Dr. USHUS S KUMAR

HoD(i/c)- Biomedical Engineering
SRM Institute of Science and Technology
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ACADEMIC DETAILS

Qualification	Specialization	Name of the University
PhD	Information and Communication Engineering	Anna University
ME	Applied Electronics	Anna University
B-Tech	Electronics and Communication Engineering	Calicut University

PhD RESEARCH TOPIC

"Abnormality Detection of Diabetic Foot and Fetal Growth Monitoring using Thermography along with Image Processing Techniques".

WORK EXPERIENCE

Name of the College	Designation	Joining Date	Relieving Date	Experience
SRM Institute of Science and Technology,Ramapuram	HOD(I/C)-BME Department	01.02.2021	Till date	
Sree Sastha Institute of Engineering and Technology,Chennai	HOD in ECE Department	11.01.2016	31.01.2021	5years 1 months
Rajiv Gandhi College of Engineering, Sriperumbudur	HOD in Bio-Medical Engineering	11.7.2011	10.1.2016	4 years 6 months
NSS Polytechnic College (Govt. Aided), Kerala	Lecturer in ECE	1.6.2001	8.7.2009	8 years 1 month

PROFESSIONAL BODY ACTIVITIES

- ➢ ISTE Lifelong membership

- ➢ IFERP Membership

- ➢ Editorial board member of American Journal of Applied Scientific Research",

  http://www.sciencepublishinggroup.com/j/ajasr.

ACHIEVEMENTS

- ➢ Good results in all the subjects handled.
- ➢ Under my leadership, ECE Department won the second Best Department Award in 2017-18 in Sree Sastha institute of Engineering and Technology, Chennai.
- ➢ Under my leadership, Biomedical Engineering Department won the Best Department award in 2014-15 in Rajiv Gandhi college of Engineering. Sriperumbudur .
- ➢ Instrumental in signing MOU industries with various industries, Hospitals etc for Training and Placement.
- ➢ Have been primarily responsible for initiating and organizing technical and cultural activities for the college.

INVITED AS RESOURCE PERSON

- ➢ As a Scientific Session Chair in the two days International Conference on Biotechnological Emergence in Science and Technology (ICBEST - 2022) held on December 22 & 23, 2022 at Science and Humanities of SRM Institute of Science and Technology, Ramapuram Campus, Chennai - 600 089.
- ➢ Session Chair in the virtual presentation of the IFERP -Innovative Project Seed Funding Scheme on 26th June 2022.
- ➢ Resource person for the Web Series on "MEDICAL THERMAL IMAGING AND ITS APPLICATIONS" in Association with Institution's Innovation Council (IIC) & Biomedical Engineering Society of India (BMESI) Students Chapter, Muthayammal Engineering college on 25th October 2021.
- ➢ Presented webinar in Department of Biomedical Engineering, on the topic "Medical

Thermal Imaging and its Applications" at Aarupadai Veedu Institute of Technology , Chennai on 28th May 2020.

NPTEL COURSE DETAILS

- Attended the NPTEL course "NBA Accreditation and teaching and learning in Engineering(NATE)" , of 12 weeks from Jan to April 2022 and scored ELITE certificate
- Attended and completed the NPTEL course "Medical Image Analysis" , of 12 weeks from July to October 2022.
- . Attended the NPTEL course "Principles of signals and systems" , of 12 weeks from Jan to April 2023 and scored ELITE certificate
- Attended the NPTEL course "Principles of Management" , of 12 weeks from Jan to April 2023 and scored ELITE certificate

JOURNALS

- Ushus.S.Kumar & Natteri M.Sudharsan, 2020, **'**Enhancement Techniques on Medical Thermal Image of Pregnant Women for Fetal Growth Monitoring',Computer methods in Biomechanics and Biomedical Engineering: Imaging and Visualization. (Under Second Review)
- Enhancement techniques for abnormality detection using thermal image, Ushus.S.Kumar, Natteri.M.Sudharsan, 1.Dept of Electronics and Communication Engineering, Sree Sastha Institute of Engineering and Technology,2.Department of Mechanical Engineering, Rajalakshmi Engineering college. Journal of Engineering/Volume 2018/Issue 5/p.279-283/ doi:101049/ joe.2017.0899/Online ISSN 2051-3305.
- Noninvasive Detection of abnormalities using thermal image, Ushus.S.Kumar, Department of ECE, Sree sastha Institute of Engineering and Technology, Chennai, NM.Sudharsan, Department of Mechanical Engineering, Rajalakshmi Engineering College, Chennai, IJPT/ June 2017 /Vol .9 /Issue No.2/29524-29532.
- Journal published in Australian Journal of Basic and Applied Sciences (ISSN:1991-8178 EISSN: 2309-8414): Minimization of PAPR in OFDM Using SFBC and MIMO in Jan'2016.
- Metamaterial Inspired Quad-port Multi-Antenna System for Millimeter Wave 5G Applications,R Krishnamoorthy, US Kumar, G Swathi, MA Begum… - Journal of Infrared, Millimeter, and Terahertz Waves, 2023.

- QCBO-WSVM: Quantum chaos butterfly optimization-based weighted support vector machine for neuropathic pain detection from EEG signal,JS Bobby, B Kapali, S Chander, US Kumar, MA Femina - INTERNATIONAL JOURNAL OF IMAGING SYSTEMS,2023
- An Effective Hybrid Mobility Aware Energy Efficient Low Latency Protocol (HMEL-MAC) for Wireless Sensor Network,SJ Anand, R Krishnamoorthy, US Kumar, Cybernetics and Systems, 2022
- Enhancement Techniques on Medical Thermal Image of Pregnant Women for Fetal Growth Monitoring,US Kumar, NM Sudharsan - Computer Methods in Biomechanics and Biomedical Engineering : Imaging & Visualization ,2021
- A Design of Agricultural Greenhouse Monitoring System using IOT - Turkish Journal of Computer and Mathematics,2021
- Arduino Microcontroller Based Real-Time Air Pollution Monitoring System,Turkish Journal of Computer and Mathematics,2021

WORKSHOP/SEMINAR
- Attended NPTEL E awareness workshop on August 9th 2023 at SRMIST,RMP campus
- Attended one-day workshop on IPR organized by "Biomedical Engineering Society of India (BMESI) held on 31" March 2023 on SRM IST,Kattankulathur.
- Attended two days upskilling workshop on" ART of Effective mentoring: A sustained model" by Alumni Affairs ,KTR campus on 19th and 20th January 2023.
- Attended 10days FDP virtual workshop on Frontier of Mathematics in SRMIST,RMP campus from 19th July to 28th July 2021.
- Attended 5 days workshop on Machine Learning with Python: A practical Introduction, SRMIST, Vadapalani in association with IET from 8th June to 12th February 2021.
- Attended two-day workshop on "Troubleshooting of smartphone" from27th September 2018 to 28th September 2018 in association with New Technology, Coimbatore.
- Attended one day workshop on "Publishing Research paper in Scientific Journal on 23rd June 2018 at SSIET.
- Attended one seminar on Publish and Perish held on 13th December 2017 organised by Research and Consultancy day, SSIET.
- Attended two days ISTE workshop on ADS (Advanced Design System) on 10th & 11th August 2017.

- Attended one day international workshop on Methodologies on writing Thesis, Proposals and Journals on 11th January 2017, SSIET in collaboration with ISTE.
- Undergone training on "Digital Image Segmentation using MATLAB" at Scientific Computing Solutions in July'2016.
- Attended one day workshop in Medical Thermography in VIT Campus, Vellore on 28th March 2015.
- Undergone four days training in Physiological Modelling software at CGN Research lab, Thirupathi from 13th Sept 2014 to 16th Sept 2014.
- Undergone short term course on ANSYS software, Anna University, Guindy campus from 26th Dec 2013 to 04th Jan 2014.Participated in 2 days workshop on Medical Thermography at Rajalakshmi Engineering college, Chennai on 30th and 31st Aug 2013.
- Attended 2 days workshop in MAT lab at MIT campus on 23 and 24th June 2012.

CONFERENCES
- Portable and Low cost ventilator using Ardino,ITDRRTC 2021 conducted by ECE Dept,SRMIST with IE on 17th and 18th May 2021.
- ATM Security Using Iris Recognition" J Simon, US Kumar, M Aarthi Elaveini, RP Vengaloor ,3rd International Conference on Mobile Computing and Sustainable Informatics: Proceedings of ICMCSI 2022
- Speech Recovery Device Through Electrotactile Stimulation Using FSR Technique BSC Kapali, US Kumar - 2022 8th IEEE International Conference on Smart Structures and Systems (ICSSS 2022)held on 21st & 22nd April 2022
- Deep Learning and Fuzzy Decision Support System for visually impaired persons US Kumar, LS Hanne - 2022 8th International Conference on Advanced Computing and Communication System 2022
  - Image Processing Techniques in Thermal and Non-thermal Images,US Kumar, J Simon, RP Vengaloor, MA Elaveini - Second International Conference on Image Processing and capsule networks,May 27-28,2022
- " Determination and estimation of LPG Gas Leakage using solenoid value and Load Cell" at National Level Conference, NCRTIES2K18 at SVIST, Chennai on 28th March 2018.
- National Conference on "Quality Assurance, Accreditation, Chennai & Ranking of Engineering Institutions: Challenges & Opportunities" on 6th October 2017 by Education Promotion Society for India.

- "Noninvasive detection of abnormalities using thermal image "at International Conference on Emerging Trends in Electrical and communication Technologies" ICETECT-17 at Saveetha School of Engineering, Chennai on 30th & 31st March 2017.
- "Estimate Enhancement Technique for thermal & nonthermal diabetic foot images" "at International Conference on Emerging Trends in Electrical and communication Technologies"ICETECT-17 at Saveetha School of Engineering, Chennai on 30th & 31st March 2017.
- "Minimization of PAPR in OFDM using SFBC and MIMO "at national Conference on Emerging Trends in VLSI & Communication Engineering (ETVCE'16) on 19th February 2016.
- National Conference on "Recent Trends in Information Technology & Communication" (NCRTIC'11) at Velammal Engineering College, Chennai.
- National Conference on "Cloud and Scientific Computing" (NCCSC'11) at Rajarajeswari Engineering College, Chennai.
- Annual International Conference on "Emerging Research Areas" (AICERA 2011) at Amal Jyothi College of Engineering, Kerala (ISBN:978-81-921320-0-6

FACULTY DEVELOPMENT PROGRAM

- Attended Six day FDP on Advanced MATLAB Programming in Emerging Technologies organized by SRM IST,NCR campus in association with IEEE student chapter from 12th June to 17th June 2023.
- Attended Six day FDP on Biomechanics and its applications organized by BME and Mechanical Department, SRM IST,KTR campus in association with IEEE student chapter from 13th to 18th March 2023.
- One-week online International Faculty Development Program on "EXPLORING THE FUTURE ENDEAVORS IN THE BIOMEDICAL TECHNOLOGY" organized by the Department of Biomedical Engineering, Easwari Engineering College from 18 to 24 January 2023.
- Attended Seven day FDP on Advanced Material and process for Next generation Nano material devices: Challenges and Opportunities" organized by ECE Department, SRM IST,RMP campus from 27th June to 4th July 2022.

- Attended & completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Medical Image Processing and 3D Applications" from 5th July 2021 to 9th July 2021 at University College of Engineering.
- Attended & completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Telemedicine and Digital Healthcare: Opportunities & Threats" from 17th May 2021 to 21st May 2021 at Rabindranath Tagore University.
- Two weeks International FDP on Trends and Challenges in Machine Learning & Deep Learning organized by IT Department,Easwari Engineering College held from 10th May to 21st May 2021.
- Attended 5 days STTP on NLP with Machine Learning by IT Department of Mepco Schlenk Engineering college, Sivakasi from 24th to 28th May 2021.
- AICTE sponsored FDP on Machine learning in Image processing Applications conducted by ECE Department ,PSCEMRCET on 17th to 27th March 2021.
- AICTE Sponsored STTP Series III on "Machine Learning Applications to Internet of Things (IoT)" organized by the Department of Electronics and Communication Engineering, Velammal College of Engineering and Technology from 01/03 /2021 to 06/03/2021.
- Undergone FDP on "VLSI DESIGN" on December 13th and 14th 2019 at SSIET.
- Undergone one-week FDP on "Embedded System" at Saveetha Engineering College from 1st to 8th December 2017.
- Undergone two days FDP on "Electromagnetic Fields, Interference and Compatibility "on 13th and 14th of November 2017 at Tagore Engineering College, Chennai.
- Undergone FDP on "DIP.RF & Embedded System "from June 20th to June 22nd 2017 at SSIET.
- Undergone national level FDP on "Emerging trends in big data Hadoop & Cloud Computing "from 22nd May 2017 to 24th May 2017 by IIT Roorkee and Sree Sastha College of Engineering.
- Undergone FDP on "Internet of Things using Raspberry PI" from 3rd and 4th November 2016 at SSIET in collaboration with Pantech ProED Pvt.Ltd.

VERSANT TEST SCORE

Test/Scale Score/Range

      Corresponding GSE score: 56

GSE   The Global Scale of English (GSE) is reported on a scale from 10 to 90. The GSE has been aligned to the Common European Framework of Reference for Languages and provides a

common, empirically validated equivalence for Pearson tests measuring English ability.

Corresponding level in the Common European Framework of Reference (CEFR):

B1 - Independent User

CEFR   CEFR global-level descriptor: Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise while traveling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of a personal interest. Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans.

ORGANIZING COMMITTEE MEMBER-NON-TECHNICAL

- ➢ Convenor for National Level Technical Symposium BIORGANZA 2K22 on 6th November 2023.
- ➢ Convenor for College Day'20 conducted at SSIET on 13th March 2020.
- ➢ Convenor for "College day'18 conducted at SSIET on 6th April 2018.
- ➢ Convenor for national conference, Electruze '18 conducted by ECE
   Department, SSIET on 2nd April 2018.
- ➢ Convenor for Women's Day celebration conducted by SSIET on 8th March 2018.
- ➢ Convenor for National level Symposium, Spintronics '17 conducted by ECE
   Department, SSCE on 30th March 2017.
- ➢ Convener for "National Conference on Bio-inspired Systems and
   Technologies"NCBST'13.
- ➢ Overall Coordinator for RGCE FEST'13 (Inter college cultural fest) conducted.
- ➢ Convenor of "Women Empowerment Cell" at Rajiv Gandhi College of Engineering.

ORGANIZING COMMITTEE MEMBER-TECHNICAL(Convenor)

DATE	Type of Program	PROGRAMME
10.08.2023	Seminar	Scope of Biomedical Engineering in Global Markets
16.3.2023 and 17.3.2023	Workshop	Recent Advancement in Biomedical Technology

10.11.2022	National Level Symposium	BIORGANZA 2K22
31.10.2022 to 08.11.2022	Medical Equipment Training	Respiratory Equipment, Fundamental, diagnostics and emergency Cardiology Equipment, ICU equipment and physiotherapy equipment
18.10.2022	Guest Lecture	Guest Lecture On Medical Image Retrieval For Hospital Information System
30.09.2022	National Workshop	Workshop On Introduction To Matlab Software For Biomedical Engineers
12.09.2022	Guest lecture	Guest Lecture On Job Opportunities For Biomedical Engineers In Hospitals And Healthcare Industries
23.06.2022	National Webinar	Webinar On Recent Trends In Biomedical Engineering
31.05.2022	Industrial Visit (Hospital) report	Gleneagles Global Health City, Perumbakkam
12.05.2022	Project Expo	Project Expo First, Second Year And Third Year Ece, Eke And Bme Students
06.05.2022	International Webinar	International Webinar Emerging Trends In Biosensors: A Game Changer In Healthcare
28.04.2022	International Webinar	International Webinar On Medical Device Regulations In Major Global Markets
13.10.2021	National Webinar	Webinar on "Trends In Biomedical Engineering In India"
13.10.2021	National Webinar	Webinar on "Trends In Biomedical Engineering In India"
05.07.2021	National Webinar	Webinar on" Coexistence of Research and Informatics Sciences"
26.06.2021	International Webinar	International Webinar on "Roles of Biomedical Engineering in medical field"
22.04.2021	National Webinar	WEBINAR ON "Opportunities in Biomedical Engineering"
19.04.2021	National Webinar	Webinar on "Introduction to Nano Science and Nano sensors"
13.12.2019 &14.12.2019	FDP	VLSI DESIGN
2.09.2017	International seminar	Bio-imaging Technologies -2017
20.06.2017 to 22.06.2017	FDP	DIP.RF & Embedded System