

Dr. J. Sivaraman

Assistant Professor

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EDUCATION

Ph.D. (Biomedical Engineering)

Institute : National Institute of Technology Tiruchirappalli, India

Year : February 2015

M.E. (Medical Electronics)

Institute : College of Engineering, Guindy, Anna University, India

Year : April 2009

B.E. (Biomedical Engineering)

Institute : Rajiv Gandhi College of Engineering, Anna University, India

Year : April 2006

PROFESSIONAL EXPERIENCE

- **Assistant Professor, Grade-I** in Department of Biotechnology & Medical Engineering, National Institute of Technology Rourkela, from (March 2023 to Till Date)
- **Assistant Professor, Grade-II** in Department of Biotechnology & Medical Engineering, National Institute of Technology Rourkela, from (February 2018 – March 2023)
- **SERB National Post-Doctoral Fellow**, in Department of Biomedical Engineering, Indian Institute of Technology Hyderabad, from (April 2017 – February 2018)
- **Assistant Professor**, in Department of Biomedical Engineering, Vel Tech Institutions, Chennai, from (September 2015 – March 2017)
- **Temporary Faculty**, in Department of Instrumentation and Control Engineering, National Institute of Technology Tiruchirappalli, from (August 2014 – July 2015)
- **Ph.D. HTRA fellow**, in Department of Instrumentation and Control Engineering, National Institute of Technology Tiruchirappalli from (August 2010 – August 2014)

RESEARCH INTERESTS

- My principal field of research is electrocardiography, encompassing ECG signal analysis & processing, Cardiac arrhythmias, and atrial fibrillation, Biomedical devices, and Signal processing for bioelectric measurements
- Bio-signal and Image processing, Heart rate variability, Biomedical Instrumentation, and Bio-sensors development

SPONSORED R&D PROJECTS

1. **Device development for Automated Real time Prediction of Atrial fibrillation in Indian population.** Role: Principal Investigator, Agency: SERB, Govt. of India, Total Amount: 31.44 Lakhs, (2024-2027).

2. ***Developing an artificial intelligence-enabled multispectral reflectance photography device of the prediction of the shelf-life bakery products.*** Role: Co-Investigator, Agency: SERB, Govt. of India, Total Amount: 43.02 Lakhs, (2024-2027).
3. ***Development and validation of an artificial intelligence based portable screening device for potentially malignant & malignant oral disorders by narrow band imaging with autofluorescence and white light.*** Role: Co-Investigator, Agency: ICMR, Govt. of India, Total Amount: 62.20 Lakhs, (2024-2027).
4. ***Automated 3D Cephalometric Analysis 3 Tesla Magnetic Resonance Imaging Based on Artificial Intelligence.*** Role: Co-Investigator, Agency: ICMR, Govt. of India, Total Amount: 22.55 Lakhs, (2023-2026).
5. ***Design, development, and demonstration of struvite recovery by electrocoagulation from urinal systems for fertilizer applications.*** Role: Co-Investigator, Agency: DST-TDP, Govt. of India, Total Amount: 41.95 Lakhs, (2020-2022).
6. ***A dedicated atrial diagnostic electrocardiographic system for early detection of atrial diseases.*** Role: Principal Investigator, Agency: SERB, Govt. of India, Total Amount: 24.46 Lakhs, (2019-2023).
7. ***Clinical investigations on the performance of a modified limb lead ECG recording system for the study of atrial related diseases in Indian population.*** Role: Principal Investigator, Agency: SERB, Govt. of India, Total Amount: 19.20 Lakhs, (2016-2018).

PATENTS

1. J. Sivaraman, Modified Limb lead system for atrial ECG components, Indian Patent No: 508223, February 2024. (Granted)
2. N. Prasanna Venkatesh, J. Sivaraman, R. Pradeep Kumar, N. Bala Chakravarthy, Kunal Pal, A Reliable ECG lead system and an arrhythmia detection system, Indian Patent Application No: 202431094709, December 2024. (Filed)

PUBLICATION AND OTHER DETAILS:

<https://scholar.google.co.in/citations?user=W15QrUsAAAAJ&hl=en>

<https://www.researchgate.net/profile/Sivaraman-Jayaraman>

<https://nitrkl.irins.org/profile/94681>

<https://www.nitrkl.ac.in/FacultyStaff/FacultyProfile/jsiva>

REVIEWING ACTIVITIES (all ad hoc)

- Acta Cardiologica Sinica, Anatolian Journal of Cardiology, Applied Mathematics and Computation, Biocybernetics & Biomedical Engineering, Biomedical Signal Processing & Control, Biomedical Research, Computers in Biology & Medicine, Computer Methods and Programs in Biomedicine, Current Medical Imaging, Digital Health, IEEE Journal of Biomedical and Health Informatics, IET Image Processing, IEEE Sensors Letters, iScience, International Journal for Light and Electron Optics-Optik, International Journal of Cardiology, Journal of Electrocardiology, Journal of Experimental & Theoretical Artificial Intelligence, Measurement Science Review, Physical & Engineering Sciences in Medicine


AWARDS/FELLOWSHIPS/HONORS

- National Post-Doctoral fellowship (2017-2019) from SERB, Government of India.
- Young Engineering Leader-1st Indo-Chinese Young Engineering Leaders Conclave, Indian Institute of Technology, Gandhinagar, October 2015.
- INAE-IIT Gandhinagar Travel grant for 1st ICON, October 2015.
- Doctoral thesis was published as 'Ph.D. thesis of the month' in Biomedical Engineering Society of India, Newsletter "ENGMEDNEWS", June 2015.
- Ph.D. HTRA Fellowship (2010-2014) from Ministry of Human Resource and Development (MHRD), Government of India.

SOCIETY MEMBERSHIPS

- Indian Society for Technical Education (ISTE) - Life Member (LM No: 60757).
- International Society of Electrocardiology (ISE) - Life Member (LM No: 538).
- Biomedical Engineering Society of India (BMESI) - Life Member (LM No: 1094).
- International Society for Heart Research (ISHR) - Life Member (LM No: 33675655).
- IEEE-Engineering in Medicine and Biology Society (EMBS) - Senior Member (M No: 93859060).
- Society for Biomaterials & Artificial Organs India (SBAOI) - Life Member (LM No: 784).
- Heart Rhythm Society (HRS) - Member (M No. 294911).
- Institution of Engineers-Life Member (LM No: M-1731631).

Place: NIT-Rourkela
Date: February 2025


Signature