

BIOMEDICAL ENGINEERING - FACULTY DETAILS

Dr. T. Usha Rani

Dr. Usha Rani T is a visionary academician and researcher with over a decade impactful contributions to the field Biomedical Engineering. She serves as an Associate Professor and Program Director at the Biomedical Engineering, SIMATS Engineering, Saveetha Institute Medical and Technical Sciences, Chennai, where she also spearheads accreditation initiatives as the NBA Coordinator, setting benchmarks for academic excellence. Her Ph.D. research revolutionized the use infrared thermal imaging for the non-invasive diagnosis Type 2 Diabetes Mellitus, marking a significant advancement in modern diagnostic methodologies. Her expertise spans thermal imaging, non-invasive healthcare technologies, medical image processing, and biosignal analysis, with an extensive array high-impact journal publications that underscore her research acumen. Dr. Usha Rani is not only a prolific researcher but also a passionate innovator, contributing to biomedical product development and fostering practical solutions for healthcare challenges. Her leadership extends to session chairing at prestigious national and international conferences, where she facilitates the exchange ideas and inspires advancements in cutting-edge biomedical innovations.

Dr. Praveen Ramakrishnan

Dr. Praveen Ramakrishnan, as an experienced materials scientist with a Ph.D. from the University Birmingham, specializes in the development functional biomaterials and advanced processing techniques. Currently, an Assistant Professor in the Biomedical Engineering at SIMATS Engineering with keen focus on biomaterials for biomedical applications and co-founder Abinnovus Consulting, he leverages his research insights and industry experience to drive innovative projects, manage teams, and coordinate conferences and training programs. With a passion for advancing nanobiomaterials, drug delivery systems, and additive manufacturing, Dr. Praveen is committed to pushing the boundaries biomedical science to develop solutions that improve human health.

Dr. R. Ramadevi

Dr. R. Ramadevi completed her doctorate with specialization on condition monitoring using computational Intelligence and is currently an Associate Professor in the Biomedical Engineering. Her research interests include Instrumentation, Condition Monitoring, Signal/Image processing and Analysis, Applications Artificial Neural Network, Fuzzy Logic and Wavelet Transform applications. She has more than 27 years teaching and research experience and authored nearly 75 research articles/books in reputed journals/conferences in these fields. She is serving as an editorial member and reviewer several national/international reputed journals. Dr. R.Ramadevi is the member many international affiliations.

Dr. K. P. Indira

Dr. K.P.Indira is currently Associate Professor in the Biomedical Engineering, SIMATS Engineering, SIMATS, Chennai. She obtained her Ph.D degree from Sathyabama University in July 2017. She has more than 18 years teaching experience and 8 years industry work experience. Her area interest includes Digital Image Processing, Fuzzy systems, Machine Learning, etc. She has published many technical papers in International and National journals and conference proceedings. She is serving as an editorial member and reviewer several International reputed journals. She has guided many projects in UnderGraduate and Postgraduate level.

Dr. R. Geetha

Dr. Geetha R is an accomplished Associate Professor with over 18 years dedicated teaching experience, specializing in information security, biomedical image processing, and machine learning techniques. She has made significant contributions to academia and research, fostering an environment innovation and knowledge sharing. Dr. Geetha's primary areas interest include information security, real-time biomedical image processing applications, and cutting-edge machine learning techniques. Her work addresses critical challenges in these fields, bridging the gap between theory and practical implementation. She has authored 20 high-quality publications in reputed journals and conferences, showcasing her innovative research, deep technical knowledge, and contributions to emerging technologies. With a student-centric approach, she emphasizes practical applications and real-world problem-solving scenarios. Her teaching style

integrates advanced tools and techniques to ensure students gain hands-on experience and industry-ready skills. Dr.Geetha has conducted and participated in various national and international workshops, seminars, and conferences, further contributing to knowledge dissemination and professional development.

Dr. S. Nithyaselvakumari

Dr. S.Nithyaselvakumari is currently Assistant Professor in the Biomedical Engineering, SIMATS Engineering, SIMATS, Chennai. She obtained her Ph.D degree from Anna University in November 2021. She has more than 13 years teaching experience and 4.6 years industry work experience. Her area interest includes Digital Image Processing, communication Engineering Machine Learning, etc. She has published many technical papers in International and National journals and conference proceedings. She is serving as an editorial member and reviewer several International reputed journals.

Dr. P. Nirmala

Dr.P. Nirmala is currently working as a Professor at SIMATS Engineering with 25 years rich teaching experience. She completed a Ph.D. in signal processing. She has done most her research in signal processing, Embedded and image processing. She has presented the research work in several conferences and referred journals. Currently her research interest includes signal processing and image processing. She has also organised several workshops, seminars and conferences..

Dr. C. Senthil Kumar

Dr.Senthilkumar C is currently working as a Professor in the Biomedical Engineering at SIMATS Engineering (SIMATS-University) Chennai. He received his Ph.D. degree specializing in Wireless Sensor Networks at Anna University Chennai (2020). He completed an M.E. in 2016 and a B.E., in 2002. He has 22 years teaching and research experience and he has published more than 70 National/ International journals and Conferences. He has published 10 patents in various fields. His primary research interest areas are Wireless Sensor Networks, Body Area Networks, Computer Networks, and Artificial Intelligence, etc.,

Dr. E. Baranitharan

Dr. Baranitharan is an accomplished academic researcher with over a decade experience in the field bioenergy. He has published several high-impact research articles in prestigious journals. He earned his PhD in microbial fuel cell (MFC) technology from the Universiti Malaysia Pahang. During his doctoral studies, he was awarded the GRS Scholarship by the Malaysian Government. His PhD research focused on the influence inoculum and biilm formation on MFC performance, leading to the development controlled inoculum techniques to achieve high-performance MFCs. For his innovative work, Dr. Baranitharan received several international accolades, including the Gold Medal at the CITREX Research Exhibition in Malaysia and the Most Excellent Paper Award in Singapore. Dr. Baranitharan continued his research as a postdoctoral fellow at the University Malaysia Pahang, and worked on biilm revitalization, synergistic microbial interactions, and ultrasound treatment for stable power generation in MFCs. Dr. Baranitharan has also written two book chapters and published in Springer nature and Elsevier. Currently, his research focuses on areas such as biilm revitalization for stable MFC performance, biogas, cost-effective bioplastics, and the production value-added products using MFC technology.

Dr. G. Ramkumar

Dr. G. Ramkumar is working as a Professor in the Biomedical Engineering, SIMATS Engineering, Saveetha Institute Medical and Technical Sciences, Chennai, India. His name is included in Stanford University and Elsevier's in the years 2023 and 2024 World Top 2% Scientists List. He has 13 years teaching experience, including Research with 10 years Industry Experience. He has published more than 190 articles in reputed SCIE/Scopus journals and IEEE digital library Conference with 3100+ citation and 40 H-Index. His area interest is Image Processing, Human Computing Interaction, Machine Learning, Deep learning, VLSI Design and Signal Processing. He is Senior Member in IEEE, Member – the IAENG Society Computer Science and Imaging Engineering, Senior Member – the Institute Research Engineers and Doctors (IRED) and reviewer for IEEE, Elsevier, Springer and other reputed journals.

Dr. G. Mohandass

Mohandass G. received B.E. degree in EIE from Dr. Pauls Engineering College, Villupuram Dt Vanur Taluk, 605109 affiliated to Madras University, Chennai, Tamil Nadu in 2003. M.Tech Degree in Biomedical Signal Processing and Instrumentation Engineering from Sastra University Thanjavur, Tamil Nadu in 2005. He completed a Ph.D. degree from Sathyabama University, Chennai, India in 2016. His research interests include st computing application in medical image analysis.

Dr. M. Lavanya

Dr.M.Lavanya is currently working as an Associate Professor in the Biomedical Engineering in SIMATS Engineering, Chennai, India. She completed her Ph.D degree from Saveetha Institute Medical and Technical Sciences in 2019. She received her M.E degree in 2012 and her B.E degree in 2010 both from Anna University, Chennai. Her research interests are Biomedical Image Processing, Control Systems and Renewable Energy. She has 12 years teaching experience. She has attended and presented more than 20 research papers in international conferences. She has He has 200+ citations with a google scholar h-index 7+ along with i10 index 4 and she also serves as reviewer to some reputed journals like Elseiver and springer. She is a Member IET, ISA and IAENG.

Dr. M. M. Ramakrishna

Dr. Ramakrishna MM, completed B.E., and M.Tech and is having 17 years teaching experience and currently working as Professor, SIMATS Engineering. Dr. Ramakrishna has taught a wide variety subjects related to Biomedical Engineering. Apart from teaching, he is also inclined towards research activities by publishing research articles in reputed journals, indexed in Scopus, WOS and SCIE databases. Most of the research works are related to medical applications and also published 4 patents indexed in world intellectual property, United Nations. His research interests include Machine learning, Digital Image Processing and Sensors.

Dr. Manjur Hossain

Manjur Hossain received his B.Tech degree from WBUT, India, in 2006. He received his M.Tech degree from the University Calcutta, India, in 2016 and PhD from NIT Agartala, India in 2024. He is currently working as an Assistant Professor at SIMATS Engineering, SIMATS, India. He

has more than 12 years industry experience. His current research interest includes photonics. The number published/accepted papers in International Journals is 34.

Dr. R. Sivakumar

Dr. R. Sivakumar is currently Professor in the Biomedical Engineering, SIMATS Engineering, SIMATS University, Chennai. He obtained his PhD degree from Anna University in 2010. He has more than 23 years teaching experience and 2 years industry work experience. His area interest includes Modelling and Controller design for Nonlinear systems, MIMO Systems, Fuzzy systems, Machine Learning, etc. He has organized many technical workshops, seminars and conferences for faculty and students. He has published many technical papers in International and national journals and conferences proceedings. He is one the recognized reviewers for Elsevier Journal ISA transactions, Journal Process Control, Biomedical Signal Processing and Control. He has guided many projects in UnderGraduate and Postgraduate level. Many his students' projects are recognised and appreciated by various bodies. He belongs to many professional bodies like ISTE, ISoI, ISA, and IEEE. He is associated with International Society Automation for many years and he is an Executive Member in ISA South India Section.

Dr. M. Daniel Naresh Kumar

Dr. M. Daniel Nareshkumar has a Ph.D. degree in Anna University in the year 2023. He received a Master degree from College Engineering Guindy, Anna University in the year 2012. He received a B.E degree from Anna University in the year 2008. He is currently working as an Associate Professor in Biomedical Engineering, SIMATS Engineering, Saveetha Institute Medical and Technical Sciences, SIMATS, Chennai. His research interests include Machine learning, Deep learning, Image Processing and Medical electronics. He has published 10 papers in international Journals and conferences. He also obtained one patent grant and published one patent. He is a Life member ISTE.

Dr.G.Jayandhi

Dr. G.Jayandhi is a Professor in the Biomedical Engineering at the SIMATS Engineering in Chennai. She completed her Doctoral Degree in the year 2023 at the Anna University, CEG Campus Chennai. She received her M.E. in Medical Electronics in 2009 from Anna University,

CEG Campus Chennai, and her B.E. in Electronics and Communication Engineering in 1994 from the Periyar Maniammai College Engineering and Technology for women ,Thanjavur.Her current research area encompasses the Mammogram learning system for breast cancer diagnosis using deep learning SVM. With more than 25 years experience in both academic and industry domains she has authored many papers in reputable journals and has made numerous presentations at international and national conferences. Furthermore, she holds one utility patent, with one of them having been granted.

Dr. M. C. Shanker

Dr. M.C. Shanker is an Associate Professor in Biomedical Engineering at Saveetha Institute Medical and Technical Sciences (SIMATS). From 2001 to 2023 he served as Teacher in the field Electronics Engineering. He received a PhD. from Sathyabama University in 2023, and an M.E. from College Engineering, Guindy Chennai. He received his B.E.. in Electronics and Communication Engineering from the University Madras in 2001. From 2001 to till the date, he is working at Engineering College, eventually as a Senior Faculty. His research interests on Medical Image Processing and Analysis. Much his work has been on improving the understanding, design, and performance digital image processing , Cellular and mobile communication, Spread spectrum communication, St computing, f MRI image based diagnosis methods, mainly through the application medical image based diagnosis and performance evaluation.In image processing, he has worked on contextual clustering analysis breast cancer in digital mammography using deep learning approaches. He has explored the presence and implications of computer aided diagnosis in cancer diseases. He has also investigated breast cancer in digital mammography by deep learning approaches. In addition he has made 10 international journal publications, 2 patents and presented his research work in national and international conferences and he has organized 2 workshops and 2 seminars in the field medical electronics application and also attended 10 sponsored seminars and workshops.

Dr. D. Jenila Rani

Dr. D. Jenila Rani is an accomplished biomedical professional with expertise in fermentation technology, bioprocess engineering, enzyme engineering, heat transfer operations, and bioseparation technology. Currently an Associate Professor at SIMATS Engineering, SIMATS,

she has a rich academic and research background, including a Ph.D. in Technology from Anna University focused on bio-additives in alcohol fermentation. Dr. Jenila Rani has authored numerous impactful publications, including research on ethanol production optimization, antimicrobial efficacy of natural compounds, and process parameter optimization using advanced techniques.

Dr. S. Manikandan

Dr. S. Manikandan, an Associate Professor in Biomedical Engineering at SIMATS Engineering, is a globally recognized specialist in Medical Nanotechnology with a focus on biomedical applications. Ranked among the top 2% scientists worldwide, he has achieved significant milestones in his academic and research career, including a University Merit Certificate and a prestigious University Rank, and serves as a Recognized Supervisor for MS/Ph.D. students at SIMATS and Anna University. With over 14 years expertise in nanotechnology, nanofluids, and tissue engineering, he has authored 60 international research papers with a cumulative impact factor 460, over 2,500 citations, and an H-index exceeding 30 on Scopus. His contributions extend to patent filings and research projects funded by DST, DRDO, and Nanomission, as well as five book chapters. Dr. Manikandan's academic excellence is further highlighted by his outstanding performance in the GATE-2011 Biotechnology examination, cementing his position as a leader in biomedical nanotechnology research and innovation.

Dr. P. Suresh Babu

Dr. Suresh Babu Palanisamy, a distinguished academician and researcher, completed his Ph.D. in Biomedical Engineering from Anna University, Chennai, in 2015. Since 2021, he has been serving as a Professor at the Institute Biomedical Engineering, SIMATS Engineering, SIMATS, Chennai. With over 20 years teaching and research experience in India and abroad, Dr. Suresh specializes in Environmental, Marine, and Pharmaceutical Biotechnology. He has published extensively in international peer-reviewed journals, authored book chapters, and holds two patents. He has received several accolades, including AICTE and CSIR-INDIA travel grants, and Young Scientist Award from the University Cagliari, Italy, in 2011. In addition to his role at SIMATS, he serves as an Adjunct Professor at UCSI University, Malaysia, and a Visiting Professor at the University Cyberjaya, Malaysia. From 2017 to 2020, he held an honorary

position as an Executive Committee Member for the India Education Forum (IEF), organized by the Embassy India, Ethiopia. He is an active member of scientific societies like ISTE, BRSI, WAYS, ISRD, and IAEng.

Dr. K. Vidhya

Dr. K. Vidhya is working as a Professor Electronics and Communication Engineering at SIMATS Engineering, SIMATS, Chennai. She received B.E. degree in Electronics and Communication Engineering from Madras University, M.E. degree in Applied Electronics from Madras University and Ph.D. degree in Information and Communication Engineering from Anna University. She has published several articles in refereed Journals and Conferences. Her research interests include Signal Processing, Image Processing and Pattern Recognition.

Dr. K. Vijayalakshmi

Dr. K. Vijayalakshmi is working as a Professor Electronics and Communication Engineering at SIMATS Engineering, SIMATS, Chennai. She received B.E. degree in Electronics and Communication Engineering from Bharathidasan University, M.Tech degree in Electronics and Communication Engineering from Pondicherry Engineering College, Pondicherry University and Ph.D. degree in Information and Communication Engineering from Anna University. She has professional teaching experience over 21 years. She has guided 30 Engineering undergraduate and PG student's projects. As a Life Member ISTE, she has been actively involved in organizing various programs within the institution. She has contributed to numerous reputed National and International journals with her research articles, focusing on Sensor Networks, Signal Processing, and Communication Systems.

Dr. N. Mathiyazhagan

Dr. Mathiyazhagan Narayanan is working as an Assistant Professor (SG) in Biotechnology, SIMATS Engineering, SIMATS, Chennai, Tamil Nadu. He pursued his Ph.D. in Biotechnology at Periyar University in 2013. He has strong research networks and collaborations with many Professors in the biological field from various leading institutions in Asia and Europe. Dr. Mathiyazhagan Narayanan has published 100 articles in various national and international journals indexed in SCI, Web Science, Scopus, PubMed, 10 book chapters, and edited one book. Recently, he has been recognized as world top 2% scientist by Stanford University, USA and ELSEVIER.

Dr. F. Arul Prakash

Dr. F. Arul Prakash joined as Associate Professor at the Biomedical Engineering, SIMATS Engineering, Saveetha Institute Medical and Technical Sciences in February 2022. He has six years post-doctoral experience from the Indian Institute Technology Madras and Pondicherry University. He received his Ph.D. (Technology) from Anna University, Chennai. His work was on Nanotoxicology and Nanotherapeutics. His post-doctoral studies focused on developing polymer-drug conjugates for target-specific delivery and polymeric scaffolds for tissue engineering. He was awarded a Technology Transfer fellowship from Anna University in 2015, Institute Post-Doctoral Fellowship from the Indian Institute Technology Madras in 2015, and Dr. D.S.Kothari Post-Doctoral Fellowship from UGC in 2019. He has published several research articles, book chapters and filed for patent as well. He is a recipient start-up grant from DST-SERB, Government India. He is the reviewer of highly reputed journals and also has membership in various professional bodies. His Lab is interested in developing the 3D platform for drug testing and tissue regeneration, polymer-drug conjugates for target specific drug delivery and Biosensors for diagnostics and health care.

Dr. P. Sivaperumal

Dr. Pitchiah Sivaperumal has more than 13 years experience in the field Marine Biomedical and Environmental Toxicological research. He is the Principal Investigator for the TARE Project from SERB-DST, New Delhi (completed), Startup grant Project from UGC, Govt. India (On-going) and the Deep Ocean Mission project funded by the Ministry Earth Sciences, Govt.

India (On-going). He is involved in collaborative research projects with the National Institutes NIOT-Chennai, IIT-Madras, CIFE-Mumbai, IGCAR-Chennai, and BARC-Mumbai. He has published more than 85 research papers in Peer-reviewed journals with more than 1300 citations and an h-index 21 and an i10 index 41. He has published more than 15 book chapters at Wiley, Elsevier, Taylor, and Francis Publishers. He received the prestigious Research Fellowship from BRNS-DAE, Govt. India (2011-2015). His Research interests are Marine Natural Products development, Marine Biomaterials, Radiation Biology and toxicology, Bioremediation, Monitoring and Health Risk assessment and Marine Nanotechnology.

Dr. S. Rajesh Kumar

Dr. S. Rajeshkumar is a Chief Scientist and Professor at the Biomedical Engineering, SIMATS Engineering, SIMATS, Tamil Nadu, India. Recognized among the World's Top 2% Scientists (2020-2023) by Stanford University, he has an outstanding research portfolio with 909 published articles, over 22,500 citations, and an H-index 66. With 14+ years teaching and research experience, he has secured research funding worth ₹1.17 crore from agencies like DST-SERB, ICMR, and UGC, filed 85 patents (3 granted), authored 4 books and 36 book chapters (Elsevier, Springer), and established international collaborations across the USA, Australia, Ireland, and other countries. His work focuses on nanotechnology, biotechnology, and biomedicine, contributing significantly to global health research.

Dr. Paramasivam A

Dr.A.Paramasivam, earned his doctoral degree in Biomedical Engineering from the University Madras. He received the fellowship from the National Centre for Nanoscience and Nanotechnology (NCNSNT), MHRD, India during his tenure as a research scholar. His area expertise includes human molecular genetics, cancer biology, mitochondrial dysfunction and diseases. He worked as a post doctoral research fellow for more than five years at CSIR-Centre for Cellular and Molecular Biology. He was awarded the N-PDF (National Post doctoral fellowship) by the Science and Technology (DST-SERB), and served as a principal investigator in the project related to mitochondrial diseases. He is the recipient several travel awards for his work on mitochondrial dysfunction and disorders from the American Society Human Genetics (ASHG), San Diego, USA, Young Investigators Travel Award from the European Society

Human Genetics (ESHG), Milan, Italy, Young Investigators Travel Award from the European Society Human Genetics (ESHG), Barcelona, Spain and Travel Award from the European Society for Medical Oncology (ESMO), Barcelona, Spain. He is credited with more than 70 publications in high impact journals and has presented his work in many national and international forums. He has received research grants from the Indian Council Medical Research (ICMR) and the Science and Technology (DST) worth one crore. He is one among the very few scientists working on clinical and genetic basis mitochondrial disorders from India.

Dr. V. Vishnu Priya

Dr. V. Vishnu Priya, a faculty member Biomedical Engineering at SIMATS Engineering, has 23 years academic and research experience. Her research focuses on cancer biology, herbal medicine, and medical education, with significant work on the anticancer efficacy *Garcinia mangostana* pericarp extract. She has earned prestigious fellowships from the Okinawa Institute Science and Technology, Japan, and the International Federation Clinical Chemistry, Brazil, for her scientific contributions. Dr. V. Vishnu Priya has received numerous awards, including the Saveetha Ratna Award (2016), Best Faculty Awards (2018, 2019), and AGAR Educator and Research Excellence Awards (2023). She has presented her research at international conferences across Mauritius, Hong Kong, Brazil, San Francisco, London, and the UAE and has organized several academic events. Additionally, she is a PhD guide, a fellow of the International Medical Sciences Academy, and an expert in teaching methodologies like MILA and flipped classrooms, conducting workshops and lectures to train educators.