

2021 Annual Report

A Year of Accomplishments.



Kerala University of Digital Sciences
Innovation and Technology
(Digital University Kerala)

www.duk.ac.in



Curating a responsible digital world

ANNUAL REPORT 2021

***Kerala University of Digital Sciences
Innovation and Technology
(Digital University Kerala)***

***Technocity Campus, Mangalapuram, Thonnakkal PO
Thiruvananthapuram, Kerala - 695317
www.duk.ac.in***

About us

Kerala University of Digital Sciences, Innovation and Technology (Digital University Kerala) is the first University of its kind in India, established with the motto "Curating a Responsible Digital World". This university has its geneses in the IIITMK (Indian Institute of Information Technology & Management-Kerala.), which was established by the Government of Kerala in 2000 with a vision of developing it as a leading educational & research institution in Information Technology & related areas. Within a few years, IIITMK proved its potential by taking up many impactful projects in e-Governance in Kerala. However, the lack of infrastructure & resultant delay in getting regulatory approvals for running academic programs has resulted in making IIITMK lag in operations when compared with similar IIITs set up elsewhere in the country. This was mainly because the IIITMK having the legal status of a Company had certain limitations for the conduct of Courses, Research and award of degrees & titles of its own etc. Therefore, the Institute has been conducting its academic activities in collaboration with Cochin University of Science and Technology (CUSAT). However, this had severely crippled the institution to reach its full potential as statutes of CUSAT could not give full academic freedom and autonomy to IIITMK to offer various programs in tune with the demand of the growing knowledge sector.

To overcome its inherent drawbacks, the government has upgraded IIITMK into "**KERALA UNIVERSITY OF DIGITAL SCIENCES, INNOVATION & TECHNOLOGY**" vide Ordinance No.9 of 2020 dated 18 Jan 2020 which was later converted to an Act (Act 10 of 2021) passed by Kerala Legislative Assembly. The University was set up with a broader scope covering interdisciplinary academic areas in Science, Technology and Humanities relevant to the digital world. The University is envisaged to become a unique Centre of Excellence of global repute by conducting education, research & extension activities in areas of digital technologies, science & humanities. The University started functioning from the new campus of IIITM-K at Technocity with Prof. Saji Gopinath, Professor of IIM Kozhikode assuming the charge as the first Vice Chancellor on 28 October, 2020. The University was officially inaugurated on February 20, 2021 by the Hon'ble Governor of Kerala in a function presided over by the Hon'ble Chief Minister of Kerala. As the State Legislative Assembly did not have normal sessions due to Covid pandemic, the bill of the University could not be introduced in the assembly in 2020. Therefore, the ordinance was re-notified on 26 Sept 2020, 09 Feb 2021 and 03 Jul 2021 and finally the KERALA UNIVERSITY OF DIGITAL SCIENCES, INNOVATION AND TECHNOLOGY ACT, 2021 was passed by the Legislative Assembly replacing the

Ordinance on 30th October, 2021. Meanwhile the University has been granted recognition by the UGC under Section 2(f) of the UGC Act and has obtained recognition from AICTE for the M. Tech programs.

The University envisages to undertake programs under three key verticals, Research, Education and Outreach. These three broad activities are implemented through Research Centres, Centre of Excellence focusing on research, Schools of education which focus on academics and outreach centres which focus on outreach activities. The Academic programs are designed with the aim of capacity building at master's and doctorate level in the niche and disruptive technologies areas in the field of Computer Science, Electronics, Informatics and Digital Sciences. With a view to develop high caliber human resources for the industry 4.0 and 5.0, the master's programs are aligned to meet the current demands.

The programs announced by the Schools are M. Tech. in Computer Science & Engineering with specialization in Artificial Intelligence, Cyber security engineering, Connected Systems & Intelligence; Electronics Engineering with Specialization in AI Hardware, Signal Processing & Automation, M.Sc. in Computer Science with specialization in Machine Learning, Cyber Security, Data Analytics, Geospatial Data Analytics; Ecology with specialization in Ecological Informatics. The admissions to PG programs were based on GATE/ University admission test and interview and Ph.D. program was based on the performance of the candidates in Digital University Research Aptitude Test (DRAT)/GATE/NET examination and evaluation of competence in research methodology and a personal interview. The admissions for PG and PhD programmes have been completed and the classes have commenced. Central Government and state government scholarships are available for eligible students. DUK has been listed under National Scholarship Portal, Egrantz Kerala, Directorate of Collegiate Education, Higher Education is also providing merit cum means scholarships to deserving students. All the research students except the industry sponsored candidates will receive either the scholarships based on the NET or the University scholarships.

The University is expected to function as a self-supporting Educational and Research Institute to run with its own internal revenue for all the operating expenditure as was in the case of IIITMK. The Kerala government has given a corpus of Rs.50 crores to meet the initial year's expenditure. The University is expected to achieve financial autonomy within the next five years. The mode of its working is envisaged similar to Industrial / Business units, slightly different from other State Universities.

Vision

The vision of the University is to become a global destination of repute in Digital World Education and Research and to become an academic leader by nurturing futuristic talent capable of developing innovative and sustainable solutions for the industry, Governments and society by leveraging on Digital Technologies, Science & Humanities, through education, research and application

Mission

The motto of the University will be to *Curate a Responsible Digital World*. Development and application of Digital Technologies for social good is the underlying mission of the University. Towards this, the University shall focus on four themes of action namely, Computing, Intelligence, Sustainability and Entrepreneurship; the first two themes shall form the focus area of work and the next two themes act as guiding light for the overall mission while designing programs, developing products and services as well as for providing training and extension activities. The University shall catalyse technical advances that promote societal welfare.



Governance and Administration

Chancellor

Shri Arif Mohammed Khan
Hon'ble Governor of Kerala

Pro-Chancellor

Shri Pinarayi Vijayan
Chief Minister of Kerala &
Minister in charge of Electronics & IT

Vice Chancellor

Prof Saji Gopinath

General Council

(Being constituted)

Board of Governors

Sl. No	Members	Name and Designation
1	Chairperson	Dr. Prof. Vijay Chandru Co-Founder & Director, Strand Life Sciences, Bengaluru, Professor Indian Institute of Science
2	Principal Secretary/Secretary to Government, Electronics and Information Technology Department- Ex-officio Member.	Shri. Biswanath Sinha IAS Additional Chief Secretary
3	Principal Secretary/Secretary to Government, Finance Department – Ex-officio Member.	Sri. Rajesh Kumar Singh, I A S Additional Chief Secretary
4	Principal Secretary/Secretary to Government, Higher Education Department – Ex-officio Member.	Dr. V Venu IAS Additional Chief Secretary
5	One nominee of Higher Education Council, Government of Kerala- Ex-officio Member.	Dr. Rajan Varughese Member Secretary
6	Vice-Chancellor, APJ Abdul Kalam Technological University, Kerala – Ex-officio Member.	Dr. Rajasree M. S Vice-Chancellor

7	One representative of Ministry of Communication & Information Technology, Government of India –	Dr. Jaideep Kumar Mishra Joint Secretary
8	One nominee of Department of Science & Technology, Government of India – Ex-officio Member.	Dr. Anitha Gupta Scientist-G & Head National Science & Technology Entrepreneurship Development Board (NSTEDB)
9	Director, Indian Institute of Technology, Palakkad – Ex-officio Member.	Prof. P. B. Sunil Kumar Director Indian Institute of Technology Palakkad
10	Director, Indian Institute of Management, Kozhikode – Ex-officio Member.	Prof. Debashis Chatterjee Director, Indian Institute of Management- Kozhikode
11	Director, Indian Institute of Science, Education and Research Thiruvananthapuram – Ex-officio Member.	Prof. Jarugu Narasimha Moorthy Director Indian Institute of Science Education and Research (IISER)
12	Director, Indian Institute of Space, Science and Technology, Thiruvananthapuram – Ex-officio Member.	Sri. S. Somanath Director Indian Institute of Space and Technology (IIST)
13	Director, Sree Chithira Tirunal Institute of Medical Sciences and Technology (SCTIMST), Thiruvananthapuram – Ex-officio Member.	Dr. Ajit Kumar V. K MD DM Director (In-charge) Sree Chitra Tirunal Institute for Medical Sciences & Technology (SCTIMST)
14	Director, National Institute of Interdisciplinary Science and Technology, Thiruvananthapuram – Ex-officio Member.	Dr. A. Ajayaghosh Director, National Institute for Interdisciplinary Science and Technology (NIIST) Council of Scientific and Industrial Research (CSIR)
15	Experts from industry or academia with proven expertise in education, research or practice in Information Technology and allied disciplines – Members.	1. Shri V K Mathews Founder and Executive Chairman, IBS Software (IBS Group) 2. Prof. C Mohan Distinguished Visiting Professor, Tsinghua University, China and Former Shaw Visiting Professor, National University of Singapore (NUS)
16	Vice-Chancellor – Ex-officio Member.	Prof. (Dr.) Saji Gopinath Vice-Chancellor, Kerala University of Digital Sciences Innovation and Technology

Deans

1. Dr. Elizabeth Sherly

Dean (Academic), Professor (HAG) & Director IIITM-K

2. Dr. Asharaf S

Dean (Research & Development), Professor

3. Dr. A.P. James, FIET, FBCS

Associate Dean (Academic), Professor

4. Dr. Joseph Suresh Paul

Dean (Human Resources Development), Professor

Registrar

P Suresh Babu

Controller of Examinations

Sabu M Thampi

University Librarian

K P Sadasivan

Deputy Registrar (Finance)

Vishnu V

Deputy Registrar (Administration)

Murali R

Assistant Registrars

Aneesh S (Finance)

S Vijayakumar (Administration)

Ajitha Nayar K (Academic)

Technical Officers

Jayachandran M B (CTO)

David Mathews (Design Engineer)

Finance Committee

Academic Council

Research Council

Being constituted

Schools

1. School of Computer Science & Engineering (SoCSE)

Introduction

SoCSE was established in the year 2020. SoCSE offers PhD and master degree programmes. Our thematic research areas include theoretical computer science, computational intelligence, and systems & networks. We train the next generation of scientists and engineers and inspire them to pursue their research. We aim to deliver quality learning, teaching and research to benefit our students, academics and society.

Vision

To become a world-leading center of advanced learning, research and development, and societal outreach in the field of Computer Science and Engineering.

Mission

To provide an enriching scholastic environment that nurtures innovative and effective ways of knowledge creation, dissemination and application to facilitate world-class education and cutting-edge research in the field of Computer Science and Engineering and thereby contributing to the society nationally and globally.

Objectives

- SoCSE targets to focus its activities in the following dimensions:
- World class research and academics with national and international collaborations.
- Nurturing globally competent and socially responsible talent pool through academic programmes.
- Commercialization of research outcomes through consultancy, collaborative new business initiatives and promotion of entrepreneurship.
- Creating an inclusive and collaborative environment to foster local, sustainable and globally relevant knowledge and expertise.

Courses

1. MTech in Computer Science and Engineering with Specialization in Connected Systems and Intelligence (30 seats) AICTE Approved
2. MTech in Computer Science and Engineering with Specialization in Artificial Intelligence (30 seats) AICTE Approved
3. MTech in Computer Science and Engineering with Specialization in Cyber Security Engineering (30 seats) AICTE Approved
4. MSc in Computer Science with Specialization in Machine Intelligence
5. MSc in Computer Science with Specialization in Cyber Security
6. PhD program is offered in Full-time regular, Industry regular, and Part-time mode of study

Faculty

Dr. Asharaf S

Dean (Research & Development), Professor

Dr. Elizabeth Sherly

Dean (Academic), Professor (HAG) & Director IIITM-K

Dr. John Eric Steephen

Assistant Professor

Dr. Preetam Mukherjee

Assistant Professor

Dr. Sabu M Thampi

Professor

Dr. Sinnu Susan Thomas

Assistant Professor

Dr. Tony Thomas

Associate Professor

PhD scholars being guided by

Dr. Asharaf S.

1. Kiran Raj Joseph,
2. Caroline Mary M,

Dr. Elizabeth Sherly

1. Judy K George,
2. Nayana Uday,
3. Parvathy Pavithran,

Dr. Sabu M Thampi

1. Anjana Jimmington,
2. Aswin P ,
3. Blessy Thomas,

Dr. Tony Thomas

1. Hari Prabhakaran,
2. Niman S,

2. School of Digital Humanities and Liberal Arts (DiHLA)

Introduction

Digital Humanities is a multidisciplinary field which explores the various dimensions of interplay of digital technologies, societies and communities. It encompasses research in various areas where digital technologies influence, contribute and advance the cause of humanities and explores the intersection of digital technologies and humanities. The field attempts to produce applications and models that make possible new kinds of research, both in the humanitarian disciplines as well as in computer science and its allied technologies. It also studies the impact of these technologies on cultural heritage, libraries, archives, digital culture, lifestyles, technology empowered communities, and deployment of mathematical and predictive models on the future of a digitally empowered society.

The School of Digital Humanities and Liberal Arts (DiHLA) at KUDSIT will focus on research related to digital culture and society and will explore the use of advanced technology-related methods in humanities research. In current times, cultural artefacts are increasingly available in digitised or born-digital form and computing power, which has grown exponentially over the last several decades, is more accessible than ever. The activities at the Centre would focus on the exploration and use of digital tools, analytical techniques and technology to explore humanistic questions and solving business related issues. The DiHLA will have its own academic and research programs in areas such as in Digital Law, Digital Pedagogy, Computational Social Science, e-Governance, management science, entrepreneurship, innovation, etc. The school will also collaborate with other schools of KUDSIT for supporting interdisciplinary programs of KUDSIT that have a humanities/social science component.

Objectives

- To cater to the demand of trained human resources to promote and influence the informed and critical uses of digital technology and computational approaches in social sciences, art, literature, history, area studies, linguistics, media, management and other disciplines of the humanities.
- To promote multidisciplinary domains of research in the social sciences that connect sociology, humanities, law economics, management, governance, policy, education and related disciplines with technical innovations in mathematics, statistics, and computer science.
- To bring together students and faculty from within various centres of KUDSIT as well as researchers and community members to explore the crossroads of the humanities and computing.
- To encourage and motivate student community to take up the future challenges of the growing IT industry
- To enable researchers and students to adapt computational and computer-aided methods to access, analyze, sequence, and present social and cultural artefacts in innovative ways.
- To engage with wider community of researchers, academics and practitioners for initiating, developing and sharing ideas to address and influence various emerging digital policy challenges
- To generate new and relevant knowledge through original research, and intervening through direct engagement with the civil society and communities.

Courses

1. Postgraduate Diploma in e-Governance

Faculty

Ajithkumar R

Assistant Professor

Jayachandran M B

Chief Technical Officer

Dr. Jaishanker R

Professor and Chairperson, School of Informatics (secondary

membership)

Dr. John Eric Steephen

Assistant Professor

Dr. K.G. Satheesh Kumar, M.B.A., B.Sc. (Engg.)

Professor

Dr. Meraj Uddin

Assistant Professor

Pradeep Kumar K

Assistant Professor

Dr. Sabu M Thampi

Professor, School of Computer Science and Engineering (secondary membership)

3. School of Digital Sciences

Introduction

The school will focus on STEM education. Science, technology, engineering, and mathematics (STEM) is a broad term used to group together these academic disciplines. As per STEMconnector.org, projections estimate the need for 8.65 million workers in STEM-related jobs. It was reported that STEM jobs in India increased by 44% from 2016-2019.

In the era of Industrial Revolution 4.0, it's highly important to train the youth of our nation with the latest technologies and get them prepared to bring knowledge and skills to solve complex problems and how to use these skills for decision making. These skills are generally known as STEM. To meet the expectations to create a dynamic workforce who can lead our nation tomorrow, it is essential to have trained human resources in STEM fields. The theme of the proposed School of Digital Science is STEM, spanning the broad areas of Computational Science, Data Analytics and Scalable Data Systems across various science and technology domains.

Vision

To become an internationally reputed Advanced Center in the thematic areas of the school and to provide socially relevant services to the general public through the knowledge and skill acquired through learning, research and development.

Mission

To provide the critical meeting ground for people to learn the subject, interact with world class experts, collaborations, organized and regulated access to federated data, information, and computational resources, for knowledge

creation, dissemination and applications to facilitate world-class education and bleeding edge research in the field of digital sciences and thereby empowering the society with updated skills and knowledge.

Objectives

- To cater to the demand of trained human resources in the areas of STEM
- To foster advanced research, development and innovation in frontier areas of Digital Sciences
- To encourage and motivate student community to take up the future challenges of the growing IT industry
- To promote innovations and entrepreneurship ecosystem in social innovations and commercialize research outcomes

Courses

1. MSc in Computer Science with Specialization in Data Analytics (40 seats regular)
2. MSc in Computer Science with Specialization in Geospatial Analytics
3. PhD program is offered in Full-time regular, Industry regular, and Part-time mode of study

Faculty

Ajith Kumar R
Assistant Professor

Dr. John Eric Steephen
Assistant Professor

Dr. Manoj Kumar T. K
Professor

Dr. Radhakrishnan T
Assistant Professor

Sanil P Nair
Assistant Professor of practice

PhD scholars being guided by

Dr. John Eric Steephen

1. Divya Rajan,

Dr. Manojkumar T K

1. Sanil P Nair,

Visiting Research Scholars

1. Dr Mithun Padmakumar
2. Dr Joseph Tharion

4. School of Electronic Systems and Automation (SoE)

Introduction

The School of Electronic Systems and Automation (SoE) believes in the practice of open innovation, open hardware and open minds. And hold the following values to its heart:

- Learning is a process and not a product
- Innovation and creative thinking as a core value
- Promote inclusive education and learning
- Focus on student centred educational practices
- Embrace multiculturalism and international diversity
- Encourage diverse ways to make and demonstrate impact
- Enable an active start-up ecosystem

We welcome the visitors, industry representatives and students to be part of this journey and value system.

Vision

We identify exceptional research and commercialisation opportunities, inspire collaborative works, promote industry, and make connections to accelerate social, economic, technological and environmental development.

Mission

The School of Electronic Systems and Automation (SoE), The Kerala University of Digital Sciences, Innovation and Technology is established in 2020, in Technocity campus, Trivandrum. The SoE aims to be a premier centre of research and innovation in Electronics Systems and Automation making key contributions to the economic, technological and social well-being.

Objectives

- The SoE is an Engineering school that focuses mainly on applied research and innovation in Electronic Systems. The SoE aims to be international from its work environment to professional practice and offer intellectual freedom to grow. All the faculty in the school are considered intellectual equals irrespective of the stage of career.
- The SoE will place quality ahead of all the other parameters:
- The SoE places merit and quality ahead of equal opportunities principles. Although it will follow all the national guidelines and requirements where necessary, it will focus on the quality.
- It is expected that faculty members will attain high standards in research, teaching and services.
- The communications within the school aims to be transparent and fast. Being a digital university, all documentations to communications are expected to be in digital forms.
- SoE believes in a student-centered education. The students are expected to be internationally competitive and be highly disciplined in academic matters.
- SoE encourages internationalization of its education and research activities in all levels. It envisions collaborative programs and encourages faculty to build programs that benefit the Indian society.
- SoE will follow best practices from around the world and will update its strategies every year to be competitive nationally and internationally in all its endeavours.
- SoE encourages all its faculty to commercialize, productize, and perform social innovations and patent research.
- SoE sets high priority to industry-academic collaborations and international research collaborations.
- SoE programs and activities shall follow at the minimum the relevant university guidelines and those required by regulatory bodies. However, SoE shall set higher standards than prescribed by the university, in its educational programs, outreach, consulting and recruitment activities.

The School will focus on the broad areas of AI Hardware, AI Robotics, Signal Processing and Automation and Computational Imaging System

Courses

- MTech In Electronics Engineering with Specialization in AI Hardware (30 Seats)

- MTech In Electronics Engineering with Specialization in Signal Processing And Automation (30 Seats)
- PhD program is offered in Full-time regular, Industry regular, and Part-time mode of study

Faculty

Dr. A.P. James, FIET, FBCS
Associate Dean (Academic), Professor
Dr. Naresh Kumar Reddy
Assistant Professor
Dr. Joseph Suresh Paul
Dean (Human Resources Development), Professor
Dr. Jose Joseph
Assistant Professor
Dr. Sumit Datta
Assistant Professor

PhD scholars being guided by

Dr. Alex P James

1. Anitha Gopi
2. Aswani A. R
3. Sruthi P
4. Vasudev S. Mallan,
5. Vineeta Vasudevan Nair

Dr. Joseph Suresh Paul

1. Arun Raj T
2. Athulya M Nair
3. Naveen Varghese Jacob
4. Saranya S Nair

5. School of Informatics

Introduction

The School of Informatics is a frontier-less intellectual space that radiates computing across applied science and social science disciplines. We perceive informatics as the binder that can transform and levitate applied domains, which are increasingly relied upon to address emerging challenges.

The academic programs of the school of informatics are interdisciplinary and of high quality. We ensure our students develop the ability to comprehend issues holistically, think objectively, and imbibe skills that would help them either find gainful employment or advance to a research career. A couple of years that one invests at the school of Informatics will return dividends in the future

Vision

We envision a 'cooperatively competitive' academic environment with focus on transmutation of information Socially and temporarily relevant research backed by quality education to churn out graduates with professional acumen, exceptional leadership and a humane heart.

Mission

The tri-value system of Sol intends to provide education through three allied values: learn, transmute and transform. The Sol imparts value-based and technology-oriented interdisciplinary education to students to bring them up as citizens who are socially conscious, intellectually competent and morally upright.

Objectives

- Promote excellence in teaching and research with state-of-the-art infrastructure, through enhancing learning for all academic programs, including extra-curricular activities. The school is keen to advance scientific research and scholarship to an international level
- Promote the personal, social, academic and career growth of all students in a proactive manner to prepare and qualify them to be leaders in their chosen

careers and professions The School provides proper environment that nurtures innovation, creativity, and the pursuit of knowledge

- Forge strategic partnerships with the local community, including the public service industry in order to be responsive to the socio-economic needs of the community through dedicated applied research.

Activities

- Teaching at MSc, PG Diploma/certificate and pre-PhD levels.
- Academic research including guiding of PhD and MTech/MSc students
- Development of continuing education programme and online learning resource material.
- Contribution to interdisciplinary teaching and research programmes.
- Sponsored R&D and consultancy
- Build strategic partnerships with the local community, including the public service industry in order to be responsive to the socio-economic needs of the community through dedicated applied research
- Contribute to the socio-cultural, scientific and economic progress of society through social responsiveness and effective engagement

Courses

Postgraduate programs

- MSc Ecology with Specialization in Ecological Informatics (30 Seats)
- PhD program is offered in Full-time regular, Industry regular, and Part-time mode of study

Faculty

Dr. Athira K

Assistant Professor at the School of Informatics (Sol)

Dr. Jaishanker R

Professor and Chairperson, School of Informatics

PhD scholars being guided by

Dr. Jaishanker R.

1. Minu Merin Sabu,

Knowledge Centre

DUK is the new Gen University created based on the philosophy of digital technology for transformation. The specific programmes focusing on the blend of Academic, R&D, Technology, Innovation, Entrepreneurship and Arts & Humanities are expected to create better and faster solutions to the society in global scales of excellence.

This re-engineering aiming at major social changes need effective and matching information inputs as the fuelling mechanism. With this basic objective, the conventional Library System is being revamped to play its matching role in the new environment. Thus the rechristened Knowledge Centre from the framework of its structure as given in this document will undergo visible changes within a short span of time.

The changing pattern of info needs of users, the expanding trends in info resources, the complexities of info dissemination processes, the ever-increasing tools, devices and techniques and the missing links in the work-flow of the activity domains of users, are being closely examined with a view to restructure a better model of info dissemination. It is envisaged to formulate both short-term and long term solutions.

Other important factors include Open Access and Open Science initiatives, Public-Publisher conflicts in monopolizing sharing of data and products, the economics of info storage & dissemination, etc. The process of optimization of user needs vis-à-vis the delivery of matching services will decide the choice/design of the appropriate models.

The unlimited possibilities of the application of new technologies in the info handling processes are also being explored. Yet another factor is the changing trends in the concept of physical space and info intermediaries/work force in real life libraries.

The transformation envisaged in the ultimate functioning of the Knowledge Centre will depend on this incisive thinking and constructive application.

Thus the structure of the resources, products and services as enlisted below will be undergoing a transformation to a system that is better suited for the given environment and possibly as a model to emulate too.

Resources

In-House Databases including

Books: e-Versions & p-Versions

Periodicals/Journals/Magazines: e-, p- & Integrated Versions

Institutional Repository covering

Scholarly Publications

PhD Theses

Academic Project Reports

Academic Courseware & Syllabus

Question Papers Bank

Externally Accessible Resources covering

Subscribed e-Resources including

IEEE Xplore, ACM DL, Springer etc.

Access to National Facilities including INFLIBNET, NDL, etc.

Open Access Databases including Arxive.org, DOAJ, WIPO, etc.

Services

Acquisition of Publications

Access to e-Resources: Campus-Wide incl. Hostels

Web OPAC

Normal Circulation Service

Inter-Institutional Resource Sharing

Photocopying & Scanning

Reference & Referral Service

Info Support Service for Assignments, Academic and R&D Projects

IPR Search & Learning Programmes

Window to Open Source Learning / MOOCs

Scholarly Publishing Guidance including

Choice of Source Publications incl. Metrication Standards

Manuscript Preparation: Style / Formatting / Font Selection/

Reference Management / Publishers' Author Guidelines /

Peer Reviewing

Plagiarism Checking

Metrication: Tools, Techniques & Services

IQAC Support Service
Platform for Promoting Professional Societies
Promotion of Discussion Forums
Digital Bulletin Board as a Rapid Alert Service

Facilities

Reading Space
Net-enabled Access Stations
Photocopying & Scanning Systems
The newGen Learning Space

Major Initiatives (Futuristic)

Externally Funded Projects
Extending the Resources & Services to Academic & IT Corporates
Research Data Management
Wealth of Kerala: A Dream Project to Create a Digital Version of the
Scholarly Resources of Kerala.

The Knowledge Village

The total Info System Facility, when accomplished, is expected to transform the sector to a Knowledge Village.

The Team

K P Sadasivan, Head, Knowledge Centre
Dr. Narayana D, Assistant Librarian
Remya S, Library Assistant
Mrs. Renjini V, Library Assistant
Mr. Goutham N, Library Assistant

Projects		
Funded by Kerala State Planning Board		Outlay in Lakhs
1	School of Computer Science and Engineering	
	Centre for Research and Innovation in Cyber Threat Resilience (CRICTR)	50
	Centre for Excellence in Brain Computing (CEBC)	50
	Centre for Computational Social Science (CCSS)	20
	Sixth Sense : CoE in Machine Learning	100
	Virtual resource center for language computing (VRCLC)	30
	Centre for Excellence in Pattern and Image Analysis (CEPIA)	20
	Image and Vision Computing (IVC)/ Optimization and Machine Learning Lab (OM)	20
	Total for School of Computer Science and Engineering	290
2	School of Digital Science	
	Centre for Data Science and Informatics	30
	Centre for Affective and Neuro Computing (CAN) Disaster	20
	Planspace, Kerala	115
	Centre for GIS	40
	Total for School of Digital Science	205
3	School of Electronic Systems and Automation	
	Centre for Open Electronics and Social Innovation (COESI)	40
	Centre for Intelligent Sensor Electronics and Applications (CISEA)	40
	Development of Ultrasound Transducer for Neuromodulation (DUTN)	20
	Total for School of Electronics Systems and Automation	100
4	School of Informatics	
	Ecological Informatics	40
	Total for School of Informatics	40
5	School of Digital Humanities & Liberal Arts	
	Centre for Innovation in e-Governance (CIE)	20
	Total for School of Digital Humanities & Liberal Arts	20
	Centre for Augmentation for Web based multimedia (TEL4HQA)	10

	Centre for Software Engineering Knowledge and Project management (SCKC)	20
	Total projects	70
6	Knowledge Centre	
	One time financial assistance	50
	Total	754.51

Consultancy Projects

	Title	Project Revenue (Rs. in Lakhs)
1	AHD RFID Based Health Management Project	720
2	DAH Web Based Disease Monitoring	21
3	GSTD Data Analytics Kerala	169
4	High Court E-Governance	19
5	Hydrographic Survey Web GIS Based Portal	25
6	KDISC Digital Workforce Management System	297
7	RIAB KUDSIT Project	50
8	RRI Rubber Information System	47
9	SNOU Digital Academic System	185
10	SNOU Learning Management Platform	6
11	GPS Survey Charges- Prison	0
12	IMG Website AMC Charges	1
13	Innovation Project Mentor Development ODOI KDISC 22	8
14	I&PRD Monitoring Portal	2

Large Research Projects

1	Augmented and Virtual Reality Center (AVRC)	State Planning Board	130 Lakhs
2	India Innovation Centre for Graphene	Meity	8600 Lakhs
3	Development of Academic ERP	SNOU	215 Lakhs
4	RFID based Animal traceability and e-Health monitoring	Department of Animal Husbandry, GOK	720 Lakhs
5	IMMUNOCHAIN - Phase 2 (In collaboration with ICMR)	BIRAC	125 Lakhs

Research and Development/ Projects funded by Other Agencies

Sl No	Name of Project	Sponsored by	Project Cost (RS. In lakhs)
1	Biometric PUF chip	C3iHub, DST	28
2	Robust identification of iron depositions using a predictable signal model for GRE phase: Implications to neurodegenerative diseases	ICMR	28
3	RTI Knowledge Portal - AMC	IMG, Tvm, GoK	1.7
4	Consultancy Services to Online Accreditation Portal	I-PRD, GoK	1.6
5	KISSAN Kerala	Department of Agriculture, GOK	60
6	AI Based Pest Surveillance System	Department of Agriculture, GOK	15
7	Development of in-situ soil pH sensors	MeitY(through IISc Bangalore)	15
8	Development of Signal Processing Tools for Susceptibility and Conductivity Mapping from a Single MR Acquisition using a Spoiled Gradient Multi-Echo Sequence Conductivity	SERB	27
9	Investigation of a novel spatio-temporal unwrapping error reduction on clinical feature extraction in SWI.	DBT	28.57
10	Causal Optimal Transport for Summarizing the Unpaired Videos	DST SERB	21
11	A Neuroimaging tool for differential diagnosis of vascular dementia using MR oxymetry with proprietary field corrections	DBT	60
12	AI based Sematic Search Engine and Knowledge Discovery project	VSSC ISRO	40
13	AHD Online Service Delivery System	Department of Animal Husbandry, GOK	57.82

14	Investigation of a novel spatio-temporal unwrapping error reduction algorithm on clinical feature extraction in SWI	DBT	28.57
15	Compressed sensing MR phase recovery for fast quantitative susceptibility map estimation in multi-echo GRE acquisition	KSCSTE	29.81
16	Centre for Innovation in e-Governance	SPB, GoK	20
17	Novel Security Framework for Internet of Drones	DST	36.56
18	RKI PMS system	RKI, Govt of Kerala	35
19	Information Security Education and Awareness phase 2 project	DeitY, GoI	6.06
20	Design and Implementation of Online Training and Learning Management Platform	ICPS, Women and Child Development Department, GoK	9.38
21	Online Learning and Training Management Platform for Integrated Child Protection Scheme	Women and Child Development Department, GoK	9.38
22	Developing policy inputs for faster economic recovery while promoting disaster preparedness via AI	British Council	15.20

Centres of Excellence

1. Kerala Blockchain Academy

Kerala Blockchain Academy is a unique initiative by the Government of Kerala through Kerala University of Digital Sciences, Innovation and Technology (formerly, IIITM-K) with a vision of “Leveraging Blockchain Technology for Public Good”. KBA is the first of its kind Government Blockchain Academy in India set up in 2017. KBA is the first Indian academy to become an Associate Member and Official Training Partner of the Hyperledger Foundation under Linux Foundation, an umbrella project of open source Blockchains and related tools started by Linux Foundation in 2015. KBA mainly has two verticals: First is the Blockchain Powerhouse, focusing on capacity building programs in Blockchain technology including certification programs, R&D and consulting. Next is the Blockchain Garage, which focuses on collaborative solution development, IP generation and entrepreneurship promotion. KBA Blockchain Powerhouse is partnering with K-DISC for the Accelerated Blockchain Competency Development (ABCD) Program and has trained over 12000 professionals in the last 3 years. Blockchain Powerhouse currently has more than 1000 active online members through Special Interest Groups (SIG) in Ethereum and Hyperledger who works on various collaborative research/development initiatives of KBA. KBA is also a General Partner of R3 Consortium for Corda Blockchain and Official Education Partner of Zilliqa Blockchain Network. Kerala Blockchain Academy has established Kerala Blockchain Academy Innovation Club (KBAIC) in more than 50 member colleges to help students from academic institutions across the country to explore deep into the potential of Blockchain technology. KBAIC provides an opportunity to work closely with experts and experiment with the latest advancements in this domain. This will also help students to build their careers in the disruptive world of blockchain. Kerala Blockchain Academy currently offers eight instructor-led classroom/virtual certification programmes and five online self-paced programmes through which more than 12000 learners across 32 countries have been trained.

Advisory Board

1. Shri. Mahadavan Nambiar, IAS (Rtd.) - Chairman
2. Dr. C. Mohan : Distinguished Visiting Professor - Tsinghua University & Retired IBM Fellow of IBM Research
3. Dr. Jane Thomason : Blockchain for Social Impact Advisor
4. Dr. Chandrasekaran Pandurangan, Professor(Rtd.), IIT Madras
5. Adv. N. S. Nappinai: Advocate - Hon. Supreme Court of India & Founder - CyberSaathi
6. Dr. Dilip Krishnaswamy: VP (New Technology Initiatives) Reliance Jio Infocomm Ltd
7. Dr. Sushmita Ruj : Senior Research Scientist CSIRO Data61, Australia
8. Michael Chael Gord: Founder & CEO, MLG Blockchain Consulting & GDA Capital.

Summary of activities

- KBA has launched the updated e-learning platform <https://learn.kba.ai> for self-paced programs with 4 Free courses and 2 Paid developer courses.
- KBA had partnered with EDII to offer Certified Blockchain Start-up Program to nurture budding entrepreneurs in the blockchain field. Already conducted 2 batches in 2021.
- KBA became the Official Education Partner of Zilliqa Blockchain Network.
- Immunochain project got placed among the three innovative 'emerging technology E-health projects' for Digital Health Mission, included as part of the 100-Day program by the Government of Kerala. An announcement was made by the Hon'ble Chief Minister of Kerala Shri. Pinarayi Vijayan on November 22. The project was funded by Bill & Melinda Gates Foundation and supported by the Biotechnology Industry Research Assistance Council (BIRAC), Department of Biotechnology, Government of India.
- Immunochain project successfully completed Phase 1 and is actively under consideration for Phase 2 along with ICMR.

- Launched Sign-A-Doc. A Blockchain application developed by the Kerala Blockchain Academy envisioning easy signing, verification, and better security of the document. <https://kba.ai/sign-a-doc/>
- Organized the NFT Malayai Community online meetup on September 27 to support digital artists and NFT creators from Kerala
- Organized Fourth edition of Annual Blockchain Summit, BlockHash LIVE 2021 in virtual mode on December 29.
- Kerala Blockchain Academy was the Education Partner of DigitalBits Project Startup Competition. This is a 3-month long hackathon (August - November 2021) that helps to jumpstart projects contributing to and building consumer-friendly applications on the DigitalBits Network.
- KBA was the community partner for TDeFi Business Hackathon at Future Blockchain Summit organized as part of Gitex Technology Week, Dubai 17-21 October 2021.

Students enrolled:

CLASSROOM/INSTRUCTOR-LED VIRTUAL PROGRAMS	
Program Name	Enrolment Count
Certified Blockchain Associate Program	530
Certified Blockchain Business Professional	11
Certified Corda Developer Program	12
Certified Blockchain Start-up Program	59
Certified Hyperledger Developer- Sawtooth	141
Certified Hyperledger Developer- Fabric	41
Certified Ethereum Developer	163
Certified Blockchain Architect Program	84
Total	1041

ONLINE SELF-PACED PROGRAMS	
Program Name	Enrolment Count
Blockchain Foundation Program	6129
Ethereum Fundamentals Program	1421
Hyperledger Fabric Fundamentals	131
Certified Blockchain Associate Program	4862
Certified Corda Developer Program	467
Certified Hyperledger Developer- Fabric	332
Corda Fundamentals Program	34
Total	13376

FY 2020-21 Enrolment Count for CLASSROOM/INSTRUCTOR-LED VIRTUAL PROGRAMS	
Program Name	Enrolment Count
Certified Blockchain Associate Program	76

Certified Blockchain Start-up Program	59
Certified Hyperledger Developer- Fabric	21
Certified Ethereum Developer	26
Certified Blockchain Architect Program	03
Total	185

FY 2020-21 Enrolment Count for ONLINE/SELF-PACED PROGRAMS	
Program Name	Enrolment Count
Certified Blockchain Associate Program	2714
Certified Corda Developer Program	265
Certified Hyperledger Developer- Fabric	209
Total	3188

2. Centre for Product Development and Digital Innovation (CPDDI)

Centre for Digital Innovation and Product Development is an Independent Centre of Excellence (ICOE) established by Digital University to promote research, innovation, development, extension in the areas of Digital Solutions and Technologies. The fast pace of technological advances in recent times mandates the students to be industry-ready by acquiring broader skills while graduating from the institutes of higher education. In line with the above, the Centre will act as a platform to enable students to implement their novel and creative ideas originating from fundamental concepts learned in the classroom and to perpetuate the hands-on knowledge gained in the academic/research into a new digital solution/product or a novel process that will have a social impact by leveraging exhaustive technology. During the last 2 decades, IIITMK was involved in several digital transformation related projects and now DUK has been enhancing these development and implementation process in a larger scale with many stakeholders. Many of these projects have potential to be developed into products/solutions which could be deployed in other parts of the country and beyond. The center is focused on the design and development of digital solutions and Applications using the technology like Artificial Intelligence, Machine Learning, Deep Learning, Data Analytics, NLP and Data Sciences for

innovative process and product development. The centre will also drive the innovation activities of the University including the tinkering lab/Thingbator.

Objectives of the Centre:

- To encourage research scholars, students, and faculty members across schools and departments to come together and utilize the ideas, perspectives, and exclusive skills to solve problems beyond the scope of a single discipline
- To develop innovative digital technologies and solutions to promote digital transformation process and work closely with Government, Industry and Society
- To serve as a platform for faculty and students to engage in real- life problems and could help in recruiting Industry professional with relevant experience and qualifications.
- To provide internship and earn-while-you learn opportunities for the students of the University
- To serve as a major revenue stream for the University for tis developments
- To create an ambiance for interdisciplinary learning by loosening the complexities set by the conventional boundaries of department/school structure

Summary of activities

1. Developed and Launched Digital Workforce Management System (DWMS)
The “Digital Workforce Management System” (DWMS) is an AI enabled platform that connects job aspirants from Kerala with job providers around the world. The platform gives a unique opportunity for the job aspirants to fine-tune their career preferences and enrich their profiles to enhance their chances of getting a dream career by taking an AI-based Career Inclination Survey and Robotic Interview. The DWMS is architecture as the platform of

platform to integrate with many training, skilling and aggregator platforms. The system is developed for Kerala Knowledge Economy Mission, Govt. of Kerala

2. Conceptualized and designed a project RFID based Animal traceability and e-Health monitoring Project for Kerala. The Government has accorded the Administrative Sanction and the project was Funded by Department of Animal Husbandry, GOK. The project aims to develop a Digital Animal Health Record management, RFID based Animal traceability and e-Health Management and e-Veterinary services across the State in align with National Digital Livestock Mission, Govt of India. The technology development has been initiated.
3. Designed and Implemented an Online Service Delivery System for Department of Animal Husbandry. GOK for the Online facilitation of veterinary services
4. Development and implementation of CROPSS- Crop Pest Surveillance System- AI Based Mobile App for diagnosing the Pest and Diseases of Crops- Funded by Agriculture Department. The New Mobile App would cover 20 major crops and capable of diagnosing 260 symptoms of Pest and diseases
5. Designed a Project for the Development of Academic ERP system for Sree Narayana Guru Open University Kerala. The project is Sanctioned and development in initiated.
6. PLANSPLACE 2.0 – Design, development and implementation and Analytics based system for Plan Formulation, Plan implementation Monitoring and Analytics for State Planning Board, GOK. The Project UAT is in progress and will roll out during the next FY.
7. Project Management and Monitoring System for Rebuild Kerala Initiatives, GOK – Implementation in progress

8. Project Management and Monitoring System for Whole Industries Department, GOK- Implementation in progress
9. AI based Sematic Search Engine and Knowledge Discovery – Project Approved and Funded by VSSC, ISRO
10. Digital Transformation of Justices System in Kerala
11. Digital Transformation of Election System in Kerala

Ongoing Projects under CPID

1. GST Data Analytics and Forensic Project for GST, Govt of Kerala
2. KISSAN Kerala – ICT based multi-modal Agricultural Information System – Ongoing project funded by department of Agriculture

Consultancy Projects

1. ERP Functional requirement study for selected PSU in Kerala

University Internal System Development

1. Development and implementation of SMART ID card with digital payment wallet for DUK campus in collaboration with HDFC bank
2. Implementation of Fedena SAAS based Academic ERP system for DUK
3. Preparation of detailed d technical Specifications and RFP document for the Implementation DUK data center
4. Prepared detailed technical specification for the implementation of AR/VR studio and lab for DUK. The implementation is expected to start during this financial year

Financial position of Product Development Centre

	Amount in Lakhs
Closing Balance	323.94
New Projects Sanctioned	1497
AHD- RFID	720
AHD Online services	57.82
DWMS	350.46
SNOU	215
PLANSAPCE 2.0	114
VSSC Knowledge Discovery	40
Income from other sources including consultancy and other services(RIAB ERP Consultancy study)	25
TOTAL Fund	1845.94

Centre of Excellence (CoE) in Intelligent Internet of Things (IIoT) Sensors

The main objective of this project is to establish a Centre of Excellence (CoE) in Kochi, adjacent to Electronics incubator facilities of Maker Village by utilizing the complimentary sensor research, development and applications expertise at Centre for Materials for Electronics Technology (C-MET), Thrissur, and Digital University Kerala (formerly IITM-K), Trivandrum. The application domains of the CoE will be developed with the support of industry partners, including start-ups at Maker Village, as well as that in the Kerala Start-up Mission ecosystem.

1. To translate the research on sensors (temperature, humidity, pressure and acoustic) to commercially valuable products.
2. To create the state-of-the-art facilities for: (1) sensor manufacturing, (2) intelligent sensor system hardware and AI software development, and (3) comprehensive compliance testing.
3. To implement innovative products and solutions for the industry those are specifically tuned to cater the industry needs.

4. To provide a common facility to industries for prequalification of the electronic products for obtaining the certificate of conformity and compliance.
5. To provide business and mentorship support to Startup companies along with the facilities to realize an industry standard product solution with intelligent IoT sensors.
6. To promote innovation and entrepreneurship through design challenges, outreach programs and incubation grants.

These objectives translate to the following global goals:

1. Creating of common facilities that can be widely accessed by MSMEs and Startup companies
2. An incubation facility that nurtures new ideas and connects with investors
3. Building the capacity in intelligent IoT sensors through a variety of training programs
4. Providing an end-to-end product quality management service
5. Organize and conduct grand challenges to promote research and innovation in intelligent IoT sensors

Broadly, all these efforts accumulate towards the “Atmanirbhar Bharat” mission to be self-reliant and self-sufficient in the intelligent IoT sensor space.

Brief outline of the project with specific technology fall-outs

Currently, the Indian Electronics market is about \$120 billion, contributing 2.5% to GDP with exports in 2018-19 at about \$8.8 billion, generating direct and indirect employment to 13 million people. Globally, the Electronics System Design and Manufacturing continues to grow, with an estimated market size of \$2 trillion. The Internet of things (IoT) is one of the major drivers for this growth, with initiatives such as “Digital India”, “Smart City”, “Atmanirbhar Bharat” vision

raises the need for smarter IoT systems and sensors. In the next few years, possibly by 2025, the ESDM sector in India is expected to grow to \$130 billion. There is also a sustained growth of the domestic electronic components market, with about \$20 billion in 2019. However, presently the domestic manufacturing unit only contributes to 30% of the need, and the rest of it is imported.

The recent pandemic crisis led to severe crisis with a sudden break in the supply chain of electronic components. This resulted in delays in electronic product development and loss of businesses. Increasingly, the geo-political situations such as with China, has resulted in slowing down of the supply. All of these emphasize the need to become “Atmanirbhar Bharat” – to be able to develop indigenous products, which includes development of sensors, electronics hardware and related software. Further, the large resource pool of electronics engineers never even get an opportunity to be part of this less explored, but highly required initiative.

To make Indian sensor market self-reliant and globally appealing, we propose to establish this Center of Excellence (CoE) specifically targeted at intelligent Internet of Things sensors. Traditionally, the majority of the companies in India, used the sensors for data collection, with data transmission not having any in-built intelligent processing. However, with the advent of Industry 4.0, the use of intelligent sensors is on rise, with most sensors requiring self-correcting units, and intelligent data processing getting offloaded to the sensor nodes. This we believe is a fast-growing market with a large demand in Industry.

The proposed CoE will be strategically located in an ecosystem next to the Maker Village, in close proximity to the integrated startup complex. This is expected to provide cross-fertilization of ideas from the startups and the research community working in the areas of intelligent sensors and IoT.

Expected outcome in physical terms (as applicable)

- a. The infrastructure and central facilities required for sensor manufacturing, Printed Circuit Board (PCB) manufacturing and system integration, followed by testing for pre-compliance.

- b. The core testing lab facility that includes (1) Electromagnetic compatibility (EMC) pre-compliance for less than 26 GHz solutions, (2) Electrical, safety, Power, Signal Level Auto Test setups, (3) Environmental, Climatic, instrumentation, Vibration, Mechanical test Setup, (4) IoT system tests (including communication tests, 5G tests, Protocol tests, Modulation, Demodulation etc), (5) Accreditation and calibration support.
- c. The R&D and pilot plant facilities for temperature, pressure, humidity, acoustic sensors at C-MET
- d. The R&D manufacturing lab at Maker Village Annex at IIITM-K on multilayered PCB, system integration, and software testing.
- e. An incubator facility with at least 20 SMEs/Entrepreneurs. The start-ups focused in the area of IIoT Sensors will utilise 90% of the dedicated centre space at Kochi.
- f. Skill based program for training at least 500 Entrepreneurs and technicians
- g. Grand Challenge for 20 products targeted at intelligent IoT sensors, in the domain areas outlined by industry.
- h. Design, development and research consultancy to 100 SMEs
- i. Technology transfers of at least 20 commercialization ready products to industry.
- j. Annually generate at least four IPs, that has the potential to be commercialized
- k. Develop and propose a new BIS standard specifically for IIoT Sensor architecture and products

Admissions

MSc/ MTech Program

The selection to all MTech and MSc programmes of Digital University Kerala was conducted through a common admission process. Prospective students have to either (i) clear the Digital University Aptitude Test (DUAT) Or (ii) possess a valid GATE/NET score in a relevant discipline.

For the MSc programs, GATE score holders with a valid score in relevant disciplines as on 1st April 2021 were exempted from taking the entrance examination. Interested UGC-NET qualified candidates in relevant disciplines were also exempted from taking DUAT for admission to MSc programs.

For the MTech programs, preference was given to the GATE qualified candidates. The cut off for the DUAT score for shortlisting was decided by the individual Schools on yearly basis and can vary from one school to another. Their cut off for the GATE score for shortlisting was decided by the individual Schools on yearly basis

The short-listed students were interviewed and provisionally selected based on their cumulative performance in the interview and the qualifying test scores. The weightage for the qualification score and interview was defined by the individual Schools based on the needs of the programme. Separate rank lists was drawn up for reserved seats.

The short-listed students were provisionally selected based on their DUAT/GATE test scores.

PhD Program

The applicants were shortlisted based on the DRAT exam score or valid GATE score. Those who have qualified NET/JRF or any other national fellowship exams approved by UGC in relevant disciplines were exempted from the DRAT exam. Appropriate relaxations in cut-off were applicable for OBC/SC/ST candidates. Statement of purpose shall be additionally required to be submitted for industry regular and part-time applicants. Appropriate weightage was given

for work experience in the case of industry regular and part-time PhD applicants. The selection is based on the composite score prepared based on UGC guidelines and the criteria fixed by each school.

PGDeG Program

Entry-level requirement for the programme is a Bachelor's degree in any discipline with working knowledge of computer systems. Diploma / Certification in computer application will be an added advantage. Preference will be given to B.Tech / MBA / MCA degree holders.

Sponsored Government Officials – 15 seats (selection was done by the Kerala State IT Mission). Officials from Autonomous institutions, Boards, Corporations, Universities, Public Sector Undertakings etc. under the State of Kerala – 15 seats (selection will be done by Kerala State IT Mission). Open Category – 10 (Based on selection test and interview conducted by DUK)

Number of students admitted

Regular Students	196
PhD	22
MSc	130
MTech	26
PGDeG	18

Course Accreditations			
Sl. No	Title	Intake	Remarks
1	M. Tech. CSE with Specialization in Connected Systems and Intelligence	90	¹ AICTE Approved
2	M. Tech. CSE with Specialization in Cyber Security Engineering		AICTE approved
3	M. Tech. CSE with Specialization in AI		AICTE approved
4	M. Tech. Electronics Engineering with specialization in Cyber-Physical Systems and Signal Processing	60	AICTE approved
5	M. Tech. Electronics Engineering with specializations in AI Hardware		AICTE approved
6	M. Tech. Electronics Product Design and Technology with focus on Entrepreneurship and Product Innovations	45	To be offered on a flexible time format
7	MSc in Computer Science with specialization in Cyber Security	45	UGC approved
8	MSc in Computer Science with specialization in Machine intelligence	45	UGC approved
9	MSc in Computer Science with specialization in Data Analytics	60	UGC approved
10	MSc in Computer Science with specialization in Data Analytics-Flexible Mode	60	UGC approved
11	MSc in Computer Science with specialization in Geospatial Analytics	30	UGC approved
12	MSc.in Ecology with Specialisation in Ecological Informatics	30	UGC approved
13	M. Tech. in Computer Science with specialization in Data Analytics	45	To be offered
14	Ph. D Programmes		UGC approved

Events organized by the University

International Conference

Sl. No	Particulars	Venue	Dates
1	International Conference on Ecological Informatics (ICEI)	DUK	09 Nov 2021 to 13 Nov 2021.

International and National Summit

Sl. No	Particulars	Venue	Dates
1	DX21: Digital Transformation Summit	Hybrid Event	16-17 February, 2021
2	International Women's day @DUK, 2021	Hybrid Event	8 March 2021
3	NTD2021@DUK Women Leaders of Tomorrow	Virtual Platform, 460 participated	11 May 2021
4	Kerala Start up Summit 3.0	KSUM Cochin Hybrid mode	December 15-16, 2021

Short Term Courses/ Seminars/ Conferences

Sl. No	Particulars	Date & Venue	No of Participants	Fee income
1	Hands-on Training on Geospatial Technology to Soil Survey Department	20th September to 1st October 2021	40	
2	PLANSPLACE Technical officers from State Planning Board	October 2021, Online	60	Project training

3	CROPSS – AI based crop pest surveillance system – Agricultural officers from Department of Agriculture	November 2021 Online	130	Project based training
4	One-week short course on cyber security for 5th semester students of Govt. Women's Polytechnic College, Trivandrum	November, 2021	66	Under CSR of DUK

Workshops/ Talks

Sl. No.	Particulars	Venue	Dates
1	Introduction to Algorithm	Virtual	28 November 2020
2	Employment oriented training for students	Virtual	November 2020
3	Workshop on PyTeal	Virtual	11 December 2020
4	BlockHash LIVE 2020	On-line	11-12 December 2020
5	Innovation Project Leadership Program for core group members of One District One Idea Innovation clusters of Kerala Development Innovation and Strategic Council-	On-line	4-6 and 11-13 January 2021
6	Introduction to Cardano Blockchain	Virtual	27 February 2021
7	The Art of Blockchain For Woman: A Free 2-Day Workshop in Blockchain Technology	Virtual	8-9 March 2021
8	Soft skills and team building training for students	University Campus	3 -5 March
9	Online workshop on 3D-Printing	IIITM-K, Trivandrum	15 May, 2021

10	Blockchain in Banking Virtual Conference	Virtual	20 May 2021
11	Hyperledger Global Forum 2021 - Community Partner	Virtual	8-10 June 2021
12	On line program Environment Day	Virtual	5June, 2021
13	Webinar - TCS Digital through TCS iON Industry Honour Program (IHP)	Virtual	12 June, 2021
14	Online program International Yoga Day	Virtual	21 June, 2021
15	Session on the Future Trends in Software Testing by MrSamrat Sarkar, Head of Global Test Factory, Allianz Technology	Virtual	13thOctober Online
16	Session on Agile Software Development Methodologies by Roopa Nair, Delivery Manager, Tata Consultancy Services	Virtual	27 October 2021
17	Session on Oracle Cloud Infrastructure (OCI) and certification opportunities for students by Prakash Phule and N. Krishnamoorthy, Oracle India	Regular series talks	1 November 2021
18	Seminar on Storytelling for technologists: What ancients and heroes can teach InformationTechnology by Dr. Richard Manson, Head of Corporate Communications, Allianz Technology, Munich, Germany	Virtual	8 December 2021

19	Session DevOps by DrSalilla Pattnaik, Agile Coach, Tata Consultancy Services	Virtual	21 Dec 2021
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Other Publications

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- Sam, M.S., Radhakrishnan, T., ManojKumar, T K., AjithKumar, R., & Anil, P. V. (2021). Machine Learning Based Spatial Prediction of Soil

Properties/Nutrients using Dynamic Environmental Covariates.,
International Conference on Ecological Informatics (ICEI 2020+1).

Xu, T. & Thomas, S. S. (2021), Unpaired Video Summarization using COT-GAN,
CVPR Workshops.

Conference Papers

Anil Prasad V A., Radhakrishnan T., Manoj Kumar T.K ,Ajith Kumar R. ,&Sam
Mathew Saji. (2021). Spatial Prediction of Soil Properties/Nutrients of
Alappuzha District Using Hybrid Machine Learning Algorithms.
International Conference on Ecological Informatics (ICEI 2020+1).

Radhakrishnan, T., Manikantan, R. N., ManojKumar, T. K., & Satheesh,
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Patents

Ma, B., Firouzi, K., Khuri-Yakub, B. T., & Joseph, J. (2021). U.S. Patent No. 11,173,520. Washington, DC: U.S. Patent and Trademark Office.

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Malu G, E. Sherly. An Automated Lesion Detection System for Dce-MRI Images Using Circular Mesh Based Shape and Margin Descriptor: File No: 201741007686

Patent granted for the flush free toilet System developed by Prof. R. Jaishankar
Patent No. : 371860

AWARDS, HONOURS and DISTINCTIONS

1. "GIS based livestock Disease Modeling" funded by Department of Animal Husbandry, has been included in the 75 digital transformation stories by MeITY(<https://www.meity.gov.in/content/ebook-%E2%80%989875-digital-transformation-stories%E2%80%99-across-india>) – Prof. Radhakrishnan.
2. Coordinated the establishment of “Centre of Competence” at DUK by ESRI, Global GIS leader. (MoU signed on 10thDec 2021)– Prof. Radhakrishnan.

RECOGNITION TO THE UNIVERSITY

No.	Name of the outstanding contribution	Remarks
1	Dr. Alex James, Professor of Electronics listed among the top 2% scientist in Electrical and Electronics Engineering – worldwide	Among 34 scientists listed in this area from India.
2	Dr. Alex James Elevated as a Fellow of British Computer Society	For contributions in the areas of AI and imaging electronics
3	Dr. Alex James elevated as a Fellow of Institute of Engineering and Technology (IET)	For contributions in the areas of integrated circuits and educational leadership in electronics innovation
4	Dr. Alex James appointed as Associate Editor at IEEE Transactions on Circuits and Systems 1	Flagship and prestigious journal of the IEEE CASS
5	Dr. Alex James Invited to serve as the Guest Editor for the special issue on “50th birthday of Memristor”	The special issue showcases works of top scientist in the area of AI hardware specific to memristor circuits and system
6.	Award to the project led by Prof. Asharaf S Certichain - Blockchain Powered Academic Certificate Issuance and Verification	Listed by AGNli, Government of India as an Innovative Solution in 2020.
7	Dr. Jaishanker Nair won Faculty Award: IBM for INTElligent Green Revolution (INTEGER) (2020)	https://www.research.ibm.com/university/awards/university-awards-recipient.html
8	thingQbator ranked in the First place among the participating universities in INDIA for the selection of ideas for this year's cohort program.	Got the highest number of teams selected for the Cohort 4 program among the participating universities in the country
9	Prof. Saji Gopinath, Vice Chancellor nominated as expert member to the Start-up India National Seed Funding Scheme Expert Committee	Nominated by Department for Promotion of Industry and Internal Trade (DPIIT), Govt of India

Memorandum of Understanding

Sl. No.	MoU Partner/Industry	Subject/Details
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	Name	
1	Animal Husbandry, Government of Kerala	New Software development for SLBP Scheme of Animal Husbandry Department, Government of Kerala
2	State GST Department	Advancement in New Data Analytical/ Machine Learning technologies, analytics on Tax data to extract the right information about taxable transactions
3	ManjraSoft Pty Ltd.	To Establish broad collaboration in designing and conducting education programmes, R&D and intellectual property generation, and commercialization activities
4	KDISC	To Design, Develop and Implement Digital Workforce Management System of KDISC
5	RIAB, Dept. of Industries and Commerce Govt. of Kerala	Functional requirement study for the design and deployment of ERP Solution at selected 9 public sectors units under the Department of Industries and commerce which are monitored by RIAB
6	Sree Narayana Guru Open University	Conduction of Programmes: Certificate Course in Decentralization and local Self-Governance
7	The State Election Commission	To digitize election process- preparation of roll, delimitation of wards, polling stations, deployment of polling staff, and direct transfer of remunerations.
8	Semi-Conductor Laboratory Department of Space, Government Of India	Collaboration in Research & Development in the areas of Advanced VLSI Device Fabrication, MEMS Fabrication, (iii) VLSI Device/ MEMS Characterization, VLSI/ CMOS-RF Circuit Design and(v) VLSI Device Modelling. Also includes collaboration in setting-up and upkeep of the relevant infrastructure in both the institutions.
9	University of Kerala	Develop collaborative teaching, research, and development.
10	Rubber Research Institute of India (RRII), Rubber Board	Aims to Integrate Soil Nutrient Information and fertilizer recommendation of North

11	The Centre of Excellence (CoE), Centre for Materials for Electronics Technology (C-MET), Thrissur, and Digital University Kerala Trivandrum.	<ol style="list-style-type: none"> 1. To translate the research on sensors (temperature, humidity, pressure, and acoustic) to commercially valuable products. 2. To create state-of-the-art facilities for (1) sensor manufacturing, (2) intelligent sensor system hardware and AI software development, and (3) comprehensive compliance testing. 3. To implement innovative products and solutions for the industry that are specifically tuned to cater to the industry needs. 4. To provide a common facility to industries for prequalification of the electronic products for obtaining the certificate of conformity and compliance. 5. To provide business and mentorship support to Startup companies along with the facilities to realize an industry-standard product solution with intelligent IoT sensors. 6. To promote innovation and entrepreneurship through design challenges, outreach programs, and incubation grants
12	Novel Security Framework for Internet of Drones	Eastern States to RubSIS Web and Mobile Application.
13	CMET, Trichur	Establishing Centre of Excellence (CoE) in Intelligent Internet of Things (IIoT) Sensors (CoEIIoT)
14	Netrasemi Private Limited	Establish broad collaboration in designing and conducting education programs, research and development, and intellectual property generation and commercialization activities on the basis of equality and reciprocity and to promote relations and mutual understanding between both the organizations.
15	ESRI	<p>To establishing ESRI Centre of Competence in DUK</p> <ul style="list-style-type: none"> ● Establish a virtual 'Centre of Competence'

		<ul style="list-style-type: none"> ● Provide the 5000 licenses of the World's biggest GIS Software (ArcGIS) ● Launch and conduct capacity building programs in domains like AI/ML, Data science, other Geo enabled applications amongst. <ul style="list-style-type: none"> o Students, research scholars, faculties - Capsule programs & Skill development programs o External audience - Joint certification programs ● Conduct webinars on relevant areas of Geospatial technologies. ● Provide internship for eligible students
	Hydrography Wing, Department of Ports and Fisheries, Government of Kerala	To develop a web-based platform for efficient management of all Hydrographic Data in GIS platform encompassing communication, gathering and sharing of data. This will include a Web portal for data visualisation and analysis
16	NATIONAL PAYMENTS CORPORATION OF INDIA	For conducting a hands-on virtual training programme on Hyperledger Fabric for the Graduate Engineer Trainees of NPCI, from 12th October 2021 to 3rd Nov 2021- 18 days program
16	NDIMENSIONS SOLUTIONS PRIVATE LIMITED	For providing Blockchain Consultancy Services. Project objectives are to setup a Blockchain Network using Hyperledger network using Kubernities, Develop smart contracts for handling the log related information and to develop API for handling the request from ERP systems
17	ENTREPRENEURSHIP DEVELOPMENT INSTITUTE OF INDIA	The purpose of this MoU is to establish online collaborative training programs, Research and Development and intellectual property generation and commercialization activities under KBA initiative of DUK by and between DUK and EDII on the basis of equality and reciprocity and to promote

		relations and mutual understanding between both the organisations.
18	TRANSCOGNIT INFORMATICS INDIA PVT LTD	The purpose of this MoU is to express the willingness of both parties and to record in writing the understanding arrived at between the parties to engage in an effort to create, develop and test a software using varied technologies including but not limited to Blockchain Technology, and other ancillary technologies for facilitating the creation of CBDC-integrated middleware for tokenized Digital Asset Management.

Hostel facilities

- Own Hostel Building within Digital University Campus
- 100+ Rooms with occupancy to 200+ students in 6 floors
- Double occupancy rooms
- Bathroom block in each floor
- Male and Female Wardens
- 24 Hrs Male and Female security in Hostel
- Fire Protection system
- Sub Station and DG backup in Campus
- Redundant water supply
- Washing Machine in each floor
- Sewage Treatment Plant
- Modern Kitchen and Pantry
- Southern and Northern dishes served in Mess
- Spacious Mess hall
- Representatives of Students in Mess Committee
- Wi-Fi connectivity
- Gym & Sports Facilities

COVID Help Desk

A COVID war room was opened in DUK in view of surge in COVID 19 cases. The purpose of the war room was to extend timely support to the needy among staff and students. A Chief Coordinator assisted by a Coordinator managed the war room. Special team was formed to provide Ambulance Services, Hospital Services and support for patients. District coordinators and zonal coordinators were also engaged to cover the support to the entire state.

Coordinator assisted by a Coordinator managed the war room. Special team was formed to provide Ambulance Services, Hospital Services and support for patients. District coordinators and zonal coordinators were also engaged to cover the support to the entire state.



Inaugural function of Digital University Kerala



Governor Shri Arif Mohammed Khan inaugurates the Digital University via video conferencing



Digital University Kerala Campus



Prof. Saji Gopinath, Vice Chancellor, Digital University Kerala, hoisted the National Flag as part of the Republic Day celebrations held at the campus.



A highly inspiring and informative inaugural session of Toastmasters Club for students at Digital University Kerala was held on 11th Jan 2022



Sri. P Rajeev, Hon.Minister for Industries, launched the Project Management and Monitoring system developed by Digital University Kerala for Industries Department at a function held at Thiruvananthapuram. Prof. Saji Gopinath, Vice Chancellor Digital University, Sri M G Rajamanickam IAS Managing Director, Kerala State Industrial Development Corporation, Sri S Harikishore IAS, Director, Industries and Commerce, Sri V R Vinod IAS Director, Coir Development Department Govt.of Kerala, Sri P Padmakumar, Member Secretary, RIAB, Sri Santhosh Koshy Thomas, Managing Director, KINFRA and Prof Ajith Kumar, Digital University attended the event



Digital University Kerala and the Hydrography Wing, Department of Ports and Fisheries, Government of Kerala signed a MoU for designing and developing web GIS based portal for the management of Hydrographic Data.



Digital University Kerala (DUK) and University of Kerala (KU) signed a memorandum of understanding for collaboration in the areas of teaching, research, exchange programmes etc. MoU was signed by DUK registrar P Suresh Babu and KU registrar K S Anil Kumar in presence of Dr Saji Gopinath and Dr V P Mahadevan Pillai, vice chancellors of DUK and KU respectively.



Digital University Kerala and The Rubber Board, India signed a memorandum of understanding to develop a Comprehensive Rubber Information System for the rubber farmers in the country.

The project aims to conceptualise, design and implement Comprehensive Rubber Information System, which includes technology-assisted advisories on best practices on rubber growing, Agro-management practices, augmenting Geospatial Information, interactive assistance etc to the growers.

Dr Saji Gopinath, Vice Chancellor, DUK, and Dr K N Raghavan, Executive Director, Rubber Board, signed the MoU. Madhavan Nambiar, Chairman, IIITM-K, Dr Elizabeth Sherly, Dean (Academic), Dr S Asharaf, Dean (R&D), Radhakrishnan T, Assistant Professor and Coordinator (Geospatial Analytics) and M.D. Jessy, Director (Research) Rubber Board, attended.





Prof. Elizabeth Sherly, Dean Academics, Digital University Kerala, hoisted the National Flag as part of the Independence Day celebrations held at the campus.



Dr K M Abraham Inaugurating International Summit DX21@DUK



International Women's Day celebrations



Dr Chitra IAS addressing the students on International Women's day.



Prof Elizabeth Sherly addressing the students on Fresher's day



Onam celebration 2021



