

## Ongoing MoUs

**signed by NIT Calicut with other Institutions/Industries/R&D Organizations**

	<b>Departments/ Schools/ Centres of NITC involved in the MoU</b>	<b>Name (s) of the Institute with which MoU was signed</b>	<b>Date of Signing</b>	<b>Brief Scope of the MoU  (In less than 250 words)</b>	<b>Academic/Research activities already initiated as per the MoU  (In bullet points)</b>
11	All Depts./ Schools/ Centres	<b>Govt. Medical College, Kozhikode</b>	<b>27<sup>th</sup> April 2022</b>	Areas of collaborative research include Biomedical Image processing, Telemedicine, Artificial Intelligence, Bioinformatics, Robotics, 3D printing, Nano medicine, Implants, Prosthetic devices, Ergonomic system design, etc. These collaborative research works aim to build sophisticated treatment facilities that are extremely beneficial to the	# Development of Bio Medical Device for the primary screening of cervical cancer  # Screening of Adenomatous Polyps from colonoscopy images

				patients, as well as, strengthen the biomedical research to facilitate improved diagnosis of critical illnesses. Additionally, workshops and other related joint ventures are being planned, taking advantage of the latest technology breakthroughs and scientific knowledge of the multidisciplinary research laboratory operating under the guidance of I.C.M.R.	# Application of AI into Cystoscopic images for the early detection of bladder cancer  (Dr Jayaraj P.B, Dr Pournami, CSED)
10	All Depts./ Schools/ Centres	<b>Dr. Moopen's Medical College Wayanad</b>	<b>16 May 2022</b>	Scope of MoU include, facility to offer collaborative electives, opportunity for Internship for UG and PG students, facility to carry out UG and PG projects, Facility to do external PhD, and Joint PhD guidance and Joint research projects, etc, Aim to support in the development of biomedical products and evaluating their characteristics by sharing in vivo	

				<p>testing facilities and expertise in the identified area for research collaboration.</p> <p>The MoU also proposes sharing of Research Facilities &amp; Resources, jointly organise/conduct national/international symposium / conference/ workshop / training programmes. It also proposes to mutually host training programs / technical training sessions for project staff, students and faculty in specific areas requiring experimental and technical expertise.</p>	
9	All Depts/ Schools/ Centres	<b>MVR Cancer Centre &amp; Research Institute, Kozhikode</b>	<b>17<sup>th</sup> May 2022</b>	<p>Scope of MoU include, facility to offer collaborative electives, opportunity for Internship for UG and PG students, facility to carry out UG and PG projects, Facility to do external PhD, and Joint PhD guidance and Joint research</p>	<p>## Collaborative research project funded by HEFA-CSR. Development of Mammogram data for 1000</p>

			<p>projects, etc, Support in the development of biomedical products and evaluating their characteristics by sharing in vivo testing facilities and expertise in the identified area for research collaboration are also envisaged. The MoU also proposes sharing of Research Facilities &amp; Resources, jointly organise/conduct national/international symposium / conference/ workshop / training programmes. It also proposes to mutually host training programs / technical training sessions for project staff, students and faculty in specific areas requiring experimental and technical expertise.</p>	<p>people, with or without lesions and annotating lesions regions by clinical experts if any.</p> <p>#Development of microscopic histopathology image data for the same set of 1000 people.</p> <p>#Design and development of classification algorithms on available open source small data sets.</p>
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					<p>(Dr Praveen Sankaran, ECED)</p> <p># ThoraxNet: a 3D U-Net based two-stage framework for OAR segmentation on thoracic CT images</p> <p># Computed tomography image generation from magnetic resonance imaging using Wasserstein metric for MR-only radiation therapy</p>
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					<p>(Dr Jayaraj P B, Dr Pounamai, CSED)</p> <p># ARGOS: ARTificial intelligence for Gross tumor vOlume Segmentation (Dr. Abdul Nazeer K A, Dr. Jayaraj P B, CSED, NITC &amp; MVRCCRI. Maastricht Unive rsity, Netherlands is coordinating this work)</p> <p>#Collaborative research proposal with</p>
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					<p>ICMR got approved (Dr Cecil Antony SoBT and MVR)</p> <p>#Educational/orie ntation tour for semester 8 Biotechnology students to MVR Cancer Centre (research facilities, cancer care) to augment cancer biology elective course learning (Dr Suresh PS, SoBT and MVR)</p> <p>#Summer internship - students from</p>
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					SoBT to MVRCCRI
8	Centre for Industry Institutional Relations, Centre for International Relations and Foreign Languages and Department of Electrical	<b>M/S Tata Elxsi Ltd (TE)</b>	<b>24<sup>th</sup> May 2022</b>	<p>The main objective of this MoU is to provide a platform to build a strong and mutually fruitful relationship between TE and NITC. The primary goals are:</p> <p>To develop and foster strategic linkages with <i>NITC</i> and the departments at TE and explore creation of a Centre of Excellence in the domain of Electric Transportation and embedded software.</p> <p>To assist the students and enhance their knowledge about the latest technologies in which</p>	Helped in placements of 30 UG and PG students through campus placements



	I Enginee ring  SPOC- Dr Nikhil Sasidha ran, ,EED			TE is involved.  To understand the needs and expectations of both the institute and the organization and to identify the measures required to meet requirement therein.	
7	All Depts.	<b>MiZone Incubator &amp; Accelerator , Kannur, and Startup</b>	<b>24<sup>th</sup> May 2022</b>	The MoU between NITC and MiZone envisages to create an ecosystem to encourage entrepreneurs of the region. The two organizations will work together pooling their resources from each of them to support the entrepreneurs and student innovators. It was agreed up on to start joint training programmes and curriculum promoting innovative thinking.	

				<p>The MoU aims at joint researches also, aiming to design and develop joint scientific and technological research projects, especially in the areas like Data Science, Machine Learning, Artificial Intelligence, Nano Technology, Bio Technology etc. and to facilitate proper fund flow. The MoU is effective for five years and is expected to support the entrepreneurs of the region especially the student innovators and the grass root innovators.</p>	
6	SoBT (SPOC- Dr Suresh P S, SoBT)	<b>Kasturba Medical College, Mangalore</b>	<b>15th June, 2022</b>	<p>MoU aims to do joint research projects in general and will collaborate in carrying out the specific research activities approved, share the respective important R &amp; D facilities in order to carry out this research project, MoU also help in sharing facilities required to carry out the research projects.</p>	

	ECED	<b>PhyTunes Inc, Mountainview, USA</b>	<b>31<sup>st</sup> Dec. 2021</b>	<p>Broadly in the area of enhanced delivery of advanced wireless networks like 5G and Wi-Fi 6G using wireline links, specifically covering:</p> <ul style="list-style-type: none"> <li>● Design, analysis and implementation of CSL technology.</li> <li>● Creation of Intellectual property related to the design. Work with the legal team and file the provisional IDF related to any ideas/design related to the CSL.</li> <li>● Create simulation models and provide the optimal design parameters needed for working of the CSL proof of concept.</li> <li>● Contribute to the prototype design, implementation and validation of the design.</li> <li>● Work towards PhyTunes company vision and evaluate the</li> </ul>	<ul style="list-style-type: none"> <li>● Design, analysis and implementation of CSL technology.</li> <li>● Creation of Intellectual property related to the design. Work with the legal team and file the provisional IDF related to any ideas/design related to the CSL.</li> <li>● Create simulation models and provide the optimal design parameters needed for</li> </ul>
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				<p>CSL technology use cases like 5G Indoor, IIoT etc</p> <ul style="list-style-type: none"> <li>● Publish white papers related to the technology.</li> </ul>	<p>working of the CSL proof of concept.</p> <ul style="list-style-type: none"> <li>● Contribute to the prototype design, implementation and validation of the design.</li> <li>● Work towards PhyTunes company vision and evaluate the CSL technology use cases like 5G Indoor, IIoT etc</li> <li>● Publish white papers related to the technology."</li> </ul>
5	ECED	<b>Oxford Brookes University, UK</b>	<b>28<sup>th</sup> April, 2022</b>	As part of the British Council Going Global Exploratory grant to develop courses of international standards and	- Proposed a course on "Foundations of Data Analytics"

				exploring the possibility of a joint Masters course	which has been approved by Oxford Brookes and NITC BoAC. - Developing content for the course including lecture materials, lab materials and, if possible, video lectures. - Exploring the possibility of a joint Masters programme.
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4	ECED	<b>PHYTEC Embedded Pvt. Ltd., Bangalore</b>	<b>7<sup>th</sup> March 2022</b>	Collaboration on academic & research activity, Student Internship, skill development in the field of embedded system, Electronics System Design	a) Industrial Training & Visits: Industry-Institute Interaction will give an insight into the latest developments/re requirements of the industries. The industrial training and exposure provided to students of the First Party through this association will build confidence and prepare the students to have a smooth transition from academic to working career.
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					<p>b) Research and Development: carry out joint research activities, joint guidance of student projects/thesis in the fields of Electronics and Communication Engineering, and other areas of national interest on mutually agreeable terms. The source of funds for execution shall be jointly explored from the Government of</p>
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					<p>India, State Government, Corporates, Industries, and International Funding Agencies.</p> <p>c) Skill Development Programs: train the students on the emerging technologies to bridge the skill gap and make them industry-ready. The selection of candidates for the skill development programs shall be through the</p>
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					<p>training &amp; placement cell of the institute.</p> <p>d) Guest Lectures: The industry may extend the necessary support to deliver guest lectures, organizing joint conferences, faculty development programs, and seminars to the students and faculty of the institute on the technology trends and in-house requirements as</p>
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					<p>per the norms of institute.</p> <p>e) Placement of Trained Students: The Phytech will actively engage to help the delivery of the training and placement of students of the institute into internships/jobs; and will facilitate industrial training for students o through the training &amp; placement cell.</p> <p>f)</p>
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					<p>Sharing of Facilities: The First party and the Second party shall provide access to their facilities (which are permissible under NDA norms) such as Laboratories, Library, Software, etc. to promote academic and research interaction in the areas of cooperation on the project to project basis.</p>
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3	ECED	<b>MVR Cancer Centre and Research Institute</b>	<b>12<sup>th</sup> Sept., 2021</b>	Development of Mammogram data for 1000 people with or without lesions and annotating lesion region if any by experts. Development of microscopic histopathology image data for the same set of 1000 people Design and development of classification algorithms for benchmarking the data and verification by clinical experts Correlation study of BIRADS rating across Mammograms and histopathology data	Development of Mammogram data for 1000 people with or without lesions and annotating lesion region if any by experts. Development of microscopic histopathology image data for the same set of 1000 people Design and development of classification algorithms on available open source small data set
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2	ECED	<b>SCTIMST, Trivandrum</b>	<b>22<sup>nd</sup> June 2020</b>	Collaborative research in the field of MRI; SCTIMST will provide MR data and support to researchers from NITC and NITC will develop systems for the data analysis; Faculty and researchers from NITC can visit SCTIMST and vice versa	<ul style="list-style-type: none"> <li>● Real MRI and DTI data collected from SCTIMST for validating the methods developed in NITC</li> <li>● received expert opinion from SCTIMST on a research work</li> <li>● Published an Elsevier journal in collaboration with SCTIMST</li> <li>● Completed the SERB SRG project work by validating the method using the real data from SCTIMST</li> </ul>
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1	NITC	<b>Norwegian University of Science and Technology, Norway, NTNU</b>	<b>10<sup>th</sup> Dec. 2021</b>	The purpose of this Memorandum of Understanding (MOU) between Faculty of Information Technology and Electrical Engineering of Norwegian University of Science and Technology (NTNU) and National Institute of Technology Calicut (NITC)	i) Exchange of academic and research staff Both Parties shall make reasonable efforts to facilitate visits of their academic or research staff to the other Party's campus for periods of time for fundamental research and teaching in accordance with the objectives of this agreement. The details of institutional and individual responsibilities involved in such
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					<p>researcher or faculty exchanges shall be set forth in writing and agreed upon by both Parties before a particular visit is initiated.</p> <p>ii) Exchange of students</p> <p>Both Parties shall make reasonable efforts to support development of an exchange of students.</p> <p>Exchange students shall be subject to the admissions</p>
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					<p>criteria and requirements of the host institution. The details of institutional and student rights and responsibilities for such exchanges shall be set forth in writing and agreed upon by both Parties before any exchange is initiated.</p> <p>iii) Special Projects Both Parties shall make reasonable efforts to collaborate from</p>
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					<p>time to time in the development of special projects aimed at furthering their academic objectives. The details of institutional and individual responsibilities necessary for accomplishment of these special projects shall be set forth in writing and agreed upon by both Parties before a particular project is initiated or commenced.</p>
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