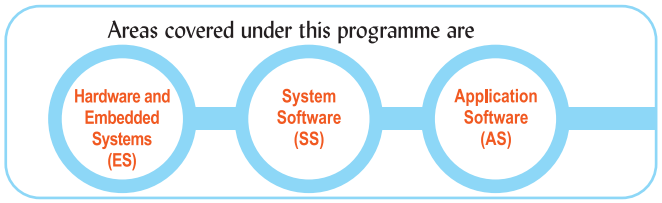
Think Parallel: Parallel Programming for Engineers and Scientists

2nd to 12th Jan 2012 @ C-DAC, Bangalore

THiNK PARALLEL

"A knowledge economy is one that relies intensively on human skills and creativity, the utilization of human intellectual capital supported by life-long learning and adaptation, the creative exploitation of existing knowledge, and extensive creation of new knowledge through research and development." - Anonymous



About C-DAC

Centre for Development of Advanced Computing (C-DAC), a Scientific Society of the Department of Information Technology, Ministry of Communications and Information Technology is an R&D institution engaged in indigenous design, development and deployment of Advanced Electronics and Information Technology solutions for the celebrated PARAM Supercomputers; with a mission to make significant contributions to the Indian High Performance Computing (HPC) arena. C-DAC entered the list of Top500 Supercomputers of the world with its celebrated PARAMPadma & PARAMYuva supercomputers; which are used extensively by academia, research labs and end-user agencies.

The C-DAC Knowledge Park Centre, Bangalore, established in 1989, is highly acclaimed for its excellence in development of the System Software for the PARAM Supercomputers and pioneering the Indian National Grid Computing Initiative - GARUDA.

The System Software Group is expertized in developing HPC System Software: a seamless operating environment for Supercomputers. The team has developed compilers, debuggers, data visualizers, performance profilers, parallel file system, high performance communication protocols, system management and software engineering tools for HPC.

Think Parallel

The sea-change in IT industry caused by the advent of multi-many cores makes parallel programming the challenge and life line for hardware, software, algorithms and programming models.

Leveraging its expertise in Parallel Computing, C-DAC Knowledge Park, Bangalore has launched "THINK PARALLEL" as a two week comprehensive training under the Advance Faculty Training.

Think Parallel is a comprehensive workshop on Parallel Programming which gives thorough understanding of the fundamental and advanced concepts of parallel computing and practical hands-on experience of the state-of-the-art technologies.

This programme will add great value to researchers, engineers and faculty who would like to work in HPC. It provides detailed know-how of programming the latest hybrid parallel systems, in order to write more natural parallel applications which can take advantage of the performance power of modern parallel architectures.

Advanced Faculty Training Project Initiative

Realizing the need for skilled manpower in advanced areas of IT, the Department of Information Technology (DIT) has initiated and actively supporting a programme on "Manpower Development for the IT Industry". The primary objective of this programme is to update/enhance the skills of engineering faculty in advanced domains of Information Technology keeping pace with the IT industry so that they can in-turn nurture, educate and mould their students while they are still in the college.

Envisioning the needs of future engineering faculties and students of India, C-DAC Hyderabad initiated the Advance Faculty Training of the "PREPARE FUTURE" programme, for upgrading the skills of engineering faculty (www.cdachyd.in/future).

The programme is designed for faculty to keep abreast with rapidly growing trends in Hardware, Embedded Systems, System Software and Application Software. Such programs can stimulate the faculty and help in shaping the engineering graduates to meet the industry expectations.

Course Details

- Advanced Computer Architectures
- Introduction to Parallel Programming
- Principles of Parallel Algorithm design
- Building Compute Clusters
- Numerical Computing
- Programming Paradigms
- OpenMP
- Message Passing Interface (MPI)
- Advanced MPI
- Performance Analysis and Debugging Parallel Programs
- Parallel Applications/Case Studies
- GPGPU & CUDA programming
- Grid Computing
- Cloud Computing

Prerequisite : C/C++ with data structures, familiarity with Linux / Unix

Course Schedule

Sl. No.	Dates	Course Title	Course Code
1	2nd Jan 2012 – 12th Jan 2012	Think Parallel	SS - Jan 12

Course Fee

FREE for Faculty (Limited to TWO per Institute)

Duration

Two Weeks Full Time course (8 Hours daily)

Last Date for Registration

25th December 2011

Course Venue

C-DAC Knowledge Park
Old Madras Road, Byappanahalli
Bangalore - 560 038
Phones: +91-80-6611 6400 / 01 / 02 / 03,
25244059 / 25246823 / 25246826
Fax: +91-80-2524 7724

Eligibility Criteria

- Faculty from engineering colleges teaching in the areas of Electronics, Computer Science and Information Technology
- Faculty should have a basic knowledge in the pre-requisite skills mentioned in the brochure.
- The participants should be nominated by their college Principals i.e. the registration form should be forwarded by their colleges.
- Applicants should have at least one year of teaching experience in domains specified in the pre-requisite

Selection Procedure

- The selection of the candidate will be based on the eligibility criteria.
- The selected candidates will be intimated through e-Mail /Post/Phone.
- Enrolment is on a first come first served basis.

Accommodation & Travel

- Shared Non AC accommodation for outstation participants will be provided by C-DAC, Bangalore
- Travel allowance by AC 3 tier shall be reimbursed by C-DAC for outstation candidates

Course Methodology and Highlights

- Full-time program (8 hrs per day for 10 days)
- Classroom & lab sessions
- Extensive demonstrations and laboratory assignments
- Relevant case studies / mini projects
- Presentations with lecture notes
- Course proceedings - online and physical copies
- Seminars and Group Discussions
- Lectures and lab sessions by R&D experts
- Industry interactions / visits

Registration Procedure

Please post the filled in Registration Form **duly approved by your Institution Head,** to the following address superscribing "THINK PARALLEL":

Ms. Mangala N
Coordinator –Think Parallel
C-DAC Knowledge Park
#1, Old Madras Road, Byappanahalli
Bangalore - 560 038
Phones: +91-80-6611 6400 / 01 / 02 / 03,
25244059 / 25246823/25246826
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For any queries write to: think-parallel@cdacb.in

Advanced Computing For Human Advancement

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CDAC
www.cdac.in

प्रगत संगणन विकास केन्द्र
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING
संचार एवं सूचना प्रौद्योगिकी मंत्रालय की वैज्ञानिक संस्था, भारत सरकार
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