



24th International Symposium on VLSI Design and Test (VDAT 2020)

Bhubaneswar, India, July 2-4, 2020



Call for Papers

Theme: Chip to System for Edge Computing

VDAT began as a small workshop in the year 1998. In 2005, it acquired the status of a Symposium. The purpose of the Symposium is to promote the advancement of all aspects of VLSI. The 24th International Symposium on VLSI Design and Test (VDAT-2020) will be hosted at IIT Bhubaneswar. The aim of this symposium is to bring academics, researchers, startups, and industrial practitioners together to exchange their ideas in the area of VLSI design, test, and system design. We invite prospective authors to submit their original research papers and reviews of emerging technologies, in standard IEEE double-column format, concerning any branch of VLSI Circuits and Systems which covers a wide range of topics including, but not limited to:

Low-Power Integrated Circuits and Devices

Analog/Digital/Mixed Signal Circuits
Low-Voltage Low-Power Sensors and Interfaces
Circuit design for reliability
Device Modeling and Simulation
MEMS/NEMS/MOEMS Devices, Organic Devices

FPGA based Design and Embedded Systems

High-Speed Interconnects in Microelectronic Systems
Adaptive Computing Using Reconfigurable Fabrics
Large-Scale Systems and Power Networks
Hardware-Software Co-design
Reconfigurable and FPGA Design

Memory and Computing Processor Design

Memory Design
STT-RAM, PC-RAM, R-RAM, and Memristors
Emerging Memory Technologies
Neuromorphic Computing
Quantum Computing

System-Level Design

Systems-on-Chip (SoC)
Mixed-Mode System-on-Chip
Lab-on-Chip, Network-on-Chip
Wireless Transceivers, Multimedia Processors
Heterogeneous and Homogeneous MPSoCs

VLSI Architectures and System Integration

VLSI Signal Processing Architectures
Biomedical and Bio-Inspired Systems
RF Integrated Systems
Optoelectronic-Circuits and Systems
Power Electronics and Systems
Control aspects of VLSI Systems
Machine Learning Architectures
Low-Power IoT Architectures and Systems
Compressive Sensing, Wireless Systems

Emerging Integrated Circuits and Systems

Artificial Intelligence Accelerators
Internet of Things
Cognitive Computing Systems
Embedded Hardware Security and Cryptography
Printed & Flexible Electronics
Low Power Nanoelectronics
Low Power Edge Computing Systems
Wearable and Implantable Circuits
Advanced 3D ICs & 3D Packaging

VLSI Testing and Security

Hardware Security and VLSI Design Optimization
Hardware Attacks, Detection, Threat Modelling
Fault diagnosis and Fault Models
DFT and BIST for digital designs
Hardware-Based Security Primitive Design
Trusted Design Automation, Tools & Information Flow
IP Design, quality, interoperability and reuse

CAD for VLSI

Design Automation and CAD tools
Design flows for MPSoCs
ML/AI based design-flows and EDA
Design automation for DFX
Virtual Prototyping
CAD of FPGAs
High-Level Synthesis

<https://conference.iitbbs.ac.in/VDAT2020/>



24th International Symposium on VLSI Design and Test (VDAT 2020) Bhubaneswar, India, July 2-4, 2020



Advisory Committee

Prof. Vishwani D. Agarwal, Auburn University, USA
Prof. Ulf Schlichtmann, Technical University of Munich, Germany
Prof. V. Ramgoapl Rao, Director, IIT Delhi
Prof. Manoj Singh Gaur, Director, IIT Jammu
Prof. Sukumar Nandi, IIT Guwahati
Prof. Michael Huebner, BTU Cottbus-Senftenberg, Germany
Dr. Satya Gupta, CEO, senZopt Technologies, India
Jaswinder Ahuja, Managing Director, Cadence, India
Dr. Anirban Sengupta, IIT Indore, India
Prof. Roy Paily Palathinkal, IIT Guwahati, India
Prof. Milos Krstic, IHP, Germany
Prof. Ajit Kumar Panda, NIST, Berhampur
P. R. Sahu, IIT Bhubaneswar
Dr. Gaurav Trivedi, IIT Guwahati
Sunita Verma, Scientist 'G', Meity, Govt. of India

General Chairs

Prof. R. V. Raja Kumar, Director, IIT Bhubaneswar
Prof. Gopal Krishna Nayak, Director, IIIT Bhubaneswar

Co-General Chairs

Prof. S. K. Mahapatra, Dean Continuing Education, IIT Bhubaneswar
Prof. N. C. Sahoo, Head of School (SES), IIT Bhubaneswar

Organizing Chairs

Dr. Srinivas Boppu, IIT Bhubaneswar
Dr. Pradyut Kumar Biswal, IIIT Bhubaneswar
Dr. Prachet Bhuyan, KIIT Bhubaneswar

Program Chairs

Prof. Sudeb Dasgupta, IIT Roorkee
Prof. Virendra Singh, IIT Bombay
Prof. Anand Bulusu, IIT Roorkee
Dr. Gaurav Trivedi, IIT Guwahati

Women in Engineering (WIE) Chairs

Sunita Verma, Meity, Govt. of India
Dr. Amandeep Kaur, IIT Jodhpur

Tutorial Chairs

Navin Bishnoi, Marvell Semiconductor, Bangalore
A David Selvakumar, Senior Director, CDAC Bangalore
Dr. Nijwm Wary, IIT Bhubaneswar

Publicity Chairs

Dr. Tushar Sharma, University of Calgary, Canada
Dr. Suwendu Rup, IIIT Bhubaneswar
Dr. Padmalochan Bera, IIT Bhubaneswar

Publication Chairs

Dr. Srinivas Pinisetty, IIT Bhubaneswar
Dr. Rakesh Chandra Balabantaray, IIIT Bhubaneswar

Registration Chairs

Dr. Srinivas Bhaskar Karanki, IIT Bhubaneswar
Dr. Debiprosad Dogra, IIT Bhubaneswar

Hospitality Chairs

Dr. Anoop Thomas, IIT Bhubaneswar
Dr. Soumya Prakash Dash, IIT Bhubaneswar

Sponsor & Fellowships Chairs

Dr. M.S. Manikandan, IIT Bhubaneswar
Rama Rao Kotapally, Founder and CEO, Tsilicon, Bangalore
Dr. Siddhartha S. Borkotoky, IIT Bhubaneswar

Finance Chairs

Dr. M. S. Manikandan, IIT Bhubaneswar
Dr. Gaurav Trivedi, IIT Guwahati

Exhibition & Design Contests Chairs

Rama Rao Kotapally, Founder and CEO, Tsilicon, Bangalore
Dr. Nijwm Wary, IIT Bhubaneswar
Dr. Debapratim Ghosh, IIT Bhubaneswar

Contact

Phone: +91 78944 27738, +91 93984 97589, +91 93984 02774
E-mail: vdat2020@iitbbs.ac.in

Takeaway

Tutorial: Tutorials are invited on the cutting edge research and technology in the area of advanced materials/devices, circuit and systems. **Design Contest:** The contest has two divisions. One is to design the analog/digital/RF/mixed signal module using EDA tools and other one is to design and demonstrate the safe and secure intelligent systems using hardware. The forum will provide opportunities to the participants to learn hands on practice for chip to system design (C2SD) and embedded system design using sensors and advanced interface devices. **Fellowship (Travel and Registration):** The scheme provides an opportunity to applicants to attend the symposium to enhance technical knowledge. The fellowship covers the travel & registration grant. To avail the fellowship, please keep eye on symposium site.

Forums

Student Research Forum: Students, including bachelors, masters and PhDs may participate in this forum through presenting their work for better technical inputs to further improve the quality of work. This forum may also provide an opportunity to the students to establish the network with industry players for job perspective. **Startup Forum:** This forum will provide the opportunities to participants to get aware of the various schemes/initiatives offered by the states and central government in chip fabrication, electronics manufacturing clusters, IoT, ML and AI etc. The forum will also provide a platform to the participants to explore the funding opportunities from venture capitalist, by presenting their ideas. **Women in Engineering Forum:** The forum will provide the opportunities to the female participants to accelerate their engagement in the area of chip design and autonomous embedded systems.

Important Dates & Submission Instructions

Regular Papers

Full Paper Submission: ~~March 15, 2020~~ April 10, 2020
Notification of Acceptance: ~~May 1, 2020~~ May 15, 2020
Camera Ready Paper: ~~May 10, 2020~~ May 31, 2020

Tutorials

Tutorial Proposal Submission: ~~March 18, 2020~~ April 15, 2020
Tutorial Announcement: ~~April 15, 2020~~ May 15, 2020

Authors are invited to submit original, unpublished research manuscripts on the above topics. Submissions must be done through Microsoft CMT system (<https://cmt3.research.microsoft.com/VDAT2020>). All papers will be reviewed by at least three members of the program committee, with a double-blind review process. Soft copies of papers should be submitted in PDF format as per the IEEE conference style, manuscripts should not exceed six A4 size pages and should be uploaded online. All accepted papers must be presented by one of the authors in order to be included in the proceedings which will be published in IEEE Xplore.

Student Research

Full Paper Submission: ~~April 2, 2020~~ April 31, 2020
Notification of Acceptance: ~~April 25, 2020~~ May 15, 2020
Camera Ready Paper: ~~April 30, 2020~~ May 31, 2020

Design Contest

Submission of Design: ~~April 20, 2020~~ April 31, 2020
Notification of Acceptance: ~~May 15, 2020~~ May 31, 2020