



"Azadi ka Amrut Mahotsav" 75 years of India's independence



A One Week Workshop on Reconfigurable Computing: FPGA based System Design 05 to 09 July 2021, Online Mode

Venue	Online Mode
Objective	This workshop aims to provide the basics and importance of reconfigurable computing, architectures and Applications of CPLD and FPGAs, Design implementation on FPGA prototype board. Programmable ASIC Design methodology. CPLD and FPGA Architectures and programming. Evolvable Hardware and Fault Tolerant Reconfigurable Computing. Image/Video Processing on FPGA prototype board.
Topics to be Covered	<ul style="list-style-type: none">• Introduction to Reconfigurable Computing and paradigms of computing.• Reconfigurable Configurable Hardware- Device Architecture, Reconfigurable Computing Architecture, Reconfigurable Computing Systems, Reconfigurable Management.• Programming Reconfigurable Systems - Compute Models and System Architectures, Programming FPGA Applications in HDLs; Programmable ASICs Design Methodology; CPLD and FPGA Architectures and Programming• Evolvable Hardware• Fault Tolerant Reconfigurable Computing• Image/Video Processing System implementation on FPGA
Target Audience	Faculty/Scientists/Researchers/M. Tech and B. Tech Students working in the area of FPGAs and Reconfigurable Computing.
Prerequisite	Participant should have the working knowledge of basic understanding of Digital Logic Design, VLSI Design and HDL Programming.
Registration Details	Registration Link: https://docs.google.com/forms/d/e/1FAIpQLSfj-5NcCi9wosNmK_Eizp09OVUs_nxSnpB6wUgfDOKiPw9hg/viewform
Registration Fees	R&D Labs/ Faculty/ PSUs/Research Scholars, M. Tech & B. Tech Students – Rs. 1180/- (Inclusive of 18% GST on Rs. 1000/-)
Payment	NEFT or IMPS Account Details: IIITDM Educational Events; Acc.No:35594334673; State Bank of India; Kandigai Branch; IFSC code: SBIN0018365. Please mail payment receipt to noor@iiitdm.ac.in, in order to Get Confirmation.
Contact Info:	Dr Noor Mahammad Sk Workshop Organizing Chair Indian Institute of Information Technology, Design and Manufacturing (IIITDM) Kancheepuram Melakottaiyur, Vandalur - Kelambakkam Road, Chennai - 600 127, Tamil Nadu, India. For enquiry and clarification, please contact: Email: noorse@gmail.com; 044-2747 6349/ 91760 10587(M)

Indian Institute of Information Technology Design and Manufacturing (IIITDM) Kancheepuram in Centrally Funded Technical Institute under Ministry of Education.
Research Innovation Centre, Chennai is Research laboratory of Defense Research Development Organization (DRDO) under Ministry of Defense.



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		Time	Topic	Speaker
DAY 1,	MON 05 July 21	1000-1100	Inaugural Key Note Talk	Dr V Natarajan, Director, RIC, DRDO
		1100-1115	Tea Break	
		1115-1230	Introduction to Reconfigurable Computing	Dr Noor Mahammad
		1230-1400	Lunch Break	
		1400-1600	Practice: Programmable ASIC Design Methodology	Dr Noor Mahammad
DAY 2	TUE 06 July 21	1000-1100	Reconfigurable Computing Applications in Defence	Mr Ramesh Reddy, Sci F, RCI, DRDO
		1100-1115	Tea Break	
		1115-1230	CPLD and FPGA Architectures	Dr Noor Mahammad
		1230-1400	Lunch Break	
		1400-1600	Introduction to HDLs and Design Flow	Dr Noor Mahammad
DAY 3	WED 07 July 21	1000-1100	Radiation fault tolerant electronics technology using reconfigurable solutions, Past, present and future	Mr P Balasubramanian, Sci F, RCI, DRDO
		1100-1115	Tea Break	
		1115-1230	Reconfigurable Computing Architectures	Dr Noor Mahammad
		1230-1400	Lunch Break	
		1400-1600	Block RAM initialization and Experiments	Mr Dhayalakumar
DAY 4	THU 08 July 21	1000-1100	Fault Tolerant Reconfigurable Computing	Dr Noor Mahammad
		1100-1115	Tea Break	
		1115-1230	Reconfiguration Management	Dr Noor Mahammad
		1230-1400	Lunch Break	
		1400-1600	FPGA based Image Processing System Design	Mr Dhayalakumar
DAY 5	FRI 09 July 21	1000-1100	Packet Processing using FPGAs	Dr Noor Mahammad
		1100-1115	Tea Break	
		1115-1230	Evolvable Hardware	Dr Noor Mahammad
		1230-1400	Lunch Break	
		1400-1600	FPGA based Video Processing System Design	Mr Dhayalakumar

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Dr V NATARAJAN

Director, Research and Innovation Centre, Govt. of India, Ministry of Defence, Defence Research and Development Organization (DRDO), IITM Research Park, Chennai.

Research interests are: Underwater Acoustics, Transducer Design and Fabrication, MEMS, Piezoelectric Thin-film and Single Crystal Growth, IR Material Development, Technology Management.



Shri RAMESH REDDY

Scientist F, Research Centre Imarat, Govt. of India, Ministry of Defense, Defense Research and Development Organization (DRDO), Vignyana Kancha, Hyderabad.



Shri P BALASUBRAMANIAN

Scientist F, Research and Innovation Centre, Govt. of India, Ministry of Defense, Defense Research and Development Organization (DRDO), IITM Research Park, Chennai.

Research interests are reliable high-performance computational platform, radiation fault tolerant design and bio-inspired self-healing electronics.



Dr NOOR MAHAMMAD SK

Assistant Professor, Dept. of Computer Science and Engineering, Indian Institute of Information Technology Design and Manufacturing (IIITDM) Kancheepuram, Chennai.

His Research interests are Reconfigurable Computing, Evolvable Hardware, VLSI Design, VLSI Architectures for Digital Signal Processing, Network System Design, Algorithms and Architectures for Packet Processing. <http://web.iiitdm.ac.in/noor/>

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