About FDP:

- The future of the semiconductor industry is deeply connected with emerging technologies like AI, IoT, and advancements in next generation semiconductors.
- These technologies are key drivers of semiconductor industry growth, contributing to the next generation of semiconductor technology.
- The FDP aims to overcome current limitations in semiconductor technology such as the physical limits of miniaturization, energy efficiency and the development of novel computing paradigms.
- Ongoing studies & breakthrough in these fields could pave the way for next generation electronic devices & significantly impact various industries.

About AICTE Training and Learning (ATAL) Academy:

The Government of India in association with AICTE launched the ATAL Academy in 2018. The vision of ATAL Academy is to empower faculty to achieve goals of Higher Education such as access, equity and quality.

Objectives of FDP:

- The Faculty Development Programme (FDP) on Advancements in Next Generation Semiconductors aims to enhance participants' understanding of emerging semiconductor technologies and modern VLSI design methodologies.
- It focuses on next-generation semiconductor devices, nanowires, nanotubes, heterostructures, organic semiconductors, fabrication technologies, and sustainable manufacturing practices.
- The programme intends to provide insights into physical design implementation, high-speed wired links, design for testability, VLSI design flows, in-house chip design, and novel architectures.
- It also explores the future of semiconductor technology beyond Moore's Law, enabling participants to understand current research trends, industry challenges, and innovative solutions driven by AI, IoT, and advanced computing paradigms. To strengthen research capabilities in emerging areas such as nanoelectronics, compound semiconductors, and semiconductor fabrication.

CHIEF PATRON

Shri. Sunil Raisoni
Chairman, Raisoni Education

PATRON

Shri. Shreyas Raisoni
Executive Director, Raisoni Education

HONORARY CHAIRS

Dr. Vivek Kapur
Campus Director, Shraddha Park

Dr. Achal Shahare
Director, GHRCEM, Nagpur

HEAD OF DEPARTMENT

Dr. Devashree Marotkar
Asso. Professor, E&TC Dept.
Dr.Sanket Kasturiwala
Incharge HoD & Asso. Professor, E&TC Dept.

COORDINATOR

Dr. Swati Dixit
Professor, Dept. of E&TC Engg.
Email ID : swati.dixit@raisoni.net
Mob : 9850220362

CO-COORDINATOR

Ms. Priyanka Chopkar
Assistant Professor, Dept.of E&TC Engg.
Email ID : priyanka.chopkar@raisoni.net
Mob : 9881744032

G H Raisoni College of Engineering & Management, Nagpur
Shraddha Park, B-37-39/1, MIDC, Hingna-Wadi Link Road, Nagpur-16
Email : ghrcemn@ghrcemn.raisoni.net
Web : ghrcemn.raisoni.net

GH raisoni COLLEGE
Engineering and Management
Nagpur

ATAL

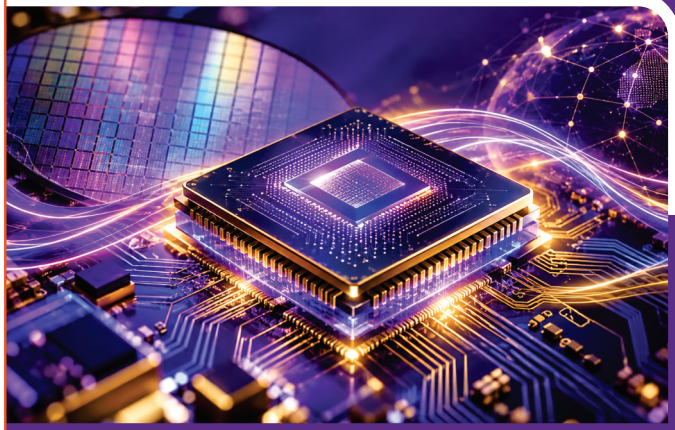
AICTE Training and Learning (ATAL) Academy

Sponsored

Online Faculty Development Programme

on

Advancements in Next Generation Semiconductors



Dates : 11th-16th January, 2027
Venue : GHRCEM, Nagpur (FDP in Online Mode)

Organized by
Department of Electronics & Telecommunication Engineering
(Accredited by NBA-Tier-I)

G H Raisoni College of Engineering & Management, Nagpur
An Autonomous Institute
Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
Accredited by NAAC with "A+" Grade

raisoni EDUCATION
Nagpur | Pune | Jalgaon | Amravati | Pandhurna | Bhandara

Outcomes of FDP:

- To acquire comprehensive knowledge of emerging semiconductor technologies and their applications in next-generation electronic systems.
- To gain practical understanding of advanced VLSI design flows, design for testability, fabrication technologies, physical design implementation, and high-speed semiconductor communication systems.
- To evaluate novel semiconductor materials, heterostructures, nanotechnology-based devices, and sustainable manufacturing approaches.
- To strengthen the research capabilities, promote industry-oriented teaching, and encourage innovation in in-house chip design.
- To enable participants to identify future research opportunities aligned with AI, IoT, and next-generation semiconductor advancements.
- To gain enhanced knowledge of next-generation semiconductor technologies, materials, and device architectures.
- To improve teaching methodologies by integrating recent advancements in semiconductor engineering into academic curricula.
- To increase awareness of industry trends, various initiatives, and opportunities in the semiconductor ecosystem and to encourage interdisciplinary collaboration, innovation, and entrepreneurship in semiconductor technologies.
- To develop network of academicians, researchers, and industry experts for future collaborative research and faculty development initiatives.

About the College:

G H Raisoni College of Engineering and Management, Nagpur was established in 2008 and commissioned with a very specific aim of creating a niche, wherein students can enjoy a precinct of their freedom and attain the excellence while being in a distraction free and truly competitive milieu. This is an Autonomous College affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, accredited by NAAC with A+ grade.

About the Department:

The department of Electronics and Telecommunication Engineering at GHRCEMN has the well-equipped curriculum-related state- of-the-art laboratories and modern infrastructure. The Department has many facilities for assisting research and development in AR-VR, Communication, VLSI, Image Processing, Embedded Systems and Wireless Technology. Department has a strong research program leading to the M.Tech.VLSI and PhD degree in the area of Electronics and Telecommunication Engineering.

Target Audience:

Faculty members of AICTE approved institutions, Research Scholars & PG scholars and Industry Personnel.

Selection Criteria:

1. Number of participants is limited to 100.
2. There is no course fee for the participants.
3. Selection of the participants will be based on the first come first serve basis.

Eligibility for getting a Certificate:

1. Registration of participants on ATAL portal
2. 80% Attendance for sessions is mandatory.
3. Minimum 70% marks in the test
4. Submission of feedback through ATAL Portal

Details of Registration:

Registration has to be done only through ATAL portal:
https://atalacademy.aicte.gov.in/login

For more information, kindly visit:
https://atalacademy.aicte.gov.in/FAQs

Last date for receipt of registration form : 2nd January 2027

Intimation of selection on or before : 6th January 2027

The FDP is completely in Online Mode only.

Topics to be covered:

Thrust Area: Semiconductors

Sub Areas:

- **Next Generation Semiconductor Devices**
- **Nanowires and Nanotubes**
- **Futuristic Trends in Physical Design Implementation**
- **Semiconductor Technology in Latest High Speed Wired Links**
- **Design for Testability**
- **Design Flows & Challenges in VLSI**
- **Organic Semiconductors**
- **Heterostructures: Solar Cells: Dye-Sensitized Solar Cells**
- **Novel Architectures**
- **Harnessing Generative AI for Sustainable Manufacturing**
- **Moore's Law & the Future of Semiconductor Technology**
- **In House Chip Design**
- **Awareness Session: Drug Use Prevention, early Identification and intervention for substance use disorders**

Resource Persons:



Mr. Abhay Samant
Director of Systems R&D, Aero/Def/Gov Business Unit,
National Instruments Austin, Texas, United States
Experience :32 Years



Dr. Ravindra Kumar Gupta
Asso.Professor,King Abdullah Institute for Nanotechnology,
King Saud University, Riyadh, Saudi Arabia
Experience : 28 Years



Mr. Suchdeep Singh Juneja
Embedded Software Design Engineer at ASML Eindhoven,
North Brabant, Netherlands
Experience : 7 Years



Dr. Saurabh Saxena
Associate Professor,
IIT, Madras, India
Experience : 17 Years



Dr. Basantkumar Mohanty
Former Director, IIIT,
Sambalpur, India
Experience : 34 Years



Dr. Ganesh Patil
Associate Professor,
VNIT, Nagpur, India.
Experience : 22 Years



Dr. Vikas Vijayvargiya
Asso.Professor,
VIT,Vellore, India.
Experience:17 Years



Dr. Shubham Tayal
Layout Design Staff Engineer, Synopsys India Pvt. Ltd.
Hyderabad, India.
Experience:12 Years



Mr. Francis Chockalingam
Fellow, AMD,
Bengaluru, India.
Experience : 27 Years



Mr. Abhishek Choudhary
DFT Engineer, AMD,
Bengaluru, India.
Experience : 12 Years



Mr. Tejas Rangnekar
Lead Application Engineer, Cadence Design Systems,
Bengaluru, India
Experience : 8 Years



Dr. Gaurav Kumar Sharma
SoC Design Engineer, Intel Corporation,
Bengaluru, India
Experience : 12 years



Ms. Harmeet Kaur Lamba
Psychologist & Counsellor
Currently at GHRCEM, Nagpur
Years of Exp : 15