

**Five Day Online Short Term
Training Program (STTP)**

on

**VLSI Architectures for
Digital Signal Processing
Systems**

(VADSPS-21)

June 14 - 18, 2021



Organized by



**Department of Electronics and
Communication Engineering**

National Institute of Technology Calicut

Kozhikode, Kerala, India - 673601

About Department

The UG programme in Electronics & Communication Engineering started in 1980 in the Department of Electrical Engineering. The rapid development in Electronics and Communications initiated the inception of a separate Department of Electronics & Communication Engineering in 1997, after the bifurcation of the Department of Electrical Engineering.

The department offers four regular M. Tech programmes, viz., Electronic Design Technology, Microelectronics & VLSI, Signal Processing and Telecommunication leading to the M. Tech degree of the institute. In addition to the above, there are a number of students pursuing research at the Department in various fields of Electronics & Communication Engineering leading to Ph.D. The Department is a recognized QIP Centre of the AICTE for both M. Tech and PhD programs. The Department is also actively engaged in R&D activities. Sponsored research programmes funded by various agencies are undertaken by the faculty of the department. For details see our website: www.ece.nitc.ac.in

About NIT Calicut

National Institute of Technology Calicut (NITC) is fully centrally funded by MHRD and is governed by the NIT Act 2007. Institute has ten departments, three schools and nine research centers. It offers ten UG, and thirty PG programmes along with the Ph.D programme in various fields of Science, Technology and Engineering. Faculties in the various Departments have active collaborations with universities and elite institutions within and outside India for research and have active consultancy for industries. For details visit the website: www.nitc.ac.in

Preamble

The field of Digital Signal Processing (DSP) is always driven by its applications and advances in VLSI technologies. Hence, challenges are always imposed by them on implementations of DSP systems. Such implementations must satisfy the enforced speed, area and power constraints of real-time DSP applications. The goal of this STTP is to provide critical concepts in the understanding of the state-of-the-art digital system design and techniques used to design custom or semi-custom VLSI circuits for DSP applications. It will cover the concepts from fundamentals to advanced level, giving thrust to implementation aspects of DSP systems.

Key Highlights
<ul style="list-style-type: none"> • This STTP focuses on concepts related to custom or semi-custom implementation of DSP systems. • Online Lab Sessions related to Verilog Hardware Description Language (HDL) will be conducted. • Sessions will be held in Morning and Evening each day.
Course Content
<p>This program will cover the following topics:</p> <ul style="list-style-type: none"> • Graphical Representation of DSP Algorithms. • Pipelining and Parallel Processing, Retiming, Folding and Unfolding Transformations, Strength Reduction. • Distributed Arithmetic, Canonic Signed Digit Arithmetic, Redundant Arithmetic. • Speed-Power-Area-Accuracy Tradeoffs. • Memory Bandwidth Management. • DSP for Embedded Applications. • Multirate filters and filter banks - Applications and VLSI Implementations. • Digital Design Using Verilog HDL.

Who can apply?
<p>Fee for participants (including GST) is: <i>UG & PG Students, Research Scholars</i> : Rs. 595/-</p> <p><i>Faculty</i> : Rs. 1190/-</p> <p><i>Industry Professionals/Others</i> : Rs. 2380/-</p> <p>Registration fee has to be paid through online transfer. Bank details are provided below.</p> <p><i>Account Name</i> : Director, NIT Calicut</p> <p><i>Account No</i> : 37618269594</p> <p><i>Bank</i> : State Bank of India.</p> <p><i>Branch</i> : NITC Branch.</p> <p><i>IFSC code</i> : SBIN0002207</p> <p>After payment, registration can be completed by filling the form available at https://forms.gle/pQnFv4GFsPCGiu4TA</p> <p><u>Last date for registration is June-11, 2021.</u></p> <p>Certificates will be provided to registered participants upon completion of course.</p>
Who can apply?
<p>UG & PG students, Research Scholars, Faculty, Industry professionals and other professionals who are working in the area of DSP system implementations.</p>

Resource Persons
<p>All sessions will be handled by the faculty of NIT-C ECED and resource persons.</p> <p>Confirmed Speakers are:</p> <ol style="list-style-type: none"> 1. Dr. Elizabeth Elias (Retired Professor of NIT-Calicut), Professor and Director of Sahrdaya College of Engineering and Technology. 2. Dr. Rahul Shrestha, Assistant Professor, School of Computing and Electrical Engineering, IIT Mandi. 3. Dr. Indranil Hatai, Adjunct Professor, ECED, Myanmar Institute of Information Technology. 4. Dr. Rakesh Biswas, Assistant Professor, ECED, Indian Institute of Information Technology Guwahati.
Address for Correspondence
<p>Dr. Ashutosh Mishra, Dr. M. Surya Prakash Coordinators of VADSPS-21 Department of Electronics and Communication Engineering National Institute of Technology Calicut NIT Campus P. O. - 673601, Kozhikode +91-9474985651 (Dr. Ashutosh Mishra), +91-8500651905 (Dr. M. Surya Prakash) Email: vadsps@nitc.ac.in</p>