

PROFILE

1	Name of Faculty	Meenakshy K		
2	Designation	Principal		
3	Department	Electrical & Electronics Engineering		
4	Contact No.	0484 2402490		
5	Email	meenakshymoorthy@gmail.com meenakshy@gectcr.ac.in		
6	Academic Qualifications			
	Degree	Year	Branch/Area of Specialization	Institution
	B Tech	1990	Electrical & Electronics	College of Engineering, Trivandrum
	M Tech	1995	Power System	College of Engineering, Trivandrum
	Ph D	2011	Image Processing	Cochin University of Science & Technology, Kochi
7	Professional Experience			
	Period Served	Name of institution		Designation
	1996 - 1999	Department of Instrumentation, CUSAT		Lecturer(Contract)
	1999 - 2000	SOE, CUSAT		Lecturer (Adhoc)
	2000 – 2016	Govt. Engineering College, Thrissur		Assistant Professor
	2016- June 2019	Govt. Engineering College, Kozhikode		Associate Professor
	June 2019 – Jun2022	Govt. Engineering College, Thrissur		Professor
	July 2022- 02 May 2023	Government Engineering College, Palakkad		Professor and Head
	06 May 2023- 02 June 2023	Government Engineering College, Wayanad		Principal
	03 June 2023- Till date	Government Engineering College, Palakkad		Principal
8	Publications			

	Journal	Nos. 17
	International Conference	Nos.14
	National Conference	Nos. 5
10	Membership in professional Bodies	ISTE Life member IEEE Senior Member
11	No. of PhD Scholars guiding /awarded	Awarded-5, Guiding -4
12	Field of interest	Image Processing, Biomedical Applications, Embedded System Design

13	Additional Responsibilities	<ol style="list-style-type: none"> 1. Faculty Advisor – 2001 pass out 2. Faculty Advisor- 2004-2008 batch 3. Faculty Advisor 2010-2014 batch 4. Faculty in Charge- Resonance 2010 5. IE Accreditation Coordinator -2011 6. TEQIP Phase I – Involved in IDP -2012 7. Faculty in charge - KITES 2013 8. IEEE Student Branch Counsellor- GEC Thrissur 2012-2016 9. IEEE Student Branch Counsellor- GEC Kozhikode 2016-2019 10. E Journals – Faculty in charge 2016-2019 11. CCF charge 2017 12. NPTEL SPOC -2017to 2019 13. Women Cell Coordinator – 2014 to 2016 14. Dean Research, 2021 to 2022 15. QIP Coordinator 2021 to 2022 16. Chairman of Biomedical Engineering Branch of Calicut University from 2012 onwards 17. Ladies Hostel Warden - 2018 to 2019 18. IQAC Department Coordinator- 2020,2021 19. Nominated member, Faculty of Engineering, Calicut University, from 2021. 20. Vice Chair WIE, IEEE Kerala Section 2019,2020 21. Chair WIE, IEEE Kerala Section 2021,2022 22. BTech Project Coordinator – 2020,2021 23. Chairman – End Semester External Lab Exam (S5) 2022 24. Vice Chair, Kochi Subsection-2023 25. IEEE Kerala Section Execom Member- 2024 26. Reviewer/ Chairing Sessions - Conferences
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14	Awards/Recognition	<p>1. Outstanding Branch Counselor award IEEE Kerala Section for the year 2013.</p> <p>2. Active SPOC for NPTEL-SWAYAM for July- October 2018 Semester</p> <p>3. Active SPOC for NPTEL-SWAYAM for Jan-April 2019 Semester</p> <p>4. Organising Secretary – Best Professional event of the year of IEEE Kerala Section for 2022 - IEEE WIEILS 2022</p> <p>5- Award for outstanding volunteering and taking IEEE Kerala Section to greater heights in 2022</p> <p>6 Outstanding WIE Volunteer of Kerala Section award for the year 2023</p>
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LIST OF STTP'S ATTENDED (from 2012 onwards)

Course Name	Conducted by	Sponsoring Agency	Period		Duration
			From	To	
Computer Analysis of Power System	Dept of EEE, GEC, Thrissur	FSTDC	25.06.18	29.06.18	5 days
Faculty Development Program for Student Induction	RSET, Kochi	AICTE	08.06.18	10.06.18	3 days
Research Proposals and patents	Dept. of CE, GEC, Thrissur	FSTDC	27.11.17	1.12.17	5 days

Holistic Approaches for Leadership Empowerment	Dept. of CE, GEC, Thrissur	FSTDC	17.07.17	21.07.17	5 days
Open Source Tools for Computing	Dept. of CSE, GEC, Thrissur	FSTDC	11.07.16	15.07.16	5 days
Hands on Training on System Design using NI Labview	Dept. of EEE, GEC, Thrissur	FSTDC	29.02.16	04.03.16	5 days
Wind Emulator	Dept. of EEE, GEC, Thrissur	IIC	03.02.16	05.02.16	3 days
Statistical Techniques and its application in Engineering Research	Dept of Economics, GEC, Thrissur	TEQIP Phase II	16.03.15	20.03.15	5 days
Advanced MS Excel For Engineers	GEC, Thrissur	ISTE	24/06/14	27/06/14	4 days

Hands on Training for FPGA Based Embedded System	GEC, Thrissur	QIP	17/03/14	21/03/14	5 days
Open Source Software for Engineers	GEC, Thrissur	TEQIP -II	17/02/14	19/02/14	3 days
Applications of Power Electronics	GEC Thrissur	TEQIP-II	07/10/13	11/10/13	5 days
Mathematical Modelling and Analysis of systems	GEC, Thrissur	TEQIP-II	10/06/13	15/06/13	6 days
Embedded System Design for Power Measurements	ESIC, Hyderabad	TEQIP-II	13/02/13	15/02/13	3 days
Academic Leadership	IIM Kozhikode	TEQIP	17/01/13	19/01/13	3 days

Embedded system design using Microcontroller and FPGA	GEC, Thrissur	DTE	06/08/12	11/08/12	6 days
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LIST OF STTP'S COORDINATED (2012 onwards)

Sl No	Name of Course	Period	No. of days	Name of institution
1	Mathematical Modelling and Analysis of systems	10.06.13 to 15.06.13	6 days	Govt. Engineering College, Thrissur
2	Hands on Training on System Design using NI Labview	29.02.16 to 04.03.16	5 days	Govt. Engineering College, Thrissur

LIST OF CONFERENCE ORGANISED

Sl No	Name of Course	Period	No. of days	Name of Institution
1	3rd International Conference on Materials for the Future – Innovative Materials, Processes, Products and Applications – 'ICMF 2013'	06.11.13 to 08.11.13	3 days	Government Engineering College, Thrissur

2	IEEE International Conference on Power Instrumentation Control and Computing –PICC 2015	09.12.2015-11.12.2015	3 days	Government Engineering College, Thrissur
3	National Conference on Emerging Trends in Technology – NET 2016	07.10.16-08.10.16	2 days	Government Engineering College, Kozhikode
4	IEEE WIE International Leadership Summit WIE ILS 2022	29, 30 July 2022	2 days	Hotel Uday Samudra, Trivandrum
5	9th IEEE WIECon-ECE-International WIE Conference on Electrical and Computer Engineering 2023	25,26 Nov 2023	2 days	SCT College of Engineering, Trivandrum

LIST OF STUDENT PROJECTS/STUDENT RESEARCH PROJECTS

Ph D Projects Guided

SI No	Name of Project/research work	Period	Brief Description	Name of Student
1	Fusion Based Automatic Segmentation of Brain Tumour from MRI Images	2014-2019	Segmentation of brain tumor from MRI carried using using HAC based classifier. MSPTF based features are used. A refinement is also carried out to improve the segmentation result	Maya UC

2	Impact of long-term physical training on cardiac control of autonomic nervous system and stress-recovery characteristics using physiological signals - Focus on women police recruits of Kerala	2015-2019	The study was carried out using objective measures of Heart Rate Variability(HRV), Heart Rate Recovery (HRR), Electro Dermal Activity (EDA) and subjective questionnaires.	Remya George
3	An Automated Algorithm To Extract Features From Retinal Fundus Images To Detect Diabetic Retinopathy And Assess Its Severity Using Deep Learning	2014-2020	An algorithm is developed to detect the presence of diabetic retinopathy and its severity level automatically from fundus images. This effort will assist in the early diagnosis and treatment of diabetic retinopathy.	Anilkumar K R

4(Co guided)	Management of Phase Unbalance in Low Voltage Distribution Network (LVDN) with Distributed Generators and Diverse Load.		The research work considers the high neutral current contributed by the zero-sequence components of phase unbalance and harmonics as one of the main challenges in LVDN and suggests sustainable solution	Jayakumar P
5(Co Guided)	Power Management of Hybrid Energy System using Adaptive Neuro-Fuzzy Inference System		work proposes a rule based charge controller based on ANFIS for the battery of a standalone photovoltaic system. ANFIS predicts the maximum power that can be produced by the PV system and the panel voltage at which maximum power can be tracked from the PV panel.	Needhu Varghese

M Tech Projects guided

Sl No	Name of Project/research work	Period	Name of Student
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1	Modelling of Wind Turbine System and its Grid Performance Analysis	2010-2011	Vivek Mohan
2	Sensored and Sensorless Control (Using Back EMF Zero Crossing Detection) for brushless DC Motor	2011-2012	Preetha Philip
3	Power Quality Improvement of new seven level inverter with less number of switches using intelligent systems	2012-2013	Priya S P
4	Maximum Power Point tracking using different Intelligent Systems	2012-2013	Harisha D.K
5	Stability Enhancement of Wind power integrated system using PID controlled SVC and power system stabiliser	2013-2014	Nayana K S
6	Modelling of Hybrid AC/DC Micro grid linked to electric vehicle charging station using battery energy storage systems	2014-2015	Syam V S
7	Power System Stability Improvement wind farm fed to Multi machine system using STATCOM	2014-2015	SreejilRaju
8	Analysis of power injection into the grid using a DFIG based wind energy conversion system	2015-2016	Santosh Raj
9	Sensorless control of BLDC motor	2016-2017	Chandini K P
10	EEG controlled robotic arm	2017-2018	Anaswara P
11	Enhancement of Power Quality by using Trans ZSI DVR in Grid Connected PV System	2019-2020	Sariga Kunnath
12	Analysis of Small signal stability of AC MTDC Power System	2019-2020	Nabeel Aslam MT

13	Power Quality Control of the grid fed solar PV system using Infinite Impulse response filter	2021-2022	Haripriya C
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B Tech Projects guided

Sl No	Name of Project/research work	Period	Name of Student
1	Power Quality Classification using Discrete Wavelet transform	2012	Rakesh Krishnan Rakesh R Prabhu Rakesh Viswanadhan Ranjith R Rejith Jose
2	Fuzzy logic based relaying for power transformer protection	2013	Jiyad K Joe Joy Joseph Babu Keerthana Kennedy
3	Power generation from Speed Breaker	2015	Lalu K B Deepak K T Anoop K A Midhun T M
4	Campus Management system	2017	Athira Sahadevan Cliffiya Rose maria Deepti D S Drisyia K

5	Women Safety Night Patrolling Robot	2019	Athira Mohan DeeptiAloysias Sajna T FuadIbraham
6	Solar Powered Reverse Osmosis for Desalination of Water	2020	Amal Babu Arsha Ashwindas P Jishnu PS
7	Analysis and control of capacitive coupled grid connected Inverter	2021	Reshma Rajesh Reshma Rangan Sandrakrishna K.J Sreya Venu
8	EEG controlled smart prosthetic arm	2022	Fathima Shirin A S Afeef T K Irshada P
9	Photovoltaic based Water Pumping System using Brushless DC Motor	2023	Alana N Anees Mohammed Kiran K S Seethalakshmy

Publications

National Conference

1. **K. Meenakshy and R. Gopikakumari**, “Feasibility study for categorizing renal stones,” *In*. Proceedings of the National Conference on Recent Innovations in Technology (NCRIT), RIT ,Kottayam, pp.1-4, March 2009.
2. **K. Meenakshy and R. Gopikakumari**, “Study on renal stones using grey level statistical texture features,” *In*. Proceedings of the Third National Conference on Intelligent and Efficient Electrical Systems, PSG College of Engineering, Coimbatore pp. 83-86, Aug. 2009.
3. **K. Meenakshy, R.C. Roy, V. Bhadrans and R. Gopikakumari**, “Feasibility of texture analysis using 2-D MRT,” *In*. Proceedings of National Conference on Power Instrumentation Computing and Control (PICC 2010), Government Engineering College, Thrissur, March 2010.
4. **Preetha Philip, Dr Meenakshy K**, “Modelling of Brushless DC Motor Drive Using Rotor Position Detection Algorithm,” *In* proceedings of National Conference on Advances in Manufacturing, Systems and Processes, NAIMSAP 2012, Government Engineering College, Thrissur, pp. 374-377, 5-7 September 2012.
5. **Manju B, Dr Meenakshy K, Dr. R. Gopikakumari** “Optimum Selection of 8x8 UMRT based Texture Descriptors using Genetic Algorithm,” *In* proceedings of National Conference on Recent Trends in Electrical and Electronics Engineering, NCRTEEE 2013, Jerusalem College of Engineering, Chennai, May 2013, pp 111-114.

International Conference

1. **K. Meenakshy, R.C. Roy, V. Bhadrans and R. Gopikakumari**, “2-D MRT features for texture classification,” *In*. Proceedings of Second International Conference on Computing, Communication and Networking (ICCCN 2010) , Chettinad College of Engineering, Karur. 29-31 July 2010

2. **S.P. Priya and Dr.K. Meenakshy** “Power Quality Improvement of a Seven Level Inverter with Less Number of Switches using Intelligent System “ In proceedings of ICMF 2013, Government Engineering College, Thrissur, 6-8 November 2013,pp 405
3. **D.K. Harisha and Dr.K. Meenakshy**“Maximum Power Point Tracking for Solar PV using Intelligent Systems”,In Proceedings of ICMF 2013, Government Engineering College, Thrissur, 6-8 November 2013,pp 470.
4. **Manju B, Meenakshy K, Gopikakumari**, Prostate Disease Diagnosis from CT images using GA optimized SMRT based Texture Features, (International Conference on Information and Communication Technologies (ICICT 2014),CUSAT, 3- 5, Dec 2014, pp 1692- 1699) Elsevier Procedia Computer Science 46 (2015) pp 1692 – 1699
5. **SreejilRaju, Meenakshy K**, Power System Stability Improvement of Wind Farm Fed to a Multi Machine System by using STATCOM, International conference on Power, Instrumentation, Control and Computing (PICC), 9-11 Dec 2015, Thrissur, India, pp 1-7. Print ISBN 978-1-4673-8071-3.
6. **Maya UC, Meenakshy K**, Unified Model based Classification with FCM for Brain Tumor Segmentation, International conference on Power, Instrumentation, Control and Computing (PICC), 9-11 Dec 2015, Thrissur, India, pp 1-7. Print ISBN 978-1-4673-8071-3
7. **Shweta C, Meenakshy K**, Combined NLM Weiner Filter based Denoising, International conference on Power, Instrumentation, Control and Computing (PICC), 9-11 Dec 2015, Thrissur, India, pp 1-7. Print ISBN 978-1-4673-8071-3
8. **R. George and K. Meenakshy**, "Stress-recovery correlates of cardiac vagal modulation in women recruit undergoing basic combat police training," *2016 IEEE Annual India Conference (INDICON)*, Bangalore, 2016, pp. 1-5. doi: 10.1109/INDICON.2016.7838986

9. **Anil Kumar K.R and Meenakshy K.** Extraction of Blood Vessels in Retinal Images for Automatic Diagnosis of Diabetic Retinopathy", IC-AMMN-2K16, DTE sponsored International Conference on Advances in Applied Mathematics, Materials Science and Nanotechnology Engineering and Industrial Applications organized by Federal Institute of Science and Technology, Hormis Nagar, Angamaly, Kerala during 07-01-2016 to 09-01-2016.
10. **Sunny T.D., Roshita Raj P, Meenakshy K,** Classification of Motor Imagery Signals using ANFIS to control a robotic system, IEEE International Conference on Power, Instrumentation, Control and Computing, 19-21 Dec 2020, GEC, Thrissur
11. **Navya V.N., Meenakshy K,** Application of Signal Processing to detect Urinary Dysfunction: A Review on different techniques, IEEE International Conference on Power, Instrumentation, Control and Computing, 19-21 Dec2020, GEC, Thrissur.
12. **DadiRam, Meenakshy K, Suresh K Damodar,** A modified droop control method for DC Microgrid with improved voltage regulation and current sharing, , IEEE International Conference on Power, Instrumentation, Control and Computing, 19-21 Dec 2020, GEC, Thrissur.
13. **Haripriya C, Meenakshy K,** International Conference on Circuit control and Energy, ICCCE, 7-9 July 2021, Christ College of Engineering, Irinjalakuda
14. **DadiRam, Meenakshy K, Suresh K Damodar ,** An adaptive PI based distributed control method to maintain accurate power sharing and voltage regulation in DC Microgrids, INDICON 2022, 24-26 November, CUSAT, Kochi
15. **Navya VN, Meenakshy K, Manju B, Swarun Raj RS,** Wavelet Thresholding for GWO Optimisation for EEG Denoising - ICTEST 2024 technically sponsored by IEEE April 11-13 2024, Govt Model Engg College, Kochi

Journal

1. **K. Meenakshy, R. Gopikakumari,** "Texture descriptors based on 1-D MRT," International Journal of Recent Trends in Engineering, vol. 2, No. 6, pp. 1-3, Nov. 2009.
2. **Preetha Philip, Dr.Meenakshy K,**" Modelling Of Brushless DC Motor Drive Using Sensored And Sensorless Control (Back Emf Zero Crossing Detection)," *In* International Journal on Emerging Technology and Advanced Engineering (ISSN 2250-2459), Vol. 2, Issue 8, pp. August 2012.

3. **Manju B, Jaya VL, Meenakshy K, Gopikakumari,** 8 x 8 SMRT based Texture Descriptors, Lecture notes on Software Engineering, Vol 3(4), Nov. 2015 pp 295-298.
4. **Nayana KS, Meenakshy K,** Stability Enhancement of Wind Power Integrated System Using PID Controlled SVC and Power System Stabiliser, International Journal of Scientific Engineering and Technology, Vol. 3(10), October 2014, pp 1250-54.
5. **Maya UC, Meenakshy K,** Brain Tumor Segmentation Using Asymmetry Based Histogram Thresholding and K- Means Clustering, International Journal of Research in Engineering and Technology, eISSN: 2319-1163, Dec 2014, pp 62-65.
6. **Santhosh Raj, Meenakshy K,** A unique grid power controller for DFIG based wind turbine generator system with or without battery storage device, IJIRSET, Volume 5, Special Issue 5, April 2016
7. **Krishna Moorthy, Meenakshy K,** Prediction of Fragmentation of Kidney stones: A Statistical Approach from NCCT images, CUAJ, Vol10 , Issue 7-8, July-August 2016, pp E237-240.
8. **Maya UC, Meenakshy K,** "Hierarchical Agglomerative Clustering Based Combined Feature Selection and Multi-Class Support Vector Machine for Brain Tumour Classification", Journal of Medical Imaging and Health Informatics, Volume 7, No 8, December 2017, pp.1714-1722(9). DOI: <https://doi.org/10.1166/jmihi.2017.2271>
9. **Remya George, ²Biju Bahuleyan, ³K. Meenakshy** " Cardiovascular response to simulated real and non-real life stressors - A comparative case study using heart rate variability and personality traits in a physically trained group " In International Journal of Pure and Applied Mathematics Volume 119 No. 16, 2018, 2647-2664 ISSN: 1314-3395., Academic Publishers.

10. **¹Remya George, ²Biju Bahuleyan, ³K. Meenakshy,** "Assessing the Effect of Long Term Physical Training and Classification of Training Status using HRV and HRR of Female Police Recruits" In International Conference on Digital Imaging and Biomedical Informatics- Sapience 2018, at SNGCE, Kochi, and Published in International Journal of Simulation: Systems, Science and Technology, ISSN: 1473-804x online, UK Simulation Society.
11. **¹Remya George, ²Biju Bahuleyan, ³K. Meenakshy,** "Heart Rate Variability Dynamics in Stroop's Color Word Test- A Case Study Addressing the Psycho Physiological Fatigue Status in an Aerobically Conditioned Group", In Jour of Adv Research in Dynamical & Control Systems, Vol. 10, 15-Special Issue, 2018
12. **Noushira K.I., Anil Kumar K.R., Meenakshy K."** A Survey on Feature Extraction Methods in Retinal Fundus Images for Diabetic Retinopathy", International Journal of Computer Sciences and Engineering, Vol.7, Issue 4, April 2019 pp 77-87.
13. **Anil Kumar K.R., Meenakshy K** "Retinal Vasculature Extraction using Non-subsampled Contourlet Transform and Multi-structure Element Morphology by Reconstruction" International Journal of Recent Technology and Engineering, ISSN 2277-3878, Volume -8, Issue 2, July 2019.
14. **Anil Kumar K.R., Noushira K.I., Meenakshy K.,"** Classification of Diabetic Retinopathy Features using Bag of Feature Model", International Journal of Innovative Technology and Exploring Engineering, ISSN: 2278-3075, Vol-9, Issue-1, Nov 2019, pp: 381-385.
15. **Anil Kumar K.R., Megha P.M., and Meenakshy K.,"**Diabetic Retinopathy Detection & Classification Techniques: A Review", International Journal of Scientific & Technology Research, ISSN: 2277-8616, Vol-9, Issue-3, March 2020, pp:1621-1628.
16. **R Dadi, K Meenakshy, S K Damodaran,** "A Review of Secondary Control Methods in Microgrid", Journal of Operation and Automation in Power Engineering, Vol 11, No 2, pp 105-112, [10.22098/JOAPE.2022.9157.1636](#), Feb 2022

17. **George Remya, Jose Reshma, Meenakshy K, Jarin T, Senthil Kumar S**, “ Effect of long term exercise training on physiological signals and personality traits in women in law enforcement”, Journal of Intelligent and Fuzzy Systems ,pp 1-13, October 2022 DOI: 10.3233/JIFS-221588, vol , pp 1-13, 2022

EXPERT TALKS GIVEN.

1. Expert Talk on Texture Modeling in the ISTE STTP 'Modeling and Optimization Techniques in Engineering' ,MOTE 2010, organized by Division of Electronics Engineering School of Engineering Cochin University of Science and Technology,Kochi-22 from 18 to 30 October 2010.
2. Expert Talk on Biomedical Instrumentation – an Overview on 27 September 2011 at Workshop organized by Rajagiri Institute of Science and Technology , Kochi
3. Expert Talk on Tools for processing of Biomedical Images at ISTE-SRM STTP on Image Processing on 07.06.2013 at IHRD College of Engineering, Attingal
4. Expert Talk on Biomedical Processing at AICTE Sponsored Faculty Development Programme conducted by Albertan Institute of Science and Technology on 09.05.2013 at AISAT , Kochi
5. Expert Talk on Processing of Biomedical Images at AICTE Sponsored STTP on Frontiers in Biomedical Engineering on 29 April 2013 at Model Engineering College, Thrikkakara.
6. Expert Talk on FPGA based digital system design using VHDL at Sahrdaya College of Engineering & Technology, Kodakara on 4th September 2014
7. Expert Talk on Basics on VHDL at TEQIP sponsored workshop FPGA Based System Design organized by GEC , Thrissur on March 17, 2014
8. Expert Talk on Biomedical Processing at FSTDC Sponsored STTP conducted by Dept of Computer Science, GEC Thrissur on January 6 2015.
9. Expert Talk on Transforms for Biomedical Image Processing at TEQIP Sponsored STTP on Applications of Various Transforms in Engineering from 9 Jan to 13 Jan on 11.01.2017 at IHRD Kalloppara Engineering College, Thiruvalla

10. Expert Talk on Fundamentals of Matlab at TEQIP sponsored STTP of Matlab applications organized by Department of Chemical Engineering, Government Engineering College, Kozhikode on Feb 2017
11. Expert Talk on Computational Methods for Image Processing, at AICTE sponsored FDP on Computational Method as on Fluid and Structural Mechanics from 1 July to 12 July 2019 at RSET, Kochi on 05.07.2019
12. A session on Image Processing in Biomedical Applications in KTU sponsored FDP on Advancements in Image Processing Applications organised by Department of Computer Science and Engineering, SCMS School of Engineering and Technology, Karukutty from 29th August to 2nd September 2022
13. Keynote address for CoreEL Edu Summit on 9th November 2023 at Kochi