



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

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No:VCS/F-1/11/2017/142

Date: 18-9-2017

Prof. N.P. Kaushik
Vice Chancellor

The Principal/Director

Dear Sir/Madam,

It gives me immense pleasure to inform you that our University Department(s) and E&ICT Academy of MNIT Jaipur will be organizing a One Week Faculty Development Program on 'Parallel Computing' during September 28 to October 2, 2017.

The E&ICT Academy at MNIT Jaipur is one of seven such academies set up by Ministry of Electronics and Information Technology (MeitY), Government of India. The vision of the academy is to develop, upgrade and mentor faculty members to improve the employability of the graduates/diploma holders in various branches of engineering.


Distinguished faculty members from IITs, NITs and MNIT will be key speakers. Experts from CDAC, Intel, NVIDIA, and other HPC industries will be the resource persons. The Course will cover Concurrent Programming, Parallel Programming - Message Passing (MPI) and Shared Memory (OpenMP), GPU Computing (CUDA and OpenCL), and Heterogenous Computing.

The participation is open to all faculty members from Academic Institutions (Universities, Engineering and Polytechnic Colleges). M. Tech. and Ph. D. students are also welcome.

It is suggested to all Principal of RTU affiliated Colleges to nominate and encourage Faculty members, Research scholars, and M. Tech. students to register for this FDP.

Please feel free to contact the coordinators as mentioned in attached brochure for any further details.

Regards.


(Prof. N.P. Kaushik)
Vice Chancellor

Organized by
E & ICT Academy



MNIT
Jaipur



RTU
Kota

One Week Faculty
Development Program on

Parallel Computing

Sep 28 – Oct 2, 2017

Venue: Prabha Bhawan, MNIT

FDP Programme
Sponsored by



सत्यमेव जयते

Ministry Electronics & Information Technology
Government Of India

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Patrons

Prof. Udaykumar R. Yaragatti

Chairman, Advisory Board,
EICT Academy & Director MNIT Jaipur

Prof. N. P. Kaushik

Vice Chancellor, RTU Kota

Prof. Vishwanath Sinha

Academic Chair, EICT Academy

Prof. Vineet Sahula

Chief Investigator, EICT Academy

Distinguished Speakers

Dr. V. C. V. Rao

Associate Director and Head,
HPC – Technology Group, CDAC Pune

Dr. Virendra Singh,

Associate Professor,
Indian Institute of Technology, Bombay

Dr. Pilli Emmanuel Shubhakar, MNITJ

Dr. Santosh Kumar Vipparthi, MNITJ

Conveners

Dr. Girdhari Singh,

Head of Department, CSE, MNIT Jaipur

Prof. S. C. Jain,

Prof & Head, CSE & Dean FA (UD, RTU Kota)

Coordinators

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Visit us at : <http://www.mnit.ac.in/eict>

Email us at : academy@mnit.ac.in

Course Contents (25 hours theory + 15 hours Lab)

Module 1: An overview of Parallel Programming:

Introduction to Parallel Computing, SISD, MISD, SIMD, MIMD, Example Parallel Algorithms – Sorting. POSIX Threads

Module 2: Message Passing Interface:

Introduction to MPI, MPI functions, Example algorithms, Tools – Profilers, Libraries Hybrid Programming, Benchmarks, Multi-threaded debugging techniques.

Module 3: Programming Shared Memory:

Introduction to OpenMP, Runtime libraries, OpenMP with MPI and POSIX threads.

Module 4: Parallel Programming:

Programming on Multi core systems & GPU computing, Programs based on Numerical Linear Algebra Dense and Sparse (Matrix Computations), Fast string Search Algorithms, Big data Graph Computations, Video Processing – Big data.

Module 5: GPU Programming

Introduction to CUDA, Applications of CUDA based systems, NVIDIA – CUDA Hardware and Software Architecture, CUDA SDK/APIs, CUDA tools and Libraries, Performance of applications – Issues and Challenges
Introduction to OpenCL, OpenCL Parallel Computing on GPU & CPU, Example algorithm using CUDA and OpenCL.

15 hours Laboratory Sessions : It consist of five lab sessions which enables the participants to know in-depth programming aspects of POSIX threads, MPI, Open MP, CUDA and OpenCL. Resource environment provided by CDAC.

Course Registration & Fee

- A) Registration is done online at http://www.mnit.ac.in/eict/apply_now.php
- B) **Fee Particulars:**
- One-time Academy Registration fee of Rs. 500/-** is to be paid by each participant attending for the first time (not applicable if participant has attended a training programme earlier).
 - Course Fee of Rs 2000/-** for Faculty members / Research scholars and M. Tech students.
 - Course Fee of Rs 4000/-** for participants from industries.
- C) **Relaxation / rebate of 75% course fee** in (ii) and (iii) for SC/ST candidates.
- D) Lodging for a limited number on first come - first served basis will be provided to outstation participants at Hostel / Guest House of MNIT Jaipur.
- E) The registration fee covers the participation in the programme, course material, breakfast and working lunch on all the days of the workshop. The travel and other expenses would have to be borne by the participants.
- F) Registration amount is received through NEFT / IMPS / DD.

Account Name- 'Electronics and ICT Academy MNIT Jaipur'

Account Number- 676801700483

IFSC Code- ICIC0006768