

## INTRODUCTION

The Semiconductor Design & Development FDP "Unveiling New Avenues in the Design of Next Generation Semiconductor" offers a transformative exploration into the forefront of semiconductor innovation. Exploring into emerging technologies, from quantum computing to nanomaterials, and empower educators to lead the way in shaping the future of semiconductor design. It also provides a premier interdisciplinary platform for Researchers, Practitioners, Educators and interact with Experts in the relevant field. The need of the hour would be to strike a balance between the design and real-world impact of semiconductor devices.

## SESSION TOPICS

- Fundamentals of Semiconductor Physics and Materials
- Semiconductor Device Physics and Modeling
- Emerging Trends in Semiconductor Manufacturing
- Advanced Semiconductor Packaging Techniques
- Quantum Computing and Semiconductor Technology
- Nanotechnology and Nanomaterials in Semiconductor Design
- Power Management and Energy-Efficient Semiconductor Design
- Future Directions and Collaborative Research in Semiconductor Design
- Ethical and Societal Implications of Next-Generation Semiconductor Technology
- Live Project

Sessions will be handled by the Experts in the field of essentials in Semiconductor Design and Development.

## ELIGIBILITY

Faculty, Research Scholars and PG Students from AICTE approved Institutions, Industry persons with relevant background.

### About the registration

- No Registration Fees
- No TA/DA will be paid

### Selection Process

- ✓ First come first serve basis (Apply through AICTE-ATAL Portal)
- ✓ Incomplete Application will be rejected.
- ✓ Selected candidates will be intimated by e-mail only.

## HOW TO APPLY

The applicants should fill the registration form in the given link

<http://bit.ly/FDP-DS>

on or before 06.12.2023

If selected they should confirm their participation in time.



### Scheduled dates

Intimation of selection : 07.12.2023  
Confirmation by participants : 11.12.2023

## ORGANIZING COMMITTEE

### CHIEF PATRON

Dr. Ashok Bakthavathsalam  
Managing Director  
KG Information Systems Private Limited  
(KGiSL)

### PATRONS

Dr. Shankar P  
Director  
KGiSL Institute of Technology

Dr. Rajkumar N  
Secretary  
KGiSL Institute of Technology

### CHAIR

Dr. Suresh Kumar S  
Principal  
KGiSL Institute of Technology

### COORDINATOR

Dr. Arun Chakravarthy R  
Associate Professor  
Department of ECE  
KGiSL Institute of Technology

### CO-COORDINATOR

Dr. Venkatesh C  
Professor & Head, ECE  
KGiSL Institute of Technology

AICTE ATAL Academy FDP  
on

**UNVEILING NEW AVENUES IN THE  
DESIGN OF NEXT GENERATION  
SEMICONDUCTOR DEVICES**

(Offline): 18.12.2023 to 23.12.2023

**REGISTRATION FORM**

**Coordinator**  
**Dr. Arun Chakravarthy R**  
Associate Professor  
Information Technology

**Co-coordinator**  
**Dr. Venkatesh C**  
Professor & Head, ECE

**Sponsored by**  
**ATAL Academy**



**Organized by**  
**Department of ECE**  
**KGiSL Institute of Technology**  
**Coimbatore – 641035**



**KGiSL Institute of Technology**

**ABOUT THE INSTITUTION**

KGiSL Institute of Technology was started in the Year 2008 by Padmashri Dr. G. Bakthavathsalam, Founder-Chairman of KG Hospital. It is an Industry-sponsored Institution par Excellence. Embedded in the environs of global design engineering and Information Technology entities - the Aura of the Institution radiated institute – Industry Culture and Sensitivity. KiTE with its industry lineage will leverage the advantage of connecting to real world challenges. The Educational Programmes in the College emphasize the understanding of fundamental Principles and prepare an individual for a Lifetime Learning and Professional Growth. Our College offers 6 UG and 3 PG Programmes.

**ABOUT THE DEPARTMENT**

At KGiSL, the ECE Department is committed to develop young minds as competent professionals to meet the global challenges in modern engineering society. The Department aims at creating quality engineers with sound technical knowledge and awareness of the latest advancement in existing and emerging technologies. The extremely well qualified and highly knowledgeable faculty adds value to the department and its students. Well Equipped labs and the infrastructure are present regularly to carry out innovative projects to challenge the fast-changing needs of the society besides undertaking R&D activities in various fields.

TO

**ADDRESS FOR CORRESPONDENCE**

**Dr. Arun Chakravarthy R**  
Associate Professor  
Department of ECE  
KGiSL Institute of Technology  
KGiSL Campus, 365, Thudiyalur Road,  
Saravanampati,  
Coimbatore, Tamil Nadu 641035  
Phone : 0422-441 9999

**KGiSL INSTITUTE OF TECHNOLOGY, COIMBATORE - 641035**

**Department of Electronics and Communication Engineering**

**ATAL ADVANCED FDP – A Typical Flow**

**UNVEILING NEW AVENUES IN THE DESIGN OF NEXT GENERATION SEMICONDUCTOR DEVICES**

**18/12/2023 to 23/12/2023**

**Offline (9:30 am – 5.30 pm)**

**PROGRAMME SCHEDULE**

| <b>Day 1<br/>18.12.2023</b>   | <b>Day 2<br/>19.12.2023</b>  | <b>Day 3<br/>20.12.2023</b>  | <b>Day 4<br/>21.12.2023</b>   | <b>Day 5<br/>22.12.2023</b>  | <b>Day 6<br/>23.12.2023</b>   |
|---|--|--|---|--|---|
| 9:00 am – 9:30 am<br>Principal & Director<br>Inauguration   |  |  |   |  |   |
| 9:30 am – 12:00 pm<br><b>Session 1</b><br>Fundamentals of<br>Semiconductor<br>Physics and Materials                                   | 9:30 am – 12:00 pm<br><b>Session 3</b><br>Emerging Trends in<br>Semiconductor<br>Manufacturing | 9:30 am – 12:00 pm<br><b>Session 6</b><br>Nanotechnology and<br>Nanomaterials in<br>Semiconductor Design         | 9:30 am – 12:00 pm<br><b>Session 8</b><br>Future Directions and<br>Collaborative Research<br>in Semiconductor<br>Design   | 9:30 am – 12:00 pm<br><b>Session 9</b><br>Ethical and Societal<br>Implications of Next-<br>Generation<br>Semiconductor<br>Technology | 9:30 am – 1:00 pm<br><b>Industrial Visit – II</b><br>Tessolve Semiconductor Pvt.<br>Ltd |
| 12:00 pm – 1:00 pm<br><b>Article<br/>Discussion</b><br>Analysis on the<br>development of<br>semiconductor<br>manufacturing<br>Process | 12:00 pm – 12:30 pm<br><b>Lunch</b>  | 12:00 pm – 1:00 pm<br><b>Article<br/>Discussion</b><br>Frontier Development<br>of Chips Design and<br>Production | 12:00 pm – 1:00 pm<br><b>Article<br/>Discussion</b><br>Combining Informetrics<br>and Trend Analysis to<br>Understand Past and<br>Current Directions in<br>Electronic Design<br>Automation | 12:00 pm – 1:00 pm<br><b>MCQs / Interactions</b>   |   |
| 1:00 pm – 2:00 pm<br><b>Lunch</b>   | 12:30 pm – 3:00 pm<br><b>Session 4</b><br>Advanced<br>Semiconductor<br>Packaging Techniques    | 1:00 pm – 2:00 pm<br><b>Lunch</b>  | 1:00 pm – 2:00 pm<br><b>Lunch</b>   | 1:00 pm – 2:00 pm<br><b>Lunch</b>  | 1:00 pm – 2:00 pm<br><b>Lunch</b>   |
| 2:00 pm – 4:30 pm<br><b>Session 2</b><br>Semiconductor Device<br>Physics and Modeling   | 3:00 pm – 5:30 pm<br><b>Session 5</b><br>Quantum Computing<br>and Semiconductor<br>Technology  | 2:00 pm – 4:30 pm<br><b>Session 7</b><br>Power Management<br>and Energy-Efficient<br>Semiconductor Design        | 2:00 pm – 5:30 pm<br><b>Industrial Visit – I</b><br>Fluid Control Research<br>Institute (FCRI),<br>Kanjikode West   | 2:00 pm – 4:30 pm<br><b>Session 10</b><br>Industry Live Problem<br>Solving / Project (Session<br>by Industry Expert)                 | 3:00 pm – 4:00 pm<br>Feedback & Interactions  |
| 4:30 pm – 5:30 pm<br>Teaching Practice<br>Dr. Arun Chakravarthy<br>R  |  | 4:30 pm – 5:30 pm<br>Teaching Practice<br>Dr. Venkatesh C  |   | 4:30 pm – 5:30 pm<br>Teaching Practice<br>Dr. Rajasekaran S  | 4:00 pm – 5:00 pm<br>Principal & Secretary<br>Valedictory                               |

| Session       | Expert  |
|---------------|---|
| Session 1 & 2 | Dr. Kathiravan Srinivasan<br>Professor, School of Information Technology<br>Vellore Institute of Technology, Vellore Campus, Vellore 632014<br>Phone : +91 74486 94416<br>e-mail : kathiravan@ieee.org          |
| Session 3     | Dr. Arvind Ajoy<br>Assistant Professor, Electrical Engineering<br>Indian Institute of Technology, Palakkad<br>Palakkad<br>Phone: +91-4923-226-417<br>e-mail: arvindajoy@iitpkd.ac.in                            |
| Session 4 & 5 | Dr. Revathy Padmanabhan<br>Associate Professor, Electrical Engineering<br>Indian Institute of Technology, Palakkad<br>Palakkad<br>Phone: +91-4923-226-417<br>e-mail: revathyp@iitpkd.ac.in                      |
| Session 6 & 7 | Dr. Sivakumar Rajagopal<br>Professor, School of Electronics Engineering<br>Vellore Institute of Technology<br>Vellore Campus, Vellore 632014<br>Phone : +91-9894220627<br>e-mail : sivakumarrajagopal@vit.ac.in |
| Session 8     | Dr. Nirmal D<br>Professor & Head, Department of ECE<br>Karunya Institute of Technology and Sciences<br>Coimbatore 641114<br>Phone: +91-9789498810<br>e-mail: nirmal@karunya.edu                                 |
| Session 9     | Dr. Siva Mangai N M<br>Associate Professor, Department of ECE<br>Karunya Institute of Technology and Sciences<br>Coimbatore 641114<br>Phone: +91-9944181844<br>e-mail: sivamangai@karunya.edu                   |
| Session 10    | Mr. KRN Manoj<br>Director & CTO<br>Pumo Technovation India Pvt. Ltd.,<br>Coimbatore 641012<br>Phone: +91-9976399367<br>e-mail: manoj.krn@pumotechnovation.com   |