St. Joseph's Institute of Technology

St. Joseph's Group of Institutions

OMR, Chennai – 119

Department of Electronics and Communication Engineering
(Accredited by NBA)

FACULTY DETAILS

Staff Name:	Dr. KARTHIKEYAN M V
Designation:	Associate Professor
Date of Birth:	09-07-1982
Educational Qualification:	Ph.D
Area of Interest:	Biomedical device, Wireless Sensor Devices
Years of Experience:	14 years
Area of Research:	Wireless Medical Signal and Device Security
No. of Students Project Guided	07
Publications Details:	• A Combined Survey on Machine Learning for Cognitive Radio Deployed on Secure WBAN Environments, Metaverse Applications for Intelligent Healthcare. Page no.159-181.DOI: 10.4018/978-1-6684-9823-1.ch004. • Improving the Lifetime of an Out-Patient Implanted Medical Device Using a Novel Flower Pollination-Based Optimization Algorithm in WBAN Systems. M. V. Karthikeyan, Advances in Mathematical Methods for Machine Learning Algorithms for Computer Aided Diagnostic Systems. mathematics, MDPI. **2020**, 8, doi:10.3390/math8122189.**(WOS)** • Raspberry Pi implemented with MATLAB simulation and communication of Physiological Signal based fast Chaff point (RPSC) generation algorithm for WBAN systems, M. V. Karthikeyan, Biomedical Engineering/Biomedizinische Technik. pp: 209-224,Vol 66, Issue 2, march, **2021**.https://doi.org/10.1515/bmt-2019-0336 **(SCIE) (WOS)**

	• An enhanced flower pollination algorithm based chaff point generation method with hardwareimplementation in WBAN, M. V. Karthikeyan, J. Martin Leo Manickam, International Journal of Communication Systems, Wiley online library, April **2020**, Volume 33, Issue 12.https://doi.org/10.1002/dac.4447. **(IF=1.319) (SCI) (WOS)** • ECG-Signal Based Secret Key Generation (ESKG) Scheme for WBAN and HardwareImplementation, M. V. Karthikeyan,J. Martin Leo Manickam, Wireless PersonalCommunications, Springer, June **2019**, Volume 106, Issue 4, pp 2037–2052. doi.org/10.1007/s11277-018-5924-x.**(IF=1.061)(SCIE)(WOS)** • Efficient Bio-Signal Feature Based Secure Secret Key Generation Scheme a Simplified Model forWireless Body Area Network (EFSKG Scheme), Karthikeyan, M. v.; Manickam, J. Martin Leo,Journal of Medical Imaging and Health Informatics, American Scientific Publishers, Volume 8,Number 5, June **2018**, pp. 863-871(9). doi.org/10.1166/jmihi.2018.2415.**(IF=0.659)(WOS)** • Security Issues in Wireless Body Area Networks: In Bio-signal Input Fuzzy Security Model: ASurvey, Karthikeyan, MV & Martin Leo Manickam, J, **2016**, Research Journal ofPharmaceutical, Biological and Chemical Sciences, vol. 7, no. 6, pp. 1755-1773, ISSN: 0975-8585.**(WOS)** • A novel fast chaff point generation method using bio-inspired flower pollination algorithm for fuzzy vault systems with physiological signal for wireless body area sensor networks, Karthikeyan, MV & Martin Leo Manickam, J, 'Artificial Intelligent Techniques for Bio-MedicalSignal Processing', Biomedical Research,**2017**, pp.s242-s254 , ISSN : 0970-938X.**(IF=0.219)(SCOPUS)** • A 128-Bit Secret Key Generation Using Unique Ecg Bio-Signal for Medical Data Cryptographyin Lightweight Wireless Body Area Networks, Karthikeyan, M V & Martin Leo Manickam, J**2017**, Pakistan journal of Biotechnology, vol. 14, no. 2, pp. 257-264, ISSN : 1812-1837.**(SCOPUS)** • Secret Key Generation Of 128-Bits Using Patient ECG Signal and Secret Transmission ForIMDs Authentication

	Using SteganogRaphy, Karthikeyan, M. V.; Manickam, J. Martin Leo,**2017**, International Journal of Pure and Applied Mathematics. • Three Tire Proxy Re-Encryption Secret Key (PRESK) Generation for Secure Transmission ofBiosignals in Wireless Body Area Sensor Networks, Karthikeyan, M. V.; Manickam, J. MartinLeo, **2017**,Journal of Chemical and Pharmaceutical Sciences. • Karthikeyan,M V , ' Nuclear radiation detection using low cost wireless system: Protection ofenvironment against nuclear leakage and dump',**2010**,IEEE Xplore Digital Library. (SCOPUS) • Digital Filter Design on High Speed Communication with Low Power Criteria. the IEEE Xplore ICECAA proceedings.**(2022)** • Three tier cryptographic methodology for secure transmission of bio-signals in wireless Body areanetworks, IEEE sponsored International Conference on engineering and technology (ICET) on16th &17th December 2016.(International Conference). • Nuclear radiation detection using low cost wireless systems, recent Advances in SpaceTechnology Services and Climate Change 2010 (RSTS & CC-2010),organized by SathyabamaUniversity in association with ISRO Bangalore and IEEE,13th – 15th November 2010. • Vectorising and feature based compression using Hough transform, national conference on recenttrends in Electrical, Electronics, Computer and IT Engineering, TECHNO-FLASH 7th &8th sept2006. (National conferences). • Block matching algorithm for motion estimation in video compression, national conference on recent trends in Electrical, Electronics & Communication Engineering ·(NCRTEEC'07), inassociation with IEEE madras section, Jeppiaar engineering college, on 29th April 2007. (National conferences).

FDP Attended Details:	• 10 Days programme on Cyber Security and Data Forensic, conducted by NIT, Warangal from16th August 2022 to 25th August **2022**. • Wearable Devices 5 Days Programme by AICTE Training and Learning (ATAL) Academy from17th January 2022 to 21st January **2022** at St.Joseph's College of Engineering and Technology,Palai, **Kerala** . • Emerging Technologies, 6 Days programme conducted by Jeppiar Institute of Technology,Chennai from 28th February 2022 to 05th March **2022**. • Recent Trends in 5G Communication, Design & Technologies, a 5 days programme conducted byRajalakshmi Engineering College, Chennai from 05th July 2022 to 09th July **2022**. • ICTE Training And Learning (ATAL) Academy Online FDP on "Wearable Devices" from **2021**-2-15 to **2021**-2-19 at **Anna University**. • Challenge in Learning Approach, Cognizant on 5th July **2019**. • Healthcare with wireless body area networks and its challenges, AICTE sponsored three daysseminar, SSN College during 20-22, **2017**. • Instructional design and delivery micro teaching, quality improvement programme, conducted bySMK Fomra Institute of Technology with National Institute of Technical Teachers Training &Research, on 09th and 11th July **2007**.
Workshop Attended Details:	• Training on Powering IoT using RDUINO/RASPBERRY PI at MIT CAMPUS,ANNA Universiry,by Skillsda from 19/9/2022 to 23/09/**2023.** • Workshop on IOT and Drones, St. Joseph's College of Engineering conducted by leadingindia.ai, an initiative by Bennett University, greater Noida, India from 21 to 22 December, **2018**. • Workshop on simulation of advanced networks using NS-2 (WSAN'11), MIT campus, Anna University, 2nd & 3rd December **2011**.

	• Pervasive IT solutions for health care, conducted by TIFAC-CORE in pervasive computing technologies in association with Auroville Heath Care R & D Pvt. Ltd at Velammal Engineering College, on 15th & 16th April **2011**.
Patent (02)	• Physiological Value-Based Implanted Medical Device Security System, Official Journal of ThePatent Office, India, **(Publication No.202041003326)**, Publication of Patent Office.2020. • Closed loop smart insulin infusion pump system for diabetes mellitus patients, Official Journal of The Patent Office, **(Publication No.202041053656)**, Publication of Patent Office.2020.