

### ABOUT BERHAMPUR CITY

The city of Berhampur is well known as Silk City for its traditional handicrafts and Silk garments. The major attraction for tourists is Gopalpur-on-sea which is 11 Kms away from Berhampur. Berhampur is also famous for its temples and creeping attractions like hot waterspring with medicinal benefits (Taptapani). The climatic condition is almost favorable as the day time temperature is max 35° C with occasional monsoon rains

### COURSE INSTRUCTORS

Experts from IIT's, ISI, NIT's, & top Institutes/Universities will deliver the lectures on relevant areas, in association with NIST Mathematics and computing Group

### ELIGIBILITY OF THE APPLICANT

Faculty members from AICTE recognized Engineering Institutes and Autonomous Colleges in relevant discipline, Research scholars and persons working in R&D organizations and Industries are eligible to participate.

### HOW TO APPLY

Xerox / typed application form duly filled and forwarded by the Head of the Institute should reach on or before 10th March, 2012. A copy of the same can be sent to [sdp.reza@gmail.com](mailto:sdp.reza@gmail.com). You can also download the application form from the website [www.nist.edu](http://www.nist.edu). No registration fee is required. The applications will be short listed by first come first serve basis and the candidates would be intimated through e-mails only. So all are requested to provide the valid mail ID's in the registration form. Please call at **09437262283** for more information.

### TA/DA & ACCOMMODATION

The participants will be provided with free boarding and lodging and will get TA (as per AICTE norms for to and fro fare on production of ticket) and local transport. Twin shared basis accommodation will be provided to the participants.

## ORGANIZING COMMITTEE

### Chairperson

**Prof. Sangram Mudali**

Director, NIST

### CO-CHAIRPERSON

**Prof. Geetika Mudali**

Placement Director, NIST

### Co-ordinator

**Dr. Motahar Reza**

## ADVISORY COMMITTEE

**Dr. A. K. Panda**

**Dr. A. K. Padhy**

**Dr. Sukanta Kumar Tripathy**

**Prof. A. S. Gupta**

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**Mr. Shom P. Das**

**Mr. Anisur Rahaman**

**Mr. Bhawani Sh. Pattnaik**

**Mr. T. R. Lenka**

## MEMBERS OF THE ORGANIZING COMMITTEE

**Prof. S Neelakantham**

**Dr. Sujit Kumar Samanta**

**Dr. Saiful Mondal**

**Mr. M. Rajendra**

**Mr. L. K. Raju**

**Mr. Satyaban Panigrahi**

**Mr. Bishnukar Nayak**

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# AICTE Sponsored



## Recent and Future Trends in Industrial Mathematics for Engineers

20<sup>th</sup> to 24<sup>th</sup> March, 2012



**NATIONAL INSTITUTE OF SCIENCE & TECHNOLOGY**

Palur Hills, Berhampur, ODISHA-761008

## INTRODUCTION & OBJECTIVE OF THE PROGRAM

Industrial mathematics is inter-disciplinary by nature and this programme will provide a broad understanding of the different aspects of applied mathematics and computer applications. In order to tackle complex problems in the applied engineering sciences there is an increased demand for interdisciplinary research between mathematicians and researchers working in Engineering, the sciences and business. The mathematical sciences are undergoing rapid changes and the boundaries between the mathematical sciences and other disciplines are blurring. An important objective of the study of industrial and applied mathematics is to analyze and visualize phenomena of nature and real world problems for its proper understanding. Gradually, it is also becoming the language of modern financial instruments.

The applied engineering sciences are faced with increasingly complex problems which call for sophisticated mathematical models. Fast computers make it possible to optimize strategic objective and industry is applying mathematical models that aim at reducing production costs and increasing profitability.

## TOPICS TO BE COVERED

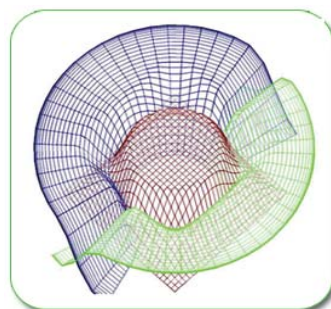
Applied Fuzzy Logic and Fuzzy Sets  
Artificial intelligence and soft computing  
Combinatorial Optimization  
Computer Modelling and Simulation  
Cryptography and Network Security  
Data Structure and Scientific Computing  
**Finite Element Method and Applications**  
Mathematical Method for Industry  
Numerical Analysis of Differential Equation

### Optimization Techniques

Parallel processing and Grid Computing  
Probability and Statistics  
Queuing Models for computer and communication systems  
Techniques of Applied mathematics

## DEPARTMENT OF MATHEMATICS AT NIST

Department of Mathematics was established in 1996 and over the years has evolved into a Department with a healthy balance between pure and engineering mathematics. The Department has a vibrant research atmosphere backed up by excellent infrastructural facilities. Members of our faculty have won many honours in recognition of their academic achievements (like BOYSCAST FELLOWSHIP, Young scientist award, Postdoctoral fellowship in abroad). Department offers few interdisciplinary courses for engineering students.



The faculty members of mathematics Department takes students for Ph.D. programme under BPUT/ Berhampur University. Department faculty members are deeply involved in scientific computing with engineering faculty members. The faculty of this department have already published a number of books and Research Papers in the reputed National & International journals.

## ABOUT NIST

The National Institute of Science and Technology was established in 1996 and is being managed by the SM Charitable Educational Trust. The Institute is approved by the AICTE under MHRD, Govt. of India and is affiliated to the Biju Patnaik University of Technology (BPUT). The Institute campus of 65 acres is located at the picturesque Palur Hills about 12 kms from Berhampur and 3 hours drive from Bhubaneswar. About 2700 students are studying in various disciplines of MBA, PGDM, B. Tech, M. Tech and MCA. NIST has State-of-the-art-laboratories equipped with Lab-equipments like, Distributed Control Systems, PLC, Interactive-Non Interactive Process Trainer, Batch Process Reactor Trainer, Level Transmitter Trainer, 5 HP shunt motor coupled to 3 KVA alternator salient pole type with 3 point starter field regulator for motor, alternator & experimental panel, TRANSFORMER Experimental Trainer, AC DRIVE, AC SOFT STARTER, PLC MACHINE & DRIVE, SYMBOLS shakti, Software like, Synopsis, Cadence, IE3D, Tanner, Xilinx, and Equipments like, Vector Network Analyzer, Semiconductor Parameter Analyzer, FPGA Board, etc. The campus is completely networked and through the use of load levelers can access high end work stations and parallel computers (HPC) in the central campus computing facilities.

NIST has produced 4 BOYSCAST scholars, 3 Full Bright scholars, 3 URSI Young Scientist, 3 Samant Chandrashekhar Young Scientist Awardees and more than 20 Post-Doctorate scholarships have been awarded to the institute faculty. Our faculty members have published more than 15 books and 50 papers in international journals of repute. The institute has received a number of grants from AICTE, DST, UGC, MHRD, CSIR and private IT companies for projects, Staff and Faculty Development Programmes. NIST received a funding towards development of infrastructure from the Department of Science and Technology (DST) through the Fund for Infrastructure in Science and Technology (FIST) programme. NIST has been selected on 22 December, 2009 by TIFAC (Technology Information, Forecasting and Assessment Council) to set up a Centre of Excellence in 3G/4G Communication Technologies.

## APPLICATION FORM

for

**AICTE Sponsored**

**Staff Development Program On**  
**“Recent and Future Trends in Industrial**  
**Mathematics for Engineers”**  
**20<sup>th</sup> to 24<sup>th</sup> March 2012**

1. Full Name :

(In Block letter)

2. Designation :

3. Institute Name & Address :

4. Whether the Institute has AICTE approval ? :

Yes  / No

5. Sex : M  / F

6. Contact Number :

7. E-mail Id :

8. Accommodation needed :

Yes  / No

9. Signature of the Participant :

Date:

Place:

**Signature of the Head of the Institute /**  
**Sponsoring Authority**  
**(With Date and Seal)**