

## COURSE FACULTY

**Prof. C Pandu Rangan**- Professor of Computer Science and Engineering, IIT-Madras has done pioneering research work in various areas such as design of pragmatic algorithms. Recently he has been working in the areas like

- Restricting the problem domain
- Approximate algorithm design
- Randomized Algorithms -
- Parallel and VLSI Algorithms
- Cryptography Applications

His research efforts can be summarized in a single term - Application Oriented Paradigm Design (AOPD).

## REGISTRATION AND FEE

Participation fee for members from Govt. Engineering colleges in Kerala would be sponsored by the Kerala Education Grid project. The registration fee for other participants is as follows:

Participants Category	Fee
Faculty from Other Engg/Science Colleges	Rs 400/-
Members from Industries	Rs 1000/-

The project would sponsor lunch and tea during the two days workshop. The concerned institutions should bear the travel, boarding and lodging costs for their respective participants. A certificate of participation will be issued by IIITM-K to the participants attending the course. The total number of participants will be limited to 60. Confirmation of participation will be based on first-come first-serve basis and will be communicated to the participants.

**Note:** The participants from the Govt Engineering Colleges in Kerala should be nominated by the Principals of the respective colleges.

## REGISTRATION

Please send the nomination(s) to the address below on or before **31<sup>st</sup> MARCH 2005**:-

### Smitharani. N

Workshop Coordinator

IIITM-K Project Wing

Nila, Technopark

Thiruvananthapuram - 695 581

Phone: 0471-3093500, 2700965

Email: [kegworkshop@iiitmk.ac.in](mailto:kegworkshop@iiitmk.ac.in)

Project: [www.edugrid.ac.in](http://www.edugrid.ac.in)

Institute: <http://www.iiitmk.ac.in>



**Workshop on**

## *Analysis and Design of Algorithms*

*Organised by*

*Kerala Education Grid, IIITM-K*

*Co-organized By:*

*IEEE-Computer Science, Kerala Section*

*Dates: 2<sup>nd</sup> & 3<sup>rd</sup> April 2005 (Saturday & Sunday)*

### *Venue & Contact Details*

**Travancore Hall, Park Centre,**

**Technopark, Thiruvananthapuram-695 581**

**Tel : +91- 471- 2700965, 3093500**

**Fax : +91- 471- 2527568**

**E-mail : [kegworkshop@iiitmk.ac.in](mailto:kegworkshop@iiitmk.ac.in)**

**Project : <http://www.edugrid.ac.in>**

**Institute: <http://www.iiitmk.ac.in>**

*Quality Education to all Independent of Geography*

## ABOUT KERALA EDUCATION GRID

Kerala Education Grid is a project of the Department of Higher Education, Govt. of Kerala, which is executed jointly by the Indian Institute of Information Technology and Management - Kerala, Cochin University of Science and Technology, College of Engineering - Thiruvananthapuram and National Institute of Technology - Calicut. The project aims to enhance the quality of education for all students in the institutions of higher education in the state. This is being done by networking the teachers and students over course specific knowledge and collaboration space over a network of Education Servers and through programs like teachers training and e-courseware development in every subject.

## WORKSHOP AT A GLANCE

The workshop is targeted at teachers, researchers and members from the industries interested in the area of algorithms. The objectives of the workshop are to provide inputs on the basic paradigms of algorithms design and effective teaching methodologies of the course on "Analysis and Design of Algorithms". During the workshop, a group of participants who are enthusiastic in developing the e-courseware will be identified to work with the KEG team to develop the web-based course in the subject. The sessions will be video recorded and would be made available to the colleges at a later stage. The topics to be included in the subsequent workshop on the course will be decided after this workshop. The basic skeleton of the course is available at

[http://www.edugrid.ac.in/webfolder/courses/ada/ada\\_index.htm](http://www.edugrid.ac.in/webfolder/courses/ada/ada_index.htm)

The Discussion Forum on this course is available on the Education Grid portal.

## TOPICS TO BE COVERED

### Principles of Algorithms:

- \* Complexity of algorithms
- \* Time and space complexity
- \* Input size
- \* Big oh notation
- \* Notion of efficient algorithms
- \* Theory and practice

### Basic Paradigms of Algorithms Design:

- \* Brute force method
- \* Incremental and decremental techniques
- \* Divide and conquer
- \* Pruning
- \* Back track and branch and bound
- \* Greedy paradigm
- \* Dynamic programming
- \* Transformation
- \* Preprocessing

### Reference books:

- Computer Algorithms by Horowitz, Sahni, Rajasekaran. Freeman- VPHS Publications
- Introduction to Algorithms by Corman, Leiserson, Rivest. McGraw-Hill Publications

## KEY POINTS TO NOTE

- ❖ Date of workshop: 2<sup>nd</sup> and 3<sup>rd</sup> April 2005 (Saturday and Sunday)
- ❖ Venue: Travancore Hall, Park Centre, Technopark, Trivandrum
- ❖ Nomination(s) should reach IIITMK on or before March 31<sup>st</sup>, 2005
- ❖ The duration of the workshop will be of two full working days (9.30 AM to 5.30 PM)
- ❖ The participation fee will be collected at the venue between 8.30 AM - 9.25 AM on 2<sup>nd</sup> of April 2005
- ❖ Concerned institutions will have to bear the traveling, boarding and lodging costs of their participants
- ❖ The filled up nomination form from the Principal of the Govt Engineering Colleges should be attached along with the confirmation letter
- ❖ Participants from other colleges and the industries may send the filled up nomination form by their own.
- ❖ The entire two days sessions will be covered by **Prof. C Pandu Rangan**- Professor of Computer Science and Engineering, Indian Institute of Technology-Madras