



FACULTY DEVELOPMENT PROGRAMME (FDP) ON

VLSI DESIGN VERIFICATION AND TESTING

10th June – 15th June 2019

Organized by
Electronics & ICT Academy, NIT Warangal
(Sponsored by MeitY, Govt. of India)



LENDI INSTITUTE OF ENGINEERING & TECHNOLOGY

Jonnada Mandal, Vizianagaram

Preamble: "Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GOI. Role of the academy is to offer faculty development programmes in standard courses and emerging areas of Electronics, Information and Communication Technologies, Training & Consultancy Services for Industry, Curriculum development for Industry, CEP for working professionals, advice and support for technical incubation and entrepreneurial activities.

About the Workshop

Faculty Development Program (FDP) on "VLSI Design testing and Verification" is meant to introduce the concepts and techniques of 'Design Verification' and 'Manufacturing Test' of digital integrated circuits. Recently (in the last 5-6 years) lot of works are under progress in both Testing and Verification areas where solutions are borrowed from one application domain to the other and this trend enabled the development of robust, automated CAD frameworks. Few problems in these areas are well understood and efficient CAD techniques are developed to solve them to such an extent that solutions to different problems tend to overlap across various fields and domains. For example, testing a fabricated chip for manufacturing defects is one of the most successfully tackled problems in VLSI CAD areas.

Automatic Test Pattern Generation (ATPG) algorithms with highly accomplished search techniques are widely available, particularly for sequential circuits - where a lot of research has been devoted to analyze the state space in order to excite the faulty behavior of a defective circuit. As you may learn in the course fundamentally, the problem of verifying functional equivalence of two different sequential circuit implementations also requires state space analysis. The proposed FDP is intended for faculty, practicing engineers and people from R & D working in the fields of VLSI Design verification and testing etc. Main motto of the proposed FDP is to provide the basic fundamental know-how's of different verification and testing methodologies with inculcated hands-on practice sessions and advancements.

Major Course Contents:

- SoC Design - an industrial perspective
- Hardware Description Languages
- Data Types, Concurrent Statements
- Hardware Verification through Simulation
- Circuit Level Verification
- Sequential Statements
- Behavioural Modelling
- Need for system level design and verification
- Assertions and Checkers
- Data path and Control path design
- Development of test-benches and concept of code coverage
- Concepts of formal verification
- VLSI Testing and Testable Design
- Test Pattern Generation
- Design for Testability and Built-in-Self Test Fundamentals

Faculty Conducting This Program: The program will be conducted by faculty members from NIT Warangal; Academicians in the concerned field from IITs/NITs/IIITs are invited to deliver lectures in the program. Speakers from industries are also expected to deliver as part of the course.

Eligibility: The program is open to the Faculty of Engineering Colleges, MCA Colleges and other allied disciplines in India. Industry personnel working in the concerned /allied discipline can also attend.

Organized at: The program will be coordinated and conducted at the electronics and Communication Engineering Department of **LENDI Institute of Engineering and Technology, Vizianagaram**. Entire course will be accomplished by academicians from premier institutions, Industry experts and Research advisors etc.

Accommodation: No TADA will be paid to the participants. Free lodging and boarding facilities will be provided to the outstation participants.

Venue: Dept. of ECE, Lendi Institute of Engg. and Tech. Vizianagaram.

Registration Fee Particulars:

Faculty and Research Scholars	Rs. 2500/-
Faculty of SC/ST Category	Rs. 1875/-
Industry Participants	Rs. 7500/-

*SC/ ST participant faculty members should submit a copy of caste certificate along with the application form to claim the concession. Research Scholars are not eligible for SC/ST concession. Entire registration fee is to be collected in the form of DDs/Online transfer using the following details:

DD Details	Online Transfer Details
Demand Draft drawn in favor of "Director, NIT Warangal" payable at any bank in Warangal	Account Name: Electronics & ICT Academy NITW Account No: 62423775910 IFSC: SBIN0020149

How to apply: Application forms filled in the prescribed format duly signed by appropriate sanctioning authorities as well as the demand draft towards registration fees should reach the coordinator by speed-post. It is also mandatory for intending participants to e-mail copies of scanned application form and demand draft to sridhar.vskp@gmail.com and patri@nitw.ac.in as selection to the participants will be intimated only through e-mail.

Selection Criteria: Selection of participants will be done on *first-cum-first-serve basis* and shortlisted participants will be notified immediately. The maximum number of participants allowed for participation is limited to fifty (50) only. Additionally 10 participants from industry are allowed to participate. Final list of selected participants will be intimated on their personal e-mail ids and notified in the institution web site www.lendi.org also. The demand drafts of candidates not shortlisted for participation will be returned back. Participants are required to undergo a test at the end of the FDP. Participants will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting participants as per GOI norms.

Important dates:

Last date for submission of application	01.06.2019
Selection-list intimation/display before	05.06.2019

About NITW & LIET:

National Institute of Technology (formerly Regional Engineering College), Warangal is the first among 17 RECs set up as a joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institution imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering and M.Tech. and Ph.D. programs in various specializations.

LENDI Institute of Engineering and Technology (LIET) is established under the aegis of Sai Dhamam Educational Trust, Visakhapatnam with a sacred objective of providing educational opportunities to engineering aspirants nearby. LENDI is one of the premier Institutions in Coastal Andhra accredited by NBA & NAAC with 'A' Grade. LENDI is offering four UG Programmes in CSE, ECE, MECH & EEE branches and two PG M.Tech Programmes in CSE and VLSI specializations. Department of Electronics and Communication Engineering was started with an initial intake of 60 students and further enhanced to an intake of 180 students at graduation level. Post-Graduation M.Tech program in Embedded Systems & VLSI Design was introduced in 2014 – 2015 with an intake of 18 seats. Department of ECE is equipped with state of art infrastructure in addition to licensed software tools.

APPLICATION FORM FOR **FACULTY DEVELOPMENT PROGRAMME**

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At
LENDI INSTITUTE OF ENGINEERING & TECHNOLOGY
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1. Name:

2. Designation:

3. Institution:

4. Email:

5. DD No:

Bank:

Date:

6. Address for Correspondence :

7. Educational Qualifications with specialization:

8. Subjects taught so far:

9. No. of refresher courses/workshops attended:

10. Experience (in years)

Teaching:

Research:

Industry:

11. Accommodation required: YES / NO

12. Are you belong to SC/ST: YES/NO

Dr./Mr./Ms..... is an employee of our Institute/Organization and is hereby sponsored to participate in the FDP on **VLSI Design Verification and Testings** sponsored by **Electronics & ICT Academy** during **10th - 15th June, 2019** at **LIET, VIZIANAGARAM.**

Place:

Date:

Signature of Head of Institution

(With seal)

Address for correspondence

Dr.S.Sridhar

Coordinator

FDP on VLSI Design Verification and Testing

Department of Electronics and Communication Engineering

LENDI Institute of Engineering & Technology,

Jonnada, Beside Vizag-Vizianagaram highway Road,

Vizianagaram-535005 Andhra Pradesh, India

E-Mail scanned copies of application form and DD

to sridhar.vskp@gmail.com, patri@nitw.ac.in

For more information visit: <http://nitw.ac.in/eict/>

<http://lendi.org>

For any enquiry contact:

Mobile: 8790651793, 9441342324

Land line: 0870-2462444

Declaration

The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the FDP and shall attend the course for the entire duration. I also undertake the responsibility to inform the Coordinator in case, I am unable to attend the course.

Place:

Date:

Signature of the applicant

Coordinators

Dr. P.SREEHARI RAO

Department of ECE,

Electronics & ICT Academy

NATIONAL INSTITUTE OF TECHNOLOGY

WARANGAL

Dr.S.SRIDHAR

Department of ECE,

LENDI INSTITUTE OF ENGINEERING AND

TECHNOLOGY

VIZIANAGARAM