



Transitioning from Web2 to Web3 with Algorand Blockchain



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# NEWSLETTER

Kerala University of Digital Sciences, Innovation and  
Technology  
Digital University Kerala  
Thiruvananthapuram

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## CDIPD Released New Digital Innovative Solution - Loka Keralam Online – Digital Platform for Global NRK

The Honourable Chief Minister of Kerala, Sri. Pinarayi Vijayan, officially inaugurated the Loka Keralam Online - the global NRK digital platform during the 4th Loka Kerala Sabha held on 15th June 2024 at Thiruvananthapuram in the presence of Hon. Ministers, Hon. Speakers, MLAs, Senior Officials from Government and members of the LokaKerala Sabha. This significant launch marks a pivotal step in the state's digital outreach to Malayalis worldwide, aiming to bridge geographical gaps and foster a sense of community among Kerala's global diaspora. This innovative digital platform is conceptualized, developed and implemented by the Centre for Digital Innovations and Product Development (CDIPD) – A Centre of Excellence under Digital University Kerala. The function was attended by Dr. Saji Gopinath, Hon. Vice Chancellor, Dr. Ajith Kumar, Director, CDIPD and team members.

This innovative initiative seeks to create a global connector for NRK Keralites, transforming how they interact and support each other globally. Loka Keralam Online is designed to be a comprehensive digital hub, connecting the global Malayali community. The platform offers a variety of features tailored to facilitate interaction and information exchange among Malayalis worldwide.



Key features include:

**Community Engagement** - Spaces for sharing information, ideas, and active participation.

**Professional Networking** - Tools for developing networks and exploring business and career opportunities.

**Cultural Exchanges** - Platforms for cultural participation and preservation to maintain and celebrate Malayali heritage.

**Educational Resources** - Support for educational advancement and growth.

**Real-Time NRK Repository** - Enhances communication and collaboration between Non-Resident Keralites (NRKs) and Resident Keralites, fostering a stronger sense of community and belonging.

# ലോകമാതൃക കേരളം

LokaKeralam Online emerges as a powerhouse of opportunities for the worldwide Malayali community, aiming to become the central hub for Malayalis across the globe. At its core, the platform offers a rich array of resources designed to foster growth and connection, including tools and resources supporting educational growth, opportunities and networks for professional career and job opportunities. The portal integrates rich cultural content highlighting Kerala's heritage and culture, developed by the Centre for Digital Transformation in Culture under DUK with easy and personalised navigation. This innovative platform stands as a testament to the power of digital connectivity in preserving culture and fostering community in an increasingly globalized world. By strengthening ties between the global diaspora and Kerala, LokaKeralam Online enriches lives and reinforces community bonds.

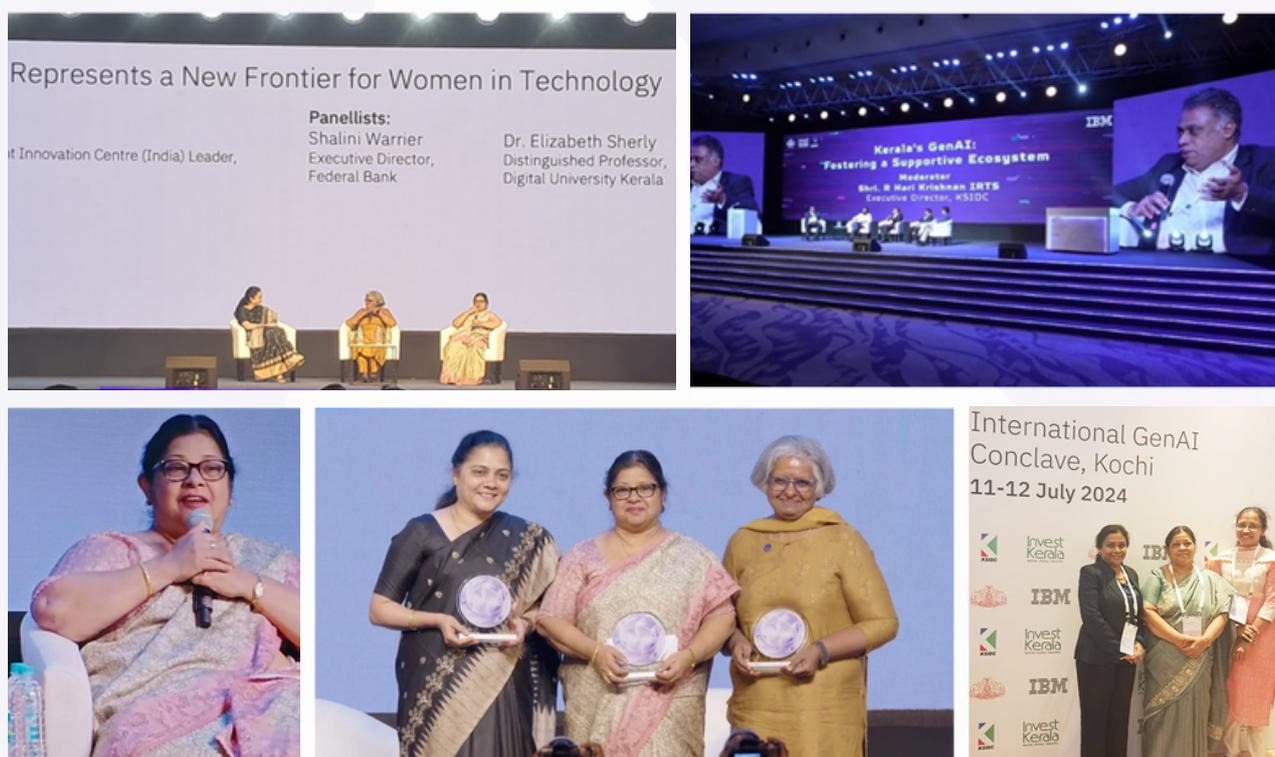


LokaKeralam Online Platform is a digital home for Malayalis everywhere. It offers a space to celebrate traditions, share experiences, and build a supportive global network. By bridging geographical gaps, the platform ensures that no matter where life takes them, Malayalis always have a digital home to return to. Through this initiative, Kerala reaches out to its global family, ensuring that the sense of belonging and cultural heritage is preserved and celebrated, fostering a vibrant and connected Malayali community worldwide.

For more details, visit the portal - <https://lokakeralamonline.kerala.gov.in>

## International GenAI Conclave

The 2 days International GenAI Conclave held on 11th and 12th July 2024, at Grand Hyatt, Bolgatty Island, Kochi was organized by the Government of Kerala and IBM supported by the Departments of Industries & Commerce, and Electronics & IT, Digital University Kerala, CUSAT and the Kerala Technological University. The conclave was intended to establish a platform for business decisions, learning, networking and partnerships, benefiting various enterprises including technology-based startups and MSMEs. IBM leadership, industry thought leaders and Indian tech business leaders shared their insights and future vision for AI, during the event. The conclave featured a mix of keynote addresses, panel discussions and interactive sessions by various experts. Various participants included staff from DUK also.



The panel discussions on 'Kerala's GenAI: Fostering a Supportive Ecosystem' and 'Generative AI Represents a New Frontier for Women in Technology' held on 12th July 2024, the second day of the conclave were truly commendable. A session on importance of GenAI in pushing new frontiers in technology saw women experts share how mastering new technology was a meaningful way to break free from isolation. Federal Bank Executive Director Ms. Shalini Warriar, Prof. Dr. Elizabeth Sherly of Digital University Kerala, and IBM Managing Partner & Client Innovation Center Leader Ms. Usha Srikanth participated in the discussions.

Prof. Dr. Elizabeth Sherly said GenAI was rapidly influencing the country's education system. Women need better technical facilities, financial support and expert advice to rise in the field. All systems like higher education institutions, digital universities and start-ups give more importance to women is what she said. 'Embrace new technologies for a safer and comfortable life' was the message to women at the session of the two-day International Conclave on GenAI.

## CDTI Leads the Way in Public Health Innovation at GenAI Conclave

On July 10th and 11th, the Centre for Digital Transformation and Innovation (CDTI) proudly took part in a major event organized by IBM Kochi and the Government of Kerala. The event focused on how Generative AI (GenAI) can be used in different fields. Umasankar and Vimal D Kumar presented a use case on how GenAI can be used to improve public health. They introduced a new system designed to help prepare for pandemics. This system uses real-time data from the field to predict the chances of pandemics, helping to manage public health better.

The system includes an easy-to-use form for collecting health data from the field and a chatbot that makes it simple to interact with the data. It can also generate guidelines and press releases based on the information reported, all powered by GenAI. This work not only demonstrates the potential of GenAI but also helps protect public health on a larger scale.



## CDTI Secures Prestigious Spotlight at ICEGOV 2024

The research paper, titled "Digital Transformation and Innovation in Governance: Exploring the Role of Academia - The Kerala Story," has been accepted for presentation at the 17th International Conference on Theory and Practice of Electronic Governance (ICEGOV 2024). The paper was written by Pradeep Kumar K, Umasankar, and Vimal D Kumar.

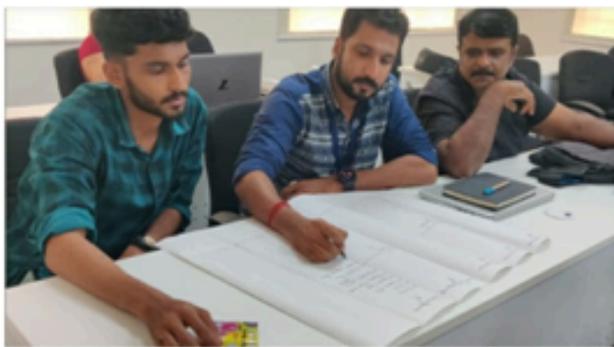
This paper highlights the rapid technological advancements driving governance reforms worldwide through digital transformation. It focuses on the state of Kerala, India, and examines the pivotal role academia plays in this transformation. Using Digital University Kerala (DUK) as a case study, the paper delves into the state's leadership in digital transformation, innovation, and education.

The research explores DUK's initiatives, including academic programs in advanced technologies, collaborations with government agencies, centers of excellence, and various startup ecosystems. Additionally, it discusses DUK's commitment to social engagement, which aims to bridge the digital divide and apply digital innovations at the grassroots level. The study positions Kerala and DUK as exemplary models for how academia can drive digital transformation and governance innovation.

## Empowering Entrepreneurs: Workshop on Start-up Ecosystem Support Services

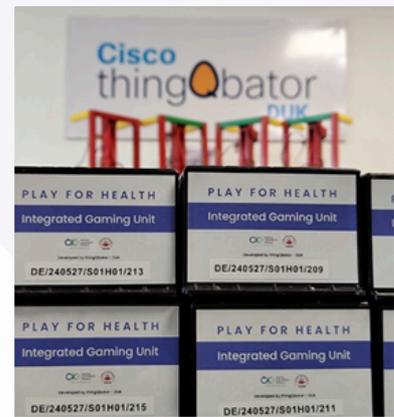
Digital University Kerala recently hosted a two-day workshop on July 25-26, 2024, titled "Awareness about Start-up and Related Ecosystem Support Services for Start-up Development," organized by the Institution Innovation Council (IIC) in collaboration with Women Incubation, Start-ups, and Entrepreneurship (WISE). The workshop aimed to equip aspiring entrepreneurs, students, and faculty with valuable insights into the start-up ecosystem. Inaugurated by Mr. Santhosh Kurup, Professor of Practice in the School of Digital Humanities and Liberal Arts, the event featured a comprehensive agenda. **Day 1** focused on the Business Model Canvas (BMC), led by Dr. Arun J S, a faculty member at Mar Baselios College of Engineering and Technology and founder of Slate N Pencil, who guided participants in designing and refining their business models. **Day 2** included two sessions: the first, led by Prof Dr. Sherin Sam Jose, Faculty and Chief Executive Officer of Start-ups Valley Amal Jyothi TBI, explored opportunities in accelerators and incubation for early-stage entrepreneurs, while the second session, conducted by Prof. Pradeep Raj, Principal (I/C) at Mohandas College of Engineering and Technology and founder of White Paper Academy, focused on Lean Start-up methodologies and the essentials of creating a Minimum Viable Product (MVP). The workshop successfully fostered a collaborative learning environment, empowering participants to navigate the complexities of the start-up ecosystem and encouraging innovation and entrepreneurship within the university community.





## IGU: Indigenously Produced First Electronic Hardware Product from DUK

The integrated gaming unit (IGU) is the first electronic hardware product to be indigenously developed and successfully commercialized from the Digital University. This is developed at the thingQbator facility by a team of students, Mr. Aditya Vishnu and Mr. Alfas Hakeem who is led by Mr. Sarath. SM, Innovation Officer and Mr. Lal Prakash, Senior Software Developer of DUK. The IGU is a Digital Solution to assess the performance of students undergoing training on various sports and games. As a pilot project, this is deployed successfully in 30 schools across the state. The project is mentored by Prof. Asharaf S, Dean Academic and Prof. Manoj Kumar T K , Dean Research of Digital University.



## Emergex Xinnovate 2024 Hackathon

Kerala Blockchain Academy in association with Emergex conducted a 2 day hackathon named “Xinnovate Kerala 2024” focusing on pioneering Web3 Technology on 13th & 14th July 2024 at IIITM-K Building, Technopark Phase 1. The hackathon aimed to foster innovation and development within the Web3 ecosystem in Kerala.

Participants were encouraged to create projects with the potential for growth and expansion. 10+ innovative dApps were developed, participants enjoyed amazing sessions & had fantastic networking opportunities. Out of the 15+ teams participated, team Bricstoken won the 1st place, Team Grimore: WizardWars from Kerala Blockchain Academy won the 2nd place.



## Transitioning from Web2 to Web3 with Algorand Blockchain

On July 6th, 2024, Kerala Blockchain Academy hosted an enlightening event in collaboration with Algorand Foundation India. The event titled "Transitioning from Web2 to Web3 with Algorand Blockchain" was held at Park Centre, Technopark. The one-day event served as a platform for individuals looking to transition from the traditional Web2 space to the innovative Web3 environment. With a diverse group of 80 participants, including students, entrepreneurs, and professionals, the event provided a comprehensive understanding of the potential and practical applications of web3 and blockchain technology in specific. The blend of theoretical insights and practical workshop, successfully equipped participants with the knowledge and skills needed to navigate the evolving landscape of Web3.

### Opening Session: A Vision for the Future with Web3

The event commenced with a non-technical session led by Prof. Nikhil Varma, PhD, Technical Lead (India) at Algorand Foundation. Prof. Varma's session was designed to be accessible to beginners, demystifying the complex world of Web3. He highlighted how Web3 has the potential to revolutionize industry operations by introducing decentralized and transparent processes. Emphasizing sustainability, Prof. Varma discussed how blockchain technology could lead to the development of sustainable infrastructure, reducing reliance on centralized systems and fostering more resilient and eco-friendly solutions. Prof. Nikhil Varma's visionary session set the stage for a deeper understanding of the transformative potential of Web3.



Following was the hands-on workshop led by Ms. Meet Thoshar and Mr. Mohammed Mudassir. The post-noon session was designed to be interactive and hands-on, allowing participants to apply the concepts they had learned in the morning. This session was spearheaded by Ms. Meet Thoshar, AlgoBharat Regional Ambassador, and Mr. Mohammed Mudassir, Support Engineer at Algorand Foundation. The practical exercise aimed to solve a real-world challenge using blockchain technology, providing participants with a tangible understanding of how to implement blockchain solutions. Ms. Thoshar and Mr. Mudassir guided the participants through a series of brainstorming activities, encouraging them to think creatively and collaboratively. They provided insights into the technical aspects of blockchain, including smart contracts, decentralized applications (dApps), and consensus mechanisms. Participants were divided into groups and tasked with developing a blockchain-based solution to a specific problem, such as improving supply chain transparency or creating a decentralized voting system.

As the world continues to transition towards a more decentralized and transparent digital infrastructure, events like these play a crucial role in fostering a community of informed and empowered individuals ready to drive the next wave of technological advancements.



## Field Exposure Visit of MSc Ecology Students

### MSc Ecology students engage with Nature, unraveling the biodiversity secrets of Agasthyamalai

The MSc Ecology students from the School of Informatics (Sol) recently embarked on a transformative field visit to the Ashoka Trust for Research in Ecology and the Environment (ATREE) Agasthyamalai Community-based Conservation Centre (ACCC) at Manimutharu, from July 21st to 27th, 2024. This immersive experience allowed them to explore Tamil Nadu's vibrant ecosystems and engage deeply with its biodiversity.

Guided by Mathivanan M, Coordinator of ACCC, and Sharada Ramadass, Techno-ecologist, the students delved into various aspects of conservation with the support of an expert team including Saravanan A, Thalavaipandi S, Thamizhazhagan S, Thanigaivel, Peter Christopher, and Selvam. Their expertise greatly enhanced the students' field experience.

The visit showcased five innovative project teams, each uncovering unique facets of conservation. **Team 1**, comprising Amithu and Maalavika, focused on the native plants of Nandavanams, identifying thriving species and advocating for increased community engagement in their conservation. **Team 2**, with Adith and Mridhul, examined birds and butterflies in temple gardens, highlighting the critical role of local communities in preserving these delicate species. Riya and Aswany from **Team 3** explored the world of bats across 14 temples, documenting population declines linked to renovations and lighting changes. Pranathi and Sangamesh from **Team 4** concentrated on bird biodiversity, identifying native trees as essential nesting sites and calling for their protection. Sai Shankar and Sanjana of **Team 5** conducted nocturnal surveys in Ambasamudram, gathering valuable data on moths, reptiles, and amphibians to support future conservation initiatives.

This enriching field visit not only expanded the student's practical knowledge but also provided crucial insights into the conservation needs of diverse ecosystems in Agasthyamalai, Tamil Nadu. The outcomes of their work are poised to significantly contribute to ongoing conservation efforts in the region.



The Team

## Visual Highlights of the Journey

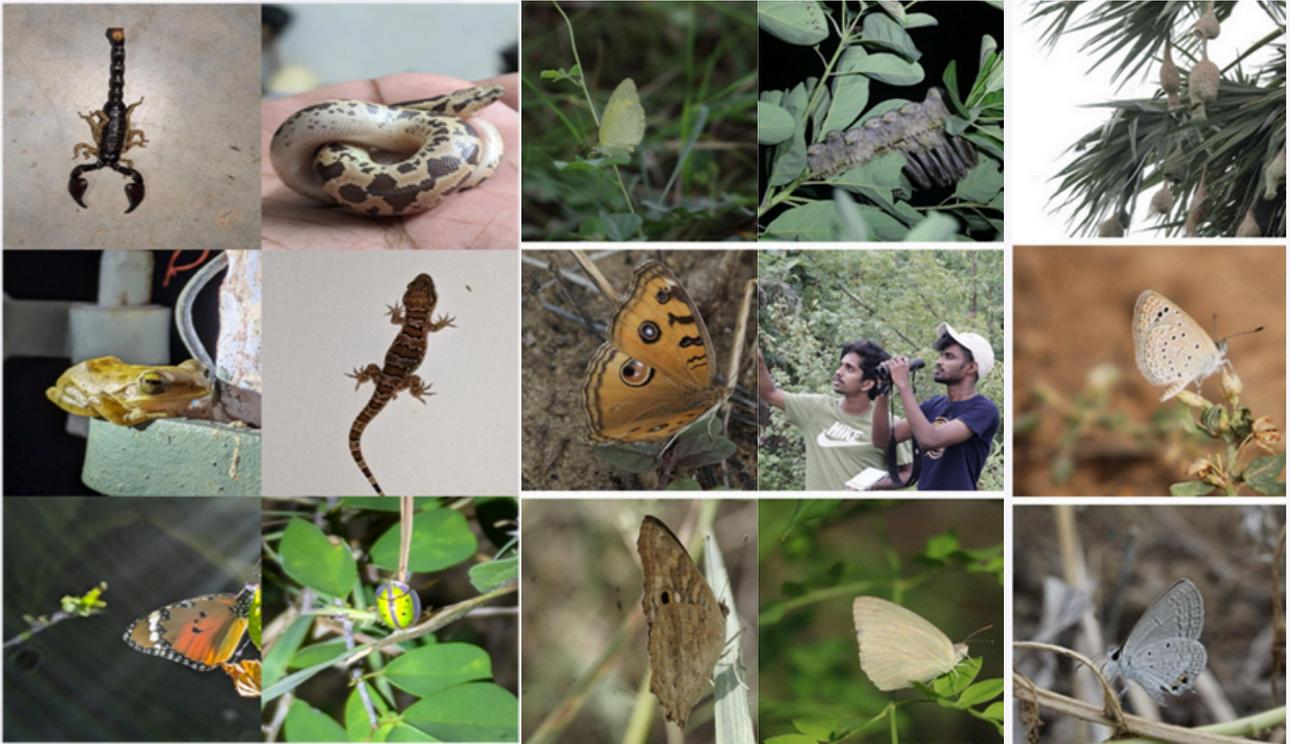
These images will offer a vivid glimpse into the students exploration and the fascinating biodiversity of Agasthyamalai, bringing their field experiences to life.



**ATREE team and the students engaged in their fieldwork**



**Capturing moments of discovery and teamwork**



Featuring images of native plants, butterflies, moths, reptiles, and birds observed during the visit.



The Team

## Digital University Kerala Shines at the Yug Yugeen Bharath Museum Conclave

Kerala University of Digital Sciences, Innovation, and Technology was prominently represented by Dr. Gopakumar V and Dr. Malu G at the "Yug Yugeen Bharath Museum Conclave" held from August 1st to 3rd, 2024, at Bharat Mandapam, New Delhi, organized by the Ministry of Culture, Government of India. The conclave was inaugurated by the Hon'ble Minister of Culture and Tourism Shri. Gajendra Singh Shekhawat in the presence of Secretary Culture Shri. Govind Mohan IAS. The conclave brought together representatives from state museums, government officials, curators, and museum professionals across India.

Dr. Malu G's presentation titled "Kerala's Living Heritage: A Digital Journey," developed by the Centre for Digital Transformation in Culture (CDTC), was met with widespread acclaim, earning her the Best Presentation Award at the event. This recognition underscores the pioneering work in integrating digital technologies with cultural preservation.

The event also provided an excellent platform for Kerala University representatives to engage with key dignitaries, including Smt. Mugdha Sinha IAS, Joint Secretary, Ministry of Culture, GoI and Dr. Davendra Kumar Dhodawat, IAS, Additional Chief Secretary to the Governor of Kerala, Prof. A. Damodaran from IIM Bangalore, and several representatives from the Museums and Archives departments. These interactions opened doors for potential collaborations, emphasizing the adoption of digital solutions in museums nationwide.

The participation of Digital University Kerala in this prestigious conclave highlighted the institution's commitment to digital innovation and set the stage for future projects that could significantly impact cultural preservation efforts across the country.





## Invited Talk

Ms. Sabitha Rani B S, Research Scholar and IEDC Nodal Officer at DUK, delivered a talk on “Design, Develop, Disrupt: A Journey of Innovation” on behalf of Institutions Innovation Council on July 9th, 2024, organized by Kendriya Vidyalaya CRPF Campus, Pallipuram, Trivandrum.



Ms. Sabitha Rani B S, Research Scholar and IEDC Nodal Officer at DUK, delivered a talk on “Zero to Hero: The Path from Idea to Disruption” on July 27th, 2024, organized by St. Thomas Higher Secondary School, Mukkolakkal, Trivandrum.



## Five Day Faculty Development Program

Five day Faculty development program on Lab to Life: Advanced Materials to Wearable Sensor Technology July 22nd-26th, 2024 organized by School of Electronic Systems and Automation (SoESA), Digital University Kerala (DUK).

**INAGURATION : Five day faculty development program on Lab to Life: Advanced Materials to Wearable Sensor Technology- LtL:AMWST- JULY 22-26, 2024**  
organized by School of Electronic Systems and Automation (SoESA), Digital University Kerala (DUK).



**Session I : Title: Advanced Materials for Wearable Biomedical Sensors**

**Keynote Talk: Prof. Ragupathy Dhanusuraman**, Professor, School of Physical, Chemical and Applied Sciences and Central Instrumentation Facility (CIF) Pondicherry University.



**Session II : Title: End to End design of Wearable Sensor: Challenges, and Future Perspectives**

**Keynote Talk: Dr Muthusankar Eswaran**, Asst. Professor, School of Electronic Systems and Automation, Digital University Kerala.



Session III

Keynote Talk: Dr. Shamjid P, Asst. Professor, School of Digital Sciences  
Digital University Kerala.

Title: Polymer Solar Cells for Self-Powered Devices

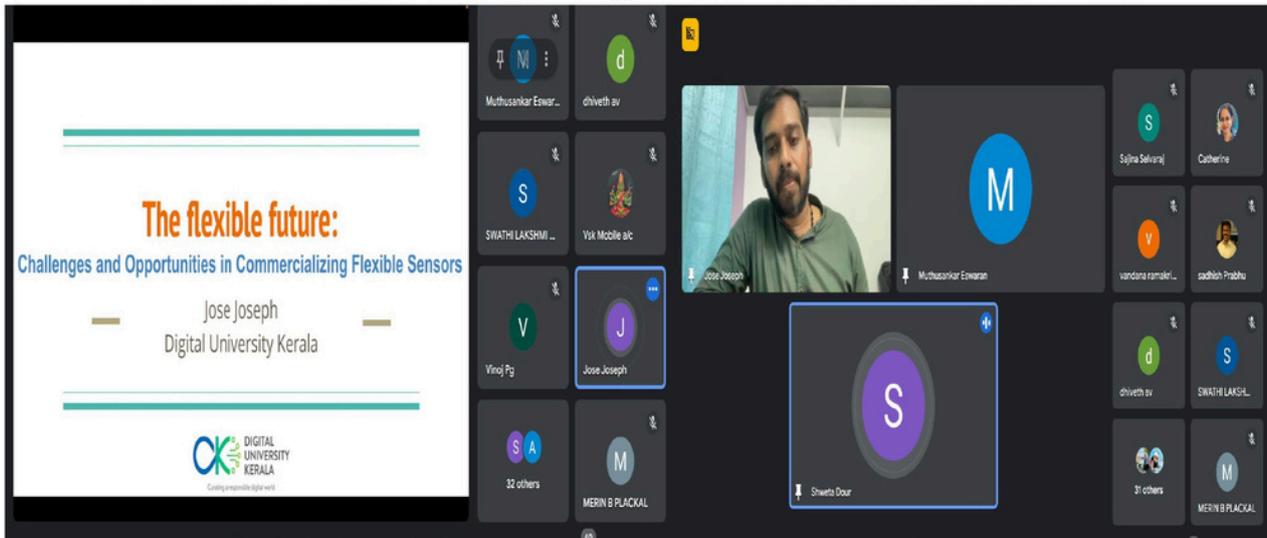
Session IV: Keynote Talk: Dr Christie Thomas Cherian, Asst. Professor, School of Electronic Systems and Automation, Digital University Kerala.

Title: 2D Materials: Graphene and Beyond

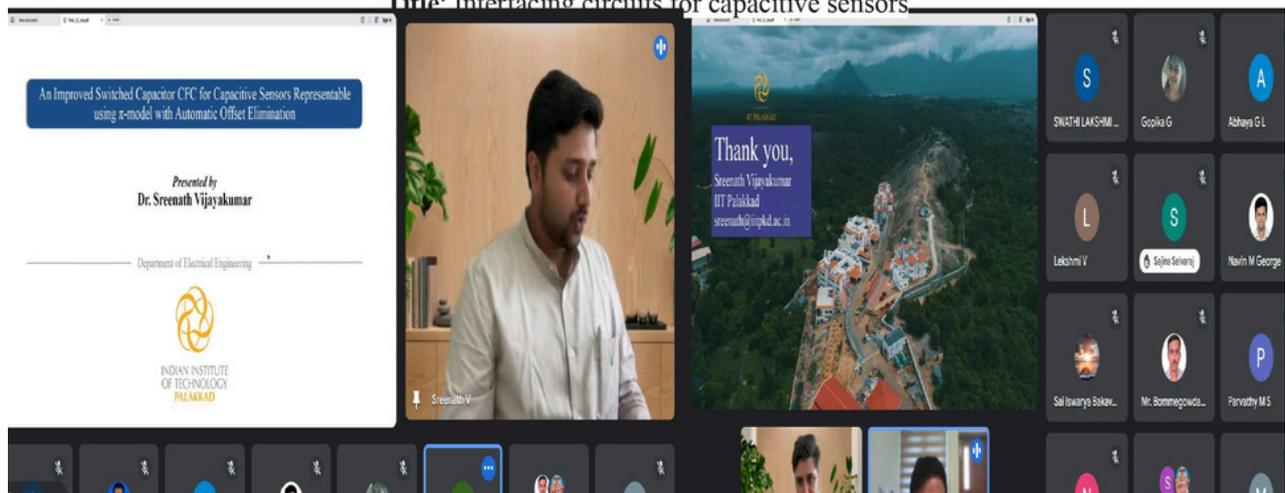
Session V: Keynote Talk: Dr Pandiyarasan Veluswamy, Asst. Professor, Dept. of Electronics and Communication Engineering, IIITDM Kancheepuram.

Title: Self-powered Wearable Sensor

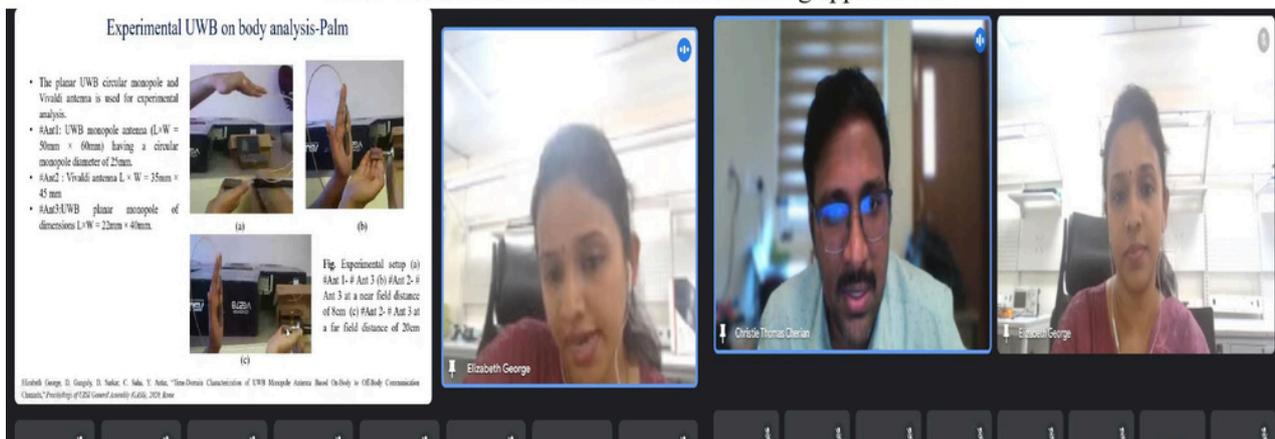
**Session VI: Keynote Talk: Dr Jose Joseph, Asst. Professor, School of Electronic Systems and Automation, Digital University Kerala.**  
**Title: The Flexible Future: Challenges and Opportunities in Commercializing Flexible Sensors**



**Session VII: Keynote Talk: Dr Sreenath Vijayakumar, Asst. Professor, Dept. Electrical Engineering, IIT Palakkad.**  
**Title: Interfacing circuits for capacitive sensors**



**Session VIII: Invited Talk: Dr Elizabeth George, Postdoc, School of Electronic Systems and Automation, Digital University Kerala.**  
**Title: Wearable antenna for health monitoring applications**





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## Special Collection Exhibition by The Hindu

The Hindu has exhibited their special publication collections in the Learning Space near the Knowledge Centre on the 2nd floor on 11th July 2024.

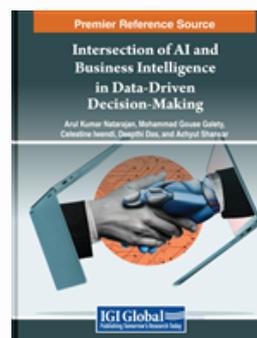


# Publications

- Joseph Suresh Paul, Arun Raj T, Sheelakumari Raghavan, Chandrasekharan Kesavadas (2024). Comparative analysis of quantitative susceptibility mapping in preclinical dementia detection. *European Journal of Radiology*, 111598.  
<https://doi.org/10.1016/j.ejrad.2024.111598>
- A. Ghosh, M. Albanese, P. Mukherjee and A. Alipour-Fanid, Improving the Efficiency of Intrusion Detection Systems by Optimizing Rule Deployment Across Multiple IDSs.
- Ato Kapfo, Sumit Datta, SamarendraDandapat and Prabin Kumar Bora,(2024). A wavelet subband based LSTM model for 12-lead ECG synthesis from reduced lead set. *Biomedical Engineering Letters*, 1-11.  
DOI: <https://doi.org/10.1007/s13534-024-00412-0>
- V. S. Anoop, T. K. Ajay Krishnan, Ali Daud, Ameen Banjar, Amal Bukhari (2024). Climate Change Sentiment Analysis using Domain Specific Bidirectional Encoder Representations from Transformers. *IEEE Access*.  
DOI: 10.1109/ACCESS.2024.3441310

## BOOK CHAPTER

- V. S. Anoop, "Analyzing Public Concerns on Mpox Using Natural Language Processing and Text Mining Approaches", *Intersection of AI and Business Intelligence in Data-Driven Decision-Making*, IGI Global, DOI: 10.4018/979-8-3693-5288-5



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