



# MADURAI KAMARAJ UNIVERSITY

(UNIVERSITY WITH POTENTIAL FOR EXCELLENCE)

## School of Physics

IN COLLABORATION WITH



# University of Hyderabad

(UNIVERSITY WITH POTENTIAL FOR EXCELLENCE)

## Centre for Modelling Simulation and Design



# Workshop and Conference on Monte Carlo Simulation

(SPONSORED BY DST, NEWDELHI)

Date : August 9 - 13, 2010 ; Venue: School of Physics, Madurai Kamaraj University

**Madurai Kamaraj University :** Madurai Kamaraj University, comprising 73 Departments organised into 18 Schools, offers diverse teaching and research programs. Madurai Kamaraj University has emerged as one of the leading national universities with several schools embarking upon exemplary research in diverse areas in science. Faculty of the University have received several awards and honours.

Consequently, Madurai Kamaraj University has been chosen under the Scheme "University with Potential for Excellence" (UPE) and first installment of Rs. 10.00 crores was released. Under the UPE Scheme, the University Grants Commission evaluated the research output over the years and the potential in the University departments. UGC has recommended Nanotechnology and Bioscience as focused areas of research. Under holistic development of the University UGC has also recommended funds for pursuing research in five themes covering the disciplines of arts and humanities in diverse fields such as mapping and managing natural resources, rural development, women empowerment, cultural studies, communal harmony and inter group relations.

Forty seven projects, falling under ten research themes, proposed by 45 Principal Investigators were selected by UGC of which 23 Principal Investigators are in the focused area and 22 Principal Investigators in the Holistic Development Area. Fifty four research scholars were employed for the projects.

**School of Physics ( Madurai Kamaraj University):** This was started as a study center of the Madras university and in 1966, Madurai University was born. It is known as School of Physics since 1976. M.Sc and M.Phil courses are being taught apart from research in the frontier areas of physics. Crystal growth and characterization, nano materials and thin films, polymer physics and theoretical investigations on band structure, impurity states and binding energies are some of the typical areas in which research is being pursued actively. Major equipments like, CAD - 4 single crystal X-ray diffractometer, Raman spectrometer, thin film coating units, UV spectrophotometer, hardness tester, photoacoustic setup and cluster computing facility are available for research. Internet is provided to students, scholars and faculty members. A computer lab is also available for students.

**University of Hyderabad:** Created by an Act of the Indian Parliament, the University of Hyderabad, has, over three decades, distinguished itself as one of the best in the country as a centre for teaching, research and innovations. With a highly qualified and internationally renowned faculty, motivated students, scholars, and support staff, it has carried out cutting edge research in disciplines such as the sciences, social sciences, humanities, technology, visual arts, communication, management and continuing education.

Right from its inception, the University has pioneered teaching, research and extension activities in the best possible manner, keeping with the mandate given to it by the nation. It has vigorously sought interdisciplinary and interface studies in frontier areas across disciplines. It has hired high quality faculty, and the admission of outstanding students, at the national and international level, while keeping its commitment to the important goal of social justice. Today, it has a thriving undergraduate program of the integrated kind, and its post-graduate studies and research programs rival some of the best in the country. It has broken fresh ground in the Study in India (SIP) program involving international students.

Students and scholars will find this university an oasis for study and reflection. The University is proud of the fact that it is the only university in the country to provide fellowships to every student at all levels. The fellowship has another unique feature where the toppers at the end of every semester will be regarded as achievers and an increase in their fellowship is offered. With state of art computing support, the University will have the distinction of being the first institution in the country to have 68 mbps wi-fi connectivity. This will considerably improve connectivity and speed, vital for sustaining the high academic credentials of the University. They will have a most comfortable stay in well furnished halls of residence: best of the library, state-of-art laboratories, computer, sports and recreational facilities, and above all, an outstanding faculty that is friendly and accessible, and an administration that is responsive and proactive.

**Centre for Modelling Simulation and Design (CMSD), University of Hyderabad:** With substantial funding and approval of the UGC, the University of Hyderabad has established a Centre for Modelling Simulation and Design (CMSD) which was fuelled further by generous support from DST under its FIST programme. CMSD became operational from its new premises during December 2004. CMSD has been accorded an Academic Status by the University. Department of Science & Technology recognized CMSD as National high performance computing facility. Currently, CMSD has a 2 Tflops computing facility. It is expected to grow to a 7 Tflops, by positioning a 500 node cluster, by the end of this year.

**Motivation:** This program is aimed at the development of simulation packages for the numerous physics problems both at PG and research level of Physics students. Huge amount of experimental data are available in literature for which theoretical support still to be found. With the advent of high speed super and laptop computers, many of the physics problems can now be solved by modeling and simulation. In order to initiate this program among the youngsters, in 2002 we organized a workshop on Monte Carlo simulation with Prof K.P.N.Murthy as the resource person. This motivated many of the physics researchers to get into this activity and now we are happy to know that considerable work of high quality on Monte Carlo simulation are being carried out in the southern part of India.

Now, in order to focus on the current developments on Monte Carlo techniques, particularly after the spurt of activities on nanomaterials, an advanced workshop is planned in August 2010, for the meritorious M.Sc (Physics), young research scholars and M.Phil students. A few seats will be reserved for young teachers who are motivated to do research in Monte Carlo technique.

There is no registration fee. TA/DA will be provided apart from boarding and lodging for all days. Only 40 seats are available for the course, since there is extensive lab training where each one will be given a laptop/desktop computer to load and execute the programs.

For three days, extensive lectures and practicals will be conducted and in the next two days, a conference on "Monte Carlo simulation" is planned.

**Conference:** Abstracts are invited for oral/poster presentations in the conference. Young researchers will be asked to give oral presentation and so they are encouraged to submit their abstracts in word format before 1.7.2010.

### Patrons:

Prof R.Karpaga Kumaravel, Vice Chancellor, Madurai Kamaraj University  
Prof. Seyed E Hasnain, Vice Chancellor, University of Hyderabad

### Advisory committee:

Prof. V. S. S. Sastry, School of Physics, University of Hyderabad  
Prof. Arun Agarwal, Director, CMSD, University of Hyderabad  
Prof. M. Durga Prasad, University of Hyderabad  
Prof S. Natarajan, Madurai Kamaraj University  
Prof E. Palaniyandi, Madurai Kamaraj University  
Prof V. Ramakrishnan, Madurai Kamaraj University  
Prof S. Umapathy, Madurai Kamaraj University  
Dr N. Soundararajan, Madurai Kamaraj University  
Dr S. Rajashabala, Madurai Kamaraj University

### Resource Persons

Prof K. P. N. Murthy, University of Hyderabad  
Prof Purusattam Ray, Institute of Mathematical Science, Chennai  
Prof B. K. Santra, IIT, Guwahati  
Prof V. S. S. Sastry, School of Physics, University of Hyderabad  
Dr. S. L. Narasimhan, Solid State Physics Division, BARC  
Dr P. Murugan, CECRI, Karaikal  
Dr Amit Jain, IIT, Hyderabad  
Prof K. Ramachandran, Madurai Kamaraj University

### Conveners and Technical Organizing committee:

Prof K. Ramachandran, Madurai Kamaraj University  
Prof K.P.N.Murthy, University of Hyderabad

### REGISTRATION FORM

1. Name & Email id :
2. Doing M.Sc/M.Phil/research :
3. Institute :
4. Is your institute a recognized research center? :
5. Marks/Grade ( upto 3 semesters for M.Sc) :
6. Project in M.Sc/M.Phil :

### For research scholars

7. When did you join research, if a scholar? :
8. What fellowship? :
9. Doing experimental/ theoretical research? :

### For teachers

10. When did you join teaching profession? :
11. Institute at which working? :
12. Registered for part time/full time research? :
13. Date of birth/age :
14. What type of computer experience you have :

Recommendations by HOD/Research guide :

Signature of the Principal      Signature of the candidate

Those who are interested can apply in the prescribed registration form ( attached) to

**Prof K.Ramachandran**

School of Physics, Madurai Kamaraj University, Madurai 625 021

Email: [montework2010@gmail.com](mailto:montework2010@gmail.com)

Last date for submission of Registration Form by

**July 1, 2010,**

Selected candidates will be intimated by

**July 15, 2010**