

2016

FACULTY DEVELOPMENT PROGRAM

*Organized by
Computer Department
MAEER'S MIT, Pune*

05th – 09th January, 2016

Faculty Development Program has been organized by Computer Department of MAEER's MIT, Pune, supported by C-DAC and CSI Pune, from 05 Jan, 2016 to 09 Jan, 2016.

Many well known professionals from top organizations like C-DAC, NVIDIA, SPPU, Clearlogy ltd. and Pragma Infosys ltd. have been invited.

More than 50 Faculty members from different colleges were present to attend the workshop along with hands-on session.

Day 1: Tuesday, 05 Jan 2016



The program has been started with a Welcome speech by Dr. Vrushali Kulkarni, H.O.D of Computer Dept. Also our respected Principal addressed the guests and participants of the FDP followed by the inauguration. Mr. S.P. Dixit (Chief Guest) inaugurated the program by digital lighting of lamp. Guest of honor Mr. Ashish Kuvelkar addressed the audience.



[Digital Lighting of Lamp by Mr. S. P. Dixit]

Mr. S.P. Dixit has started the session by explaining the HPC: Overview and Future Trends. As per Mr. Dixit High Performance Computing (HPC) is the use of Parallel Processing for running advanced application programs efficiently, reliably and quickly.

Also he gave some glimpse of the

- “TOP500 ” Project
- “Green500” List of Supercomputers
- “Sea Change” in Chip Design
- Paradigm Shift Hybrid Computing
- Future Computational Challenges

Exascale Computing : Performance Projection

He also introduced the Intel’s Tick Tock Model, Blue Brain Project.

Mr. S. P. Dixit enlightened on the technology changes occurring day by day. He said “Hybrid Linux Clusters based on Next Generation X86–64 Multicore Technology with Hardware Accelerators with Infiniband to dominate future TOP 500 Lists.



[Mr. S. P. Dixit]

Mr. Ashish Kuvelkar: Expert Speaker:

Mr. Ashish Kuvelkar has been associated with C-DAC, Pune as a Associate Director & HOD ACTS.

Mr. Ashish Kuvelkar had conducted the session on the topic “HPC Architecture”. He explained the basic framework of the architecture.



[Mr. Ashish Kuvelkar]



[Photo's of audience attending FDP]

Second Session : (Post Lunch Session on 05th Jan 2016)

Mr. Girish Khilari: Expert Speaker:

Mr. Girish Khilari is a Project Director C-DAC.

He had delivered lecture on Applications of HPC by broadly classifying them as:

- Scientific Computing
- Technical Computing
- Business Computing
- Media and Entertainment Computing

It was learning experience for all the participants throughout the day.

Day 2: Wednesday, 06th Jan 2016)

Expert Speaker from C-DAC:

The Expert discussed Growth opportunity areas in HPC and Building blocks of HPC.

Parallel Programming: Paradigms covered the basics of parallel computing. Beginning with a brief overview and some concepts and terminology associated with parallel computing, the topics of parallel memory architectures and programming models were then explored. These

topics were followed by a discussion on a number of issues related to designing parallel programs. Lastly he taught how to parallelize several different types of serial programs.

A Parallelization Case Study was then discussed.

Expert Speaker from C-DAC discussed on basics of Peta scale Computing and Demo of Many core programming and SIMD were explained in session II after lunch.

Mr. Manjunatha.: Expert Speaker from C-DAC

The expert spoke on Introduction to PARAM Shivak, supercomputing and HPC Software Development Tools: An overview. He also explained Some Parallel Algorithmic Paradigms such as:

- Phase Parallel
- Divide and Conquer
- Pipeline
- Process Farm

The FDP was held in corporation with Intel and they gifted the participants with welcome kit. Also HPC quiz was held and Prizes were announced.

Day 3: Thursday, 07th Jan 2016)

Prof. N. N. Pise, Prof. M. V. Phatak and Prof. P. P. Purnaye of Computer Dept. conducted demonstration and assignment discussions were held on CL-IV assignments. They explained MPI, OpenMP: A Short Introduction and Comparison (Parallel Computing).

They emphasized on:

- Comparison between Shared and Distributed Memory
- Comparison between Threads & Processes
- Comparison between OpenMP & MPI
- Examples of OpenMP and MPI

Mr. Vinay Deshpande: Expert Speaker from NVIDIA:

Mr. Vinay Deshpande conducted session on High performance Computing with GPU's. He also explained Gpu programming Languages like CUDA C++: Develop Generic Parallel Code, Rapid Parallel C++ Development.

Mr. Kaustubh Hiwarekar and Mr. Summit Harale then conducted session and demonstration for CL-IV lab Assignments.

Day 4: Friday, 08th Jan 2016)

Prof. : S .C. Karande from Computer Dept MIT, Pune:

She started with Introduction to Cloud Computing by defining it from different sources.

Then she explained:

- Cloud characteristics
- Benefits of cloud computing
- Service Models
- Deployment Models
- Demonstration on AWS

According to her Cloud is a shared pool of configurable computing resources which provides On-demand network access by the Service Provider.

This session was followed by ***Dr. Jibi Abraham*** from College of Engg. Pune, spoke on Cloud Virtualization, Para virtualization, I/O and memory virtualization.

Day 5 : Saturday, 09th Jan 2016)

Dr. Aarti Dixit from Savitribai Phule Pune University spoke on Research Trends in cloud computing and Security in Cloud Computing.

Later experts from Pragma Infosys Ltd., conducted hands–on session on Cloud Simulators.

Valedictory note and Certificate distribution was honored by Principal Dr. L.K.Kshirsagar, Dr.V.Y. Kulkarni and vote of thanks was given by Prof .V. S. Jagtap.

Feedbacks for FDP:

We have collected feedbacks from participants and speakers for the Faculty Development Program. Summarized feedback analysis is given below:

Overall participant's feedback:

- Sessions were good.
- Overall feedback is good.
- Good facilities are provided.
- Demand to provide more hands on for lab related assignments.

Overall speaker's feedback:

- Overall feedback is good.
- Satisfied with the facilities provided.
- Sufficient time was provided to conduct the session.
- Willing to come back again for conducting more sessions.

