues. It is a major factor in how others perceive our appearance, confidence and aspects of our personality. This lecture delves into how orthodontic specialists use facial X-rays, capturing specific anatomical landmarks, to analyze the structure and balance of this facial outline. These assessments involve precise measurements of skeletal, dental and soft tissue landmarks to develop treatments aimed at achieving a well-balanced, aesthetically pleasing result that aligns with current standards in facial harmony. However, when comparing these objective measurements with how individuals, both experts and non-specialists, perceive facial attractiveness, it was discovered that technical measurements often only partially match how people perceive facial aesthetics. While orthodontists focus on creating structural harmony, laypersons might value different features, leading to varied perceptions of beauty. These findings highlight the importance of merging scientific rigor with individual aesthetic preferences to ensure orthodontic care not only meets technical standards but also resonates with the patient's self-image goals. Effective communication between clinicians and patients is essential to bridge these perspectives, fostering trust and achieving outcomes that align with both clinical goals and patients' expectations for their appearance.

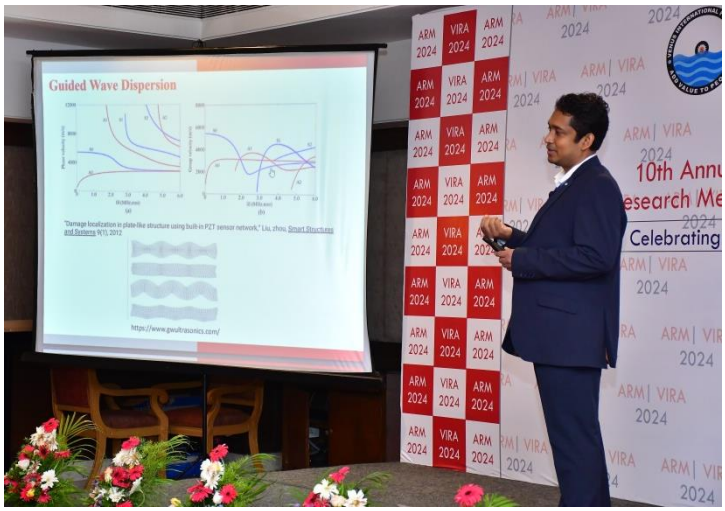
Keynote Speaker 4

Dr. Samuel S. Gnanamanickam, Biotech Innovations, United States

Title: No Pesticide Rice Farming in India And in The United States

Abstract: In southern India, Kuttanad, the major rice granary of Kerala, is one of the few regions of the world that produces rice below mean sea level (MSL). The vulnerability of the system is attributed to the problems of water logging and soil acidity along with climatic variations. To address these problems, technology demonstrations were organized by the Indian Council of Agricultural Research of Alappuzha. These demonstrations continued for successive crop seasons from 2011 (only one crop season possible in a year) and included an eco-friendly pest and disease management. Pests and diseases were managed by use of Pseudomonas (introduced to India by Samuel Gnanamanickam in 1983) for seed treatment, soil, and foliar applications and placement of trichocards. Participating rice farmers harvested 15-20% higher rice yields. Newspapers called this No Pesticide Rice Farming. Biotech innovations in the United States supplied a select group of Arkansas rice farmers with a microbial product spiked with Pseudomonas fluorescens during 2023 and 2024. During 2023, rice farmers had yield increases of 30 bushels/ac. Documented evidence shows that all the rice farmers were very happy with their crops in 2024 and harvested 30-40% higher yields.

Keynote Speaker 5



Dr. Mohammed Rabius Sunny, Indian Institute of Technology Kharagpur, India

Title: Structural Health Monitoring of Fibre Reinforced Plastic Composite Structures

Abstract: Structural health monitoring (SHM) of fiber-reinforced plastic (FRP) composite structures is essential to ensure safety, reliability, and longevity, especially in critical applications like aerospace, automotive, and civil engineering. These composites are lightweight, strong, and resistant to corrosion, but they are also prone to hidden damages such as delamination, matrix cracking, and fiber breakage, which can compromise structural integrity. SHM provides real-time data on the condition of structures, enabling early detection of damage before it becomes critical. This proactive approach minimizes maintenance costs, enhances operational safety, extends service life, and helps in optimizing the design of composite structures for long-term resilience. Generally structural health monitoring techniques are based on the principle of analyzing the response of the structure to a controlled external excitation or ambient conditions for detection of damages. However, complex structural and geometric features, possibility of the existence of multiple damages adds to the complexity of the inverse problem of damage detection from structural response. This presentation demonstrates application of physics based and data driven approaches for solving such problems associated with structural health monitoring of FRP composites.

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