

## DECLARATION

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

Date:

Signature of Candidate

## SPONSORSHIP

Prof./Dr./Mr./Ms. \_\_\_\_\_ is an employee of our institute and his/her application is hereby sponsored. The applicant will be permitted to attend the Instruction Enhancement Programme on *Advances in Nanoelectronics and Technology* at Government Engineering College Bartonhill during January 11-16, 2010 if selected.

Date:

Signature of Sponsoring Authority

(Official Seal)

## Address for Correspondence

**The Co-ordinator,**  
**"IEP on Advances in Nanoelectronics and Technology",**  
Department of Electronics and Comm. Engineering,  
Government Engineering College Bartonhill,  
Vanchiyoor P.O., Thiruvananthapuram – 695 035

Phone : 0471-2300485

Fax : 0471-2300484

URL : <http://www.gecbh.ac.in/anet>

## Important Dates

Receipt of applications : 9<sup>th</sup> December 2009.

Intimation of selection : 11<sup>th</sup> December 2009.

Confirmation of participation : 15<sup>th</sup> December 2009.

Date of commencement : 11<sup>th</sup> January 2010.

## For more details, contact:

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Course Web site:

<http://www.gecbh.ac.in/anet>

## Instruction Enhancement Programme on *Advances in Nanoelectronics and Technology*

Sponsored by

Directorate of Technical Education

Government of Kerala

11<sup>th</sup> - 16<sup>th</sup> January 2010

Organized by



Department of Electronics & Comm.  
Engineering

Government Engineering College Bartonhill,  
Thiruvananthapuram-695 035.

Coordinators:

[Prof.K.C.Raveendranathan](#)

Mr.S.M. Alex Raj  
Mrs. K.M.Nadheera  
Mr. K.S.Biju

## Objectives

The aim of Nanoelectronics is to process, transmit store, and retrieve information by taking advantage of nanoscopic properties of matter that are distinctly different from macroscopic properties. The relevant length scale depends on the phenomena investigated: it is a few nm for molecules that act like transistors or memory devices, and can be 999 nm for quantum dot where the spin of the electron is being used to process information. Microelectronics, even if the gate size of the transistor is 50 nm, is not an implementation of Nanoelectronics, as no new qualitative physical property related to reduction in size are being exploited.

The last few decades have seen an exponential growth in microchip capabilities due primarily to a decrease in the minimum feature sizes. The resulting doubling of processor speed every 18 months (known as Moore's Law) is, however, expected to break down for conventional microelectronics in about 15 years for both fundamental and economic reasons. The search is on, therefore, for new properties, paradigms and architectures to create a novel stream of science, Nanoelectronics.

## Topics of Discussion

- Overview of current research in Nanoelectronics and devices.
- Limit of CMOS technology – scaling theory.
- Spintronics
- Carbon Nanotubes and its applications.
- Nano fabrication Techniques.

- Nano characterization of materials.
- Nanophotonics.
- Properties of Nano materials.
- Nano sensors and Emerging Nanoscale Devices.
- Nano scale CMOS and emerging Architecture.
- Bio nanotechnology.

The faculty of the programme are drawn from eminent personalities from IISc Bangalore, NIT Calicut, IIST Trivandrum, NIIST, and the parent institute. One field trip will be arranged to a nearby research institute, as part of the programme.

## About the College

Government Engineering College Bartonhill, was established in the year 1999. Within a short span of time the college has achieved notable academic excellence. The institute, which now offers four under graduate programs, seek to inculcate a spirit of lifelong learning and aspires to reinforce engineering education by enhancing the interaction with industry and research institutes in teaching programmes through guest lectures, seminars, and adjunct faculty programs. The present Instruction Enhancement Programme on Advances in Nanoelectronics and Technology is taken up to develop expertise in this novel stream of Engineering.

## ELIGIBILITY

The programme is open to all faculty in Electronics and Communication Engineering /Electrical and Electronics Engineering /Applied Electronics & Instrumentation Engineering from Government, Aided and Self Financing Engineering Colleges in the state. The total number of participants shall be limited to 25. There is no registration fee for participants from

Government and aided Engineering Colleges. However, participants from Self Financing Engineering Colleges have to pay a registration fee of Rs. 1000/-, which is not refundable.

## HOW TO APPLY

Application in the attached format along with declaration and sponsorship certificate should reach the Coordinator on or before 09-12-2009. The selected participants will be intimated before 11-12-2009. The Confirmation of participation should be intimated to the coordinator latest by 15-12-2009. Acceptance of nomination will be intimated. No accommodation is provided for the candidates. Participants from Government/aided Engineering Colleges will be paid TA/DA as per Government rules.

## Registration Form

**Instruction Enhancement Programme  
on  
Advances in Nanoelectronics and Technology  
January 11-16, 2010  
Government Engineering College Bartonhill,  
Thiruvananthapuram**

1. Name: .....
2. a) Date of birth: ..... b) Sex: M / F
3. Designation:.....
4. Institution: .....  
.....
5. Address for communication  
.....  
.....

.....

..... Pin Code:.....

6. Phone (STD code) .....

7. Mobile: .....

8. Email: .....

7. Qualifications:

8. Specialisation:

9. Years of Experience:

Place :

Date :

Signature of Candidate