

Dr. Yuvaraj Velusamy

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Objective: Seeking positions as a professional Professor/Adjunct Professor in Biomedical Engineering.

Accomplished Biomedical Engineering Professor with 14+ years of expertise in cutting-edge research and teaching. Specialized in Medical Nanotechnology, Biosensors, Transducers, Biomaterials, and Clinical Instrumentation. Proficient in designing sophisticated biomedical instruments and advancing medical imaging modalities for diagnostics.

As an Associate Professor, delivered exceptional lectures, mentored students, and led impactful research projects. Contributed significantly to the growth of Biomedical Engineering, merging multidisciplinary expertise to provide a holistic perspective in academia and research.

Currently serving as the Chief Executive Officer (CEO) of ABS Multispecialty Hospital Karur, demonstrating leadership in healthcare administration. Dedicated to fostering innovation, driving research excellence, and inspiring the next generation of biomedical engineers. Passionate about advancing healthcare through technology. Valuable asset to any academic institution committed to progress in Biomedical Engineering.

PROFESSIONAL PROFICIENCY

Assistant Professor (2009-2015), Dept. of Biomedical Engineering, Sahrdaya College of Engineering and Technology, Affiliation: The University of Calicut, Kerala State.

Associate Professor (2006-2023), Dept. of Biomedical Engineering, Sahrdaya College of Engineering and Technology, Affiliation: APJ Abdul Kalam Technological University (KTU), Kerala State.

Head of the Department (HOD) in the year 2011-2013 & 2016-2018, Dept. of Biomedical Engineering, Sahrdaya College of Engineering and Technology.

During this tenure,

- Led the Department of Biomedical Engineering, overseeing academic, research, and administrative functions.
- Successfully managed the department during a crucial period, demonstrating effective leadership and strategic decision-making.
- Implemented new laboratories in alignment with the updated curriculum, enhancing the department's infrastructure.
- Coordinated and facilitated a successful visit by the National Board of Accreditation (NBA), ensuring compliance with accreditation standards.

Chief Executive Officer (CEO) from August 2023 to till date at ABS Hospital (Multispecialty), Karur, Tamil Nadu.

- Leading the strategic vision, operations, and overall management of a hospital.
- Implementing key initiatives that enhance operational efficiency and patient care.
- Building strong relationships with stakeholders, including staff, patients, and regulatory bodies

INITIAL EXPERIENCE

2006-2013 with BioZenix Pharmaceuticals, Chennai. (As a Technical Officer –Medical Education Program: 2008-2013 & Product Manager: 2006-2007).

ACADEMICS & CREDENTIALS

Ph.D in the field of Nanomedicine in Centre for Nanobiotechnology (CNBT) from Vellore Institute of Technology (VIT University), Tamil Nadu, India in 2017.

M.Tech. (Biomedical Engineering) at Vellore Institute of Technology (VIT University), Tamil Nadu, India in 2009.

B.Pharmacy (Pharmaceutical Engineering) from Madras Medical College (MMC) (The Tamilnadu Dr.MGR Medical University), Chennai in 2006.

D.Pharmacy from KMR College of Pharmacy, Erode. (Directorate of Technical Education, Chennai, India.) in 2001.

MBA (Marketing) from Directorate of Distance Education, Anna University Campus, Coimbatore in 2012.

UNIVERSITY POSITIONS AT KTU

Chairperson of the Biomedical Engineering Program

- APJ Abdul Kalam Technological University (KTU) in the June 2017-18)
- Led and managed the Biomedical Engineering program, overseeing academic and administrative aspects.
- Implemented initiatives that resulted in improved Biomedical Curriculum to the meet current scenario of healthcare and improved OBE system in Biomedical Education.

Chairperson of Question Paper and Scrutiny Board (Biomedical Engineering)

- APJ Abdul Kalam Technological University (KTU) during June 2016 to 2023.
- Headed the question paper and scrutiny board, ensuring the quality and fairness of examination processes.
- Implemented Revised Blooms level to measures the quality of Outcome Based Education.

Member of Curriculum and Syllabus Revision Committee

- APJ Abdul Kalam Technological University (KTU) during June 2016 to 2023.
- Played an active role in the curriculum and syllabus revision committee for the Biomedical Engineering program.
- Collaborated with colleagues, Alumni and Industrial Experts to Improve the Syllabus to world scenario in Healthcare Technologies.

Chairperson of Pass Board

- APJ Abdul Kalam Technological University (KTU) during June 2018 to 2023.
- Chaired the pass board for the Biomedical Engineering program, ensuring adherence to academic standard.
- Implemented various strategies for marks moderation without affecting student's carrier and academic qualities.

IEEE RESPONSIBILITIES

- Recognized as Senior IEEE Member
- Chair, Professional Activities, IEEE Kochi Subsection (2023), Led and organized various professional activities for IEEE members in the Kochi Subsection.
- Chair, IEEE Students Activities, IEEE Education Society, IEEE Photonics Society, Kerala Chapter (2023)
- Chair, IEEE Students Activities, IEEE Kochi Subsection (2022).
- Branch Counselor, IEEE Sahrdya Student Branch (2019 - June 2023).

- Society Advisor, IEEE Photonics Society, IEEE EMB Society, IEEE SPS Society, IEEE-IAS, IEEE-IES of IEEE Sahrdaya Student Branch.
- Provided guidance and support as the branch counselor/Society advisor for the IEEE Sahrdaya Student Branch. Received many IEEE funded projects, students achievements, students as International Ambassadors.

PUBLICATIONS

Ph.D. Thesis – “Effect of Selected Nanoparticles Used In Biomedical Applications Analyzed By Digital Image Processing”. Guided by Dr. N. Chandrasekaran, Director, Centre for Nanobiotechnology (CNBT), VIT University, Vellore.

Book Chapter: M. Anly Antony, R. Satheesh Kumar, G. R.Gnana King, V. Yuvaraj, and Chidambaranathan, “Technical Assessment of Various Image Stitching Techniques: A Deep Learning Approach”, Handbook of Deep Learning in Biomedical Engineering and Health Informatics. CRC Press, 2022.

Yuvaraj Velusamy, Rajeswari Manickam, Sivamani Chinnaswamy, Golden Julie Eanoth, Harold Robinson Yesudhas, Raghvendra Kumar. “Adaptive beam formation and channel allocation using substance near multicast protocol and CS-iEHO” Springer 2021.

Yuvaraj, V., S. Rajiv, A. Mukherjee, N. Chandrasekaran and T. Sastry (2016). TOXICITY ASSESSMENT OF CARBON NANOTUBES ON ERYTHROCYTE MORPHOLOGY AND LYMPHOCYTES IN VITRO, Asian Journal of Pharmaceutical and Clinical Research, Vol. 9, No. 2. pp. 278-280.

Sundaramoorthy, R., Y. Velusamy, A. P. B. Balaji, A. Mukherjee and N. Chandrasekaran (2016). Comparative cytotoxic and genotoxic effects of permethrin and its nanometric form on human erythrocytes and lymphocytes in vitro, Chemico-Biological Interactions, Vol. 257. pp. 119-124.

V.Yuvraj, J.Indumathi and M.Singh., “Effects of cigarette smoking on morphology and aggregation of erythrocytes” Clinical Hemorheology and Microcirculation, (IOS Press) 51 (2012) 169–175. (Impact Factor 3.398)

Yuvaraj.V., Indumathi.J., “Nanotoxicology of Smoking by Image Processing Technique”. International Conference on Latest Trends in Nanoscience and Nanotechnology ICNSNT 2011, Organized by KBN Engineering College, Gulbarga, Karnataka. 28th-29th March 2011.

Yuvaraj.V., Indumathi.J., Megha Singh. “Digital analysis of erythrocyte shape changes on smoking”. International conference on medical informatics and Telemedicine MEDITEL 2008 Organized by Medical Computer Society of India Chennai, Tamil Nadu, India. 19th – 20th December 2008.

CERTIFICATIONS & HONORS RECEIVED

- Evaluator of health care projects of the Young Innovation Program of the Kerala Government, India.
- Honorable Vice President at Instinctive Drive Foundation (NGO) at Coimbatore, Tamil Nadu, India.
- Recognized as a Senior Member in IEEE Society, USA.
- Recognized as an Evaluator of the Young Innovation Program (YIP) of the Kerala Government.
- Shortlisted for Chathra Viswakarma Award 2020 by AICTE, New Delhi.
- Recognized as an “Advanced Catering Trainer” in Train the Trainer Program at Food Safety and Standards Authority (**fssai**).
- Qualified in GATE 2007 with 93 percentile.
- Best faculty award in the year 2016.
- Nominated as a Technical mentor in Techtop Annual Innovation Submit 2018.

INVITED TALK, CONFERENCES & WORKSHOPS

Invited talk on “Advances and Challenges in Biosensor Development in Drug Delivery and Biosensing - with Biomimic Perspectives” on 6th June 2022 at 11 a.m. - 12 noon virtually in the “Summer Webinar Series - 2022” organised by Periyar College of Pharmaceutical Sciences, Tiruchirappalli – 620 021, Tamil Nadu.

Invited talk on “MEMS based Sensors and Actuators for biomedical Applications” for International Online FDP conducted by the Department of Electronics and Communication, KL University, Vijayawada, on 2nd to 7th November 2020.

Invited talk on “FUTURISTIC APPLICATIONS AND RESEARCH OPPORTUNITIES OF NANOELECTRONICS IN BIOSCIENCE” for AICTE Sponsored STTP conducted by the Department of Electronics and Communication, Sathyabama Institute of Science and Technology on December 2020.

Invited talk on “Modelling, Simulation and Fabrication of Futuristic Semiconductor, MEMs and NEMs devices”. Organized by microelectronics research group, Dept. of ECE, KL University, Guntur, Andra Pradesh, during 14-12-2020 to 19-12-2020.

Invited talk on “Applications of VLSI & Embedded systems in Biomedical Engineering and Nanomedicine” as part of Faculty Development Program organized by ECE Department and sponsored by APJ Abdul Kalam Technological University, at Jyothi Engineering College, Thrissur, on 10th July 2019.

Invited speaker and conference chair of ICN 2018, the third International Conference on Nanomaterials, at MG University, Kottayam.

Technical mentor and invited guest in Techtop Annual Innovation Submit 2018.

As a chief guest to inaugurate the medical equipment calibration workshop at IQRAA hospital, Calicut (March 2017).

As a chief guest to the inauguration of the technical club at Government Polytechnic, Mala (August 2016).

As a resource person for one day Faculty Development Program on “The adolescent psychology towards education” at Alpha College of Engineering, Chennai (July 2014).

Invited Talk on “Nanomedicine and Current Status” at National Level Faculty Development Program (FDP) Conducted by the Department of Applied Electronics, Jyothi Engineering College, Thrissur. (March – 2011).

Attended many conferences, FDPs, Short Term Courses, and workshops from campus and outside institutions.

Organized, chaired, and as a chief guest in different conferences and workshops in my current institution as well outside intuitions.

MEMBERSHIPS

- Senior Member IEEE Society
- Life member Indian Society for Technical Education (ISTE)
- Life member of the Biomedical Engineering Society of India (BMESI)
- Registered Pharmacist, Life member of the Pharmacy Council of India (PCI)
- Life member Healthcare Technology Systems & Service Society (HTSS)

PROJECTS GRANTS & AWARDS

- Advanced Patient Transfer System was shortlisted for AICTE Viswakarma Awards 2020 held at the AICTE campus, New Delhi.
- Automated CPR Technique with Defibrillator project Received 34000.00 in prestigious technical events in the year 2017.
- Vision Augmented Communication for Paralyzed People Project selected for the final round of Malayala Manorama Yuva Master Mind 2012 project competition and received a cash prize ₹10,000.00. (Guided by Dr. Yuvaraj V)
- Tech Top National Level Competition: Totally three projects were selected for the final round and received assistantship money for completing the project. (Principal Investigator: Dr. Yuvaraj V)
- Jed-I Project Challenge (organized in IISC, Bangalore): Two projects were selected for the final round and received assistantship from the National level project competition Jed-i (Principal Investigator: Dr. Yuvaraj V)
- Patents filed in the topic “Automated Reprocessing Unit for Dialyzer unit.
- The smart noise suppression system is under processing of Patent filing.
- Many student’s projects received prizes/grants/awards in every year under my guidance

AREAS OF IMPACT

Leadership & Management: Educational Training, Head of the Department, University Leadership, IEEE Leadership

Planning & Organizing: Educational content planning in Institute and University level, Accreditation Process (NAAC, NBA,ISO).

Teamwork: Coordinator in Academic Committees (Internal Exam Cell, Time Table Committee, Industry and Institution Interaction Cell (IIIC), Research and Development Cell (RDC), Professional Bodies (IEEE, ISTE, BMESI, IET, CSI).

Interpersonal Skills: Leadership, Client Relationship Management, Process Improvement, Service Level Agreements (SLAs)

Management Skills: Adaptability, Strategic Planning, Results-Oriented, Innovative Approach, Connections and Networking skills

IT Forte: AI Tools Applications, Cloud Computing, Data Analysis, Augmented Reality and Mixed & Reality based applications, MatLab, 3D Design, Internet Applications.

JOURNAL REVIEWER

- Journal of Engineering in Medicine (JOEIM)
- Assistive Technology (Taylor & Francis)
- World Society of Sustainable Energy Technology Newsletter

Highlights:

- Delivering lectures and conducting laboratory sessions on various subjects within Biomedical Engineering. Developing and updating course materials, syllabi, and teaching resources to ensure alignment with industry trends and academic standards.
- Providing academic guidance and mentorship to students, assisting with coursework, projects, and research.

- Supervising student research projects, theses, and dissertations, and facilitating their involvement in academic conferences and competitions.
- Conducting cutting-edge research in areas related to Biomedical Engineering, contributing to advancements in the field.
- Publishing research findings in reputable academic journals, conferences, and other scholarly platforms. Collaborating with colleagues and students on research initiatives and interdisciplinary projects.
- Collaborating with department colleagues to contribute to curriculum development, program enhancement, and accreditation processes. Participating in departmental meetings, committees, and initiatives aimed at improving educational quality and research excellence.
- Establishing partnerships with industry professionals and organizations to facilitate internships, workshops, and guest lectures that enhance students' practical knowledge and industry exposure.
- Pursuing continuous learning and professional development to stay abreast of the latest advancements in Biomedical Engineering.
- Participating in academic assessment, accreditation, and quality improvement efforts within the department and institution.
- Providing input on curriculum revisions and updates based on industry demands and emerging technologies.
- Collaborating with colleagues and researchers to publish research papers and contribute to academic literature. Sharing expertise at conferences, workshops, and seminars to promote knowledge dissemination and exchange.
- Engaging with professional organizations, industry associations, and regulatory bodies to stay connected with the broader biomedical engineering community.

PERSONAL DETAILS

Date of Birth: 28-06-1982 | **Languages Known:** Tamil, English, & Malayalam | **Address:** Karur-639005, Tamil Nadu. India.

Sincerely,

Dr.Yuvaraj Velusamy

Karur | 03/01/2024