

ONE WEEK NATIONAL LEVEL SHORT TERM COURSE

On

**SYSTEM MODELING, SIMULATION AND  
ADVANCED OPTIMIZATION TOOLS FOR  
NANOTECHNOLOGY APPLICATIONS - 2016  
(SYSTA - 2016)**

19<sup>th</sup> to 24<sup>th</sup> September 2016

Organized by Centre for Nanotechnology, AUCE (A)

Supported by TEQIP Phase - II, CoE



1. Name of the Applicant : \_\_\_\_\_
2. Designation : \_\_\_\_\_
3. Department/ Centre/ Unit : \_\_\_\_\_
4. Institution : \_\_\_\_\_
5. Address for Correspondence : \_\_\_\_\_  
\_\_\_\_\_
6. Email ID : \_\_\_\_\_
7. Mobile No. : \_\_\_\_\_
8. Accommodation Required (Yes/ No) : \_\_\_\_\_
9. Education Qualification : \_\_\_\_\_
10. Participation with Laptop (Yes/No) : \_\_\_\_\_
11. Mode of Payment (DD) : \_\_\_\_\_

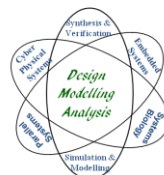
DD No. \_\_\_\_\_ Date: \_\_\_\_\_

Drawn at: \_\_\_\_\_

Signature of the Applicant

Dr./ Mr./ Mrs/ Miss \_\_\_\_\_ is here by recommended as a candidate for participation in above mentioned workshop organized by Centre for Nanotechnology, AUCE (A), Visakhapatnam from 19<sup>th</sup> to 24<sup>th</sup> September 2016

Signature of the Head of the Department/ Institution with seal



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**CHIEF PATRON**

Prof. G. Nageswara Rao  
Honorable Vice-Chancellor  
Andhra University

**PATRON**

Prof. V. Uma Maheswar Rao  
Registrar  
Andhra University

**CHAIRMAN**

Prof. P.S. Avadhani  
Principal  
AUCE (A)  
Andhra University

**CONVENER**

Prof. K. Ramji  
Coordinator  
Centre for Nanotechnology  
AUCE (A)  
Andhra University

**ORGANIZING  
COMMITTEE**

Centre for Nanotechnology  
Faculty, Staff, Scholars  
and Students

**VENUE**

Centre for Nanotechnology  
AUCE (A)  
Andhra University

**WHO CAN BE BENEFITTED?**

This workshop is aimed to attract and bring together Faculty Members, Scientists, Engineers, Technologists, Research Scholars, PG and UG students from Academic and Research Institutions and Industries. The participants will get new insights and knowledge about the topic through close interactions/ discussions with the Experts of the respective field during the lecture sessions as well as in some laboratory sessions.

**REGISTRATION FEE**

Participants from Industry and R & D Organization	Rs. 3,500/-
Faculty from Academic Institutions	Rs. 2,000/-
UG, PG Students and Research Scholars	Rs. 1,500/-

Registration fee should be paid through DD in the name of Principal, AUCE(A), Payable at Visakhapatnam

**Note:** Registration fee includes workshop kit, study/lecture materials, refreshment and lunch for 6 days during the course. Accommodation, Breakfast and Dinner to be borne and made their own arrangements by the participants only.

**HOW TO APPLY**

Interested persons may send the scanned copy of DD and registration form duly filled and signed by the Head of the Institute/ Industry/ R & D Organization in the given format and send it through mail to [auceacnt.au@gmail.com](mailto:auceacnt.au@gmail.com) or by post to Prof. K Ramji, Convener, Centre for Nanotechnology, AUCE (A), Andhra University, Visakhapatnam -530003, AP, India before the last date. As the intake is limited to 30 and the selection is based on 'first come first serve' basis, we urge you to apply well in advance on or before 17.09.2016.

**IMPORTANT DATES**

Last date for registration	17 <sup>th</sup> September 2016
Workshop Dates	19 <sup>th</sup> to 24 <sup>th</sup> September 2016

## ABOUT THE WORKSHOP

The aim of the Systems Modeling, Simulation and Advanced Optimization tools for Nanotechnology Applications short term course is to provide a forum for researchers to discuss fundamentals, models, techniques, problems and engineering applications, particularly applications in Nanotechnology. This course addresses the emerging need of systems behavior and properties formal description analysis in a variety of scientific and application domains. Novel applications of these methods to real world problems and interdisciplinary applications will be discussed by the eminent people from IITs, NITs, Industries and R&D Laboratories. The aim of this short term course is to bring academic and industry researchers together with practitioners from both the simulation community and the user communities. The course will address current and future trends in broad simulation techniques, models and practices, and strive to foster interdisciplinary collaborative research in these areas.

This short term course “Systems Modeling, Simulation and Advanced Optimization tools for Nanotechnology Applications” will help participants keep up with all system modeling, simulation and advanced optimization tools required to understand and work on simulation tools for nanotechnology applications. The main aim of conducting this workshop is to bridge the gap between Industry and Academia

## TOPICS TO BE COVERED

- Basic Abstract to Optimization Techniques.
- Some examples of optimization problems & the solutions by the standard subroutines.
- Constrained and unconstrained deterministic linear and non-linear programming methods
- Single Objective and Multi Objective Optimization Techniques
- GA, PSO, ANN etc advanced optimization techniques and applications of these advanced optimization techniques in various interdisciplinary problems like Nanotechnology applications.
- Demonstration of MATLAB
- Engineering applications of MATLAB
- Introduction to MATLAB Simulink.
- Implementing the Problem in T – CAD.
- Device Modeling and Simulation.
- Modal analysis condition monitoring on structural analysis.
- Research Methodologies.
- Guidelines on how to publish research papers in reputed international journals

## RESOURCE PERSONS

The resource persons constitutes of experts/senior faculty members from IITs, NITs, and various guest speakers from other reputed industries and R&D Laboratories.

## ANDHRA UNIVERSITY

Andhra University, a premier institute of higher learning in India, was established in 1926. Located on the uplands of Visakhapatnam, ‘The City of Destiny’ the natural beauty of the University campus is breathtaking with the spread of serene blue shade of the Bay of Bengal on one side and beautiful green Kailasagiri hill range on the other.

## ANDHRA UNIVERSITY COLLEGE OF ENGINEERING (A)



Andhra University College of Engineering (A), Visakhapatnam, is one of the campus colleges of the University. At the time of its inception in 1955 it was a department of engineering with Civil, Mechanical and Electrical Engineering as the main branches. In 1966, the College of Engineering became a constituent college of Andhra University. AUCE is spread over 167 acres. The college of engineering (Autonomous) consists of 12 engineering and 4 basic Sciences departments, offering 15 undergraduate and 28 postgraduate engineering programmes. All the departments run research programmes leading to PhD Degrees.

## CENTRE FOR NANOTECHNOLOGY



Centre for Nanotechnology established in the year 2001. Andhra University college of engineering possesses a vision to foster the development of research and education in the multi-disciplinary area of nanotechnology by developing human resources gifted with leading-edge competitive technologies required for meeting the future challenges and augmenting academic partnerships with industry. The faculty of the Centre, drawn from different departments, is involved in developing state-of-the-art facilities at the institute and is actively involved in research in the area of nanotechnology. This centre is established under TEQIP Phase II CoE (Centre of Excellence) which is “Challenges of Nanotechnology for 21<sup>st</sup> Century Generation: Indian perspective in global scenario” in the year 2012.