

## About the event:

This is a 3 day online FDP organized by the Dept. of Micro and Nanoelectronics, School of Electronics Engineering, Vellore Institute of Technology, showcasing the state-of-the-art and research scope of electronics in healthcare applications. The FDP will motivate faculty as well as research enthusiast to venture towards designing electronics system for use in healthcare. The FDP will feature talks by experienced Faculty and Industry Experts from different reputed academic organizations. It will lead the path to motivate and enlighten the next generation of electronics design engineers and faculty members. The target audiences are faculty members, research scholars, students working in the areas of VLSI Design, MEMS, Biomedical Electronics, Embedded Systems etc.

## Talks Scheduled:

- ❖ Role of VLSI in Biomedical Engineering and Healthcare.
- ❖ MOS Capacitor as an Amplifier in Neural Recording Applications
- ❖ The Role of Technology in Targeted Drug Delivery
- ❖ Embedded Sensor Systems in Medical Devices: In Synopsys & its Research Perspective
- ❖ Wearable Sensors in the Modern World
- ❖ Revolutionizing the healthcare industry with Triboelectric Nanogenerator (TENG) based Self Powered Sensors

## Resource Persons:

- ❖ Dr. Koushik Guha, NIT Silchar
- ❖ Dr. Pralay Chakrabarty, IIIT Bangalore
- ❖ Dr. Arun Chandrasekhar, VIT Vellore
- ❖ Dr. Vidhya S, VIT Vellore
- ❖ Dr. Sumit Kumar Jindal, VIT Vellore
- ❖ Dr. Kamlesh Badiyari, NXP Semiconductors

## Advisory Committee:

### Dr. Sivanantham S

Professor and Dean,  
School of Electronics Engineering (SENSE),  
Vellore Institute of Technology, Vellore, India.

### Dr. Jasmin Pemeena Priyadarisini

Professor & Associate Dean,  
School of Electronics Engineering (SENSE),  
Vellore Institute of Technology, Vellore, India

### Dr. Jagannadha Naidu K,

Assistant Professor Sr. & Head,  
Department of MNE, SENSE, VIT Vellore

## Coordinators

**Dr. Debashish Dash**, Asst. Professor Sr. Grade 2

**Dr. Naushad Manzoor Laskar**, Asst. Prof. Sr. Grade 1

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**Mode: Online**

**Platform – Microsoft Teams**

**Time: 10:00 AM to 5:00 PM**

**Registration Link:** <https://tinyurl.com/3nr4pyfw>

**Registration Fees: Rs. 500\*/- (including GST)**

**Payment Link:** <https://events.vit.ac.in/>

*\*For External Participants Only.*

*\*\*For Internal Participants no registration fees will be charged*



# Three Days Online Faculty Development Program

on

## Electronic Design in Healthcare: Recent Trends, Challenges and Research Scope

**12<sup>th</sup> to 14<sup>th</sup> October 2023**

Organized by

**Department of Micro and Nanoelectronics  
School of Electronics Engineering**

**Vellore Institute of  
Technology, Vellore**



**VIT**<sup>®</sup>  
Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)

**SCHOOL OF ELECTRONICS ENGINEERING**  
**DEPARTMENT OF MICRO AND NANO ELECTRONICS**  
**3 Days Online Faculty Development Program**  
**on**  
**Electronic Design in Healthcare: Recent Trends, Challenges and Research Scope**  
**12<sup>th</sup> to 14<sup>th</sup> October 2023 (10.00 a.m. – 5.00 p.m.)**

**Lecture Schedule**

**Platform: Microsoft Teams (Online)**

<b>S.No</b>	<b>Date</b>	<b>Session 1 (10:00AM -12:00PM)</b>	<b>Session 2 (03:00PM - 05:00PM)</b>
1	12/10/2023 (Thursday)	<b>Dr. Vidhya S</b> Associate Professor, VIT Vellore <b>Topic:</b> Wearable Sensors in the Modern World	<b>Dr. Kamlesh Badiyari</b> Sr. Design Engineer, NXP Semiconductors <b>Topic:</b> MOS Capacitor as an Amplifier in Neural Recording Applications
2	13/10/2023 (Friday)	<b>Dr. Pralay Chakrabarty</b> Postdoctoral Fellow, IIT Bangalore <b>Topic:</b> The Role of Technology in Targeted Drug Delivery	<b>Dr. Arunkumar Chandrasekhar</b> Associate Professor, VIT Vellore <b>Topic:</b> Revolutionizing the healthcare industry with Triboelectric Nanogenerator (TENG) based Self Powered Sensors
3	14/10/2023 (Saturday)	<b>Dr. Sumit Kumar Jindal</b> Associate Professor, VIT Vellore <b>Topic:</b> Embedded Sensor Systems in Medical Devices: In Synopsis & its Research Perspective	<b>Dr. Koushik Guha</b> Associate Professor, NIT Silchar <b>Topic:</b> Role of VLSI in Biomedical Engineering and Healthcare.



## PROFILE OF RESOURCE PERSONS

- ❖ **Dr. Vidhya S** is an Associate Professor with Dept. of Sensor and Biomedical Technology, School of Electronics Engineering in VIT, Vellore. She has published more than 30 papers in journals and conferences of international repute. She has also received grants for funded projects from renowned Govt. organizations like DRDO. Her current research interests include Medical Instrumentation, Medical Physics, Bio- Imaging Techniques and Processing, Sol-gel Biosensors, Rehabilitation Engineering etc.
- ❖ **Dr. Kamlesh Badiyari** is a Senior Design Engineer at NXP Semiconductors. He received his Ph.D. degree in Electrical Engineering from IIT Guwahati in 2021. From 2021, he is with NXP Semiconductors, India where, he is working on Automotive Radars. His research interests include Analog and RF-Integrated Circuits. Dr. Kamlesh is recipient of *Comsnet fellowship 2021*.
- ❖ **Dr. Pralay Chakrabarty** is a Postdoctoral Fellow at IIIT Bangalore. He received his Ph.D. degree in Electronics & Electrical Engineering from IIT Guwahati in 2022. From 2022 to July 2023, he was working as Analog Design Engineer with NXP Semiconductors. His research interests include circuits and system design for biomedical application.
- ❖ **Dr. Arunkumar Chandrasekhar** is an Associate Professor with Dept. of Sensor and Biomedical Technology, School of Electronics Engineering in VIT, Vellore. He has published 3 books with reputed international publishers and has also contributed towards publications of more than 70 papers in reputed international journals and conferences of IEEE, Springer, Elsevier etc. He has been a recipient of various awards and recognitions such as “*Dr. A.P.J Abdul Kalam Advisor Award - for Fast Track Research Initiative- 2019*”, “*Award for Outstanding Research and Development - by Deputy Prime Minister and Educational Minister of South Korea*”, “*Faculty Research Award 2019 and 2020*” among others. His current research interests include Energy conversion and storage, Self-powered systems, IoT devices, Nanomaterials, MEMS etc.
- ❖ **Dr. Sumit Kumar Jindal** is an Associate Professor with Dept. of Embedded Technology, School of Electronics Engineering in VIT, Vellore. He has 3 international patents granted to his credit. He has also authored 2 book chapters and also has more than 70 number of quality publications in reputed international journals and conferences. His research interests include MEMS, MOEMS, Sensor Technology, Embedded Systems, Electronics and Instrumentation etc.
- ❖ **Dr. Koushik Guha** is an Associate Professor with Dept. of Electronics and Communication Engineering in National Institute of Technology, Silchar, Assam. He has 7 international patents granted to his credit. He has also published more than 200 papers in journals like IEEE, Springer, Elsevier etc. and conferences of international repute. He has authored around 35 book chapters and 2 books. Currently he is nominated as Associate Editor of prestigious journal of Microsystem Technologies of Springer and Editor of IETE Journal of Research, Taylor & Francis. Dr. Guha has been involved in a no. of R&D projects from various Govt. organizations like *SMDP-C2SD, SMDP-C2S from Meity, Govt. of India, Horizon 2020 funded international project with Tyndall National Institute of Ireland, India Italy bilateral international project etc.* He has received number of awards like “*Sardar Vallabhbhai Patel National Reformer Award 2018*”, “*Outstanding faculty in engineering under VIFA 2018*”, “*Institute of Scholar Research Excellence Award 2020*”, *Distinguished Faculty Award 2021 etc.* His current research interests include mimicking human body functions using MEMS technology, RF MEMS, BIO-MEMS, MEMS energy harvesting, design and development of smart sensors for IoT, Biomedical VLSI circuit design and optimization.