



WORKSHOP on High Performance Computing (HPC)

05-09 AUGUST, 2019



Hands on Tutorials



Organized by
Physics Department, University of Lucknow

WORKSHOP & ITS AIM

This five day workshop will cover long hour presentations to introduce top new things that all new HPC users should always know. This workshop will cover HPC's mission, services, user accounts, cluster resources, software installation and many more. It will emphasize on preparing users to run jobs on HPC. This workshop will be more suitable for the users for basic commands, file permissions, text editing, scripting, utilities and process management. The workshop is designed to have a deep understanding and over view of the HPC clusters, Linux introduction, Linux command, Linux application and basic scripts, open MP programming, MPI programming, GPU architecture, etc. Topics such as submitting and monitoring jobs, optimizing memory and file system usage will be covered. This workshop is designed for the users who are currently running their jobs but want to speed up , parallelize their computations.

The aim of this workshop is to provide the participants with focused and deep platform for interaction, discussion in the HPC field provided with Hand on Tutorials from the CDAC & NVIDIA experts. The faculty and research scholars will have a great platform to their work by attending this workshop. All the interested participants from the University of Lucknow and other institutes are cordially invited to attend this workshop & avail the benefits for their research work, as it is for the first time when Physics Department, University of Lucknow is setting up the High Performance Computing system for the growth & development of faculty & upcoming researchers to make a significant contribution to the area of research and development.

EXPERTS

From CDAC : - Ms. Sucheta Pawar,
Mr. Vineet More, Mr. Saurabh Ninave
From NVIDIA :- Mr. Sayak Bhowmick

HIGH PERFORMANCE COMPUTING (HPC)

HPC refers to practicing aggregate computing power with the use of super-computers in a way that would deliver much higher performance than one could get out of a desktop computer to solve large computational challenges. HPC is the use of parallel processing algorithms & systems for running advanced application programs efficiently, reliably and quickly. It is typically used for solving advanced problems and performing research activities through computer modeling, simulation, analysis. It is also referred to as supercomputing systems as it makes the concurrent use of computing resources to deliver sustained performance. HPC brings out the several technologies together such as algorithms, system software to solve advanced problems effectively & quickly and process the speed. More efficient is the HPC system higher is the bandwidth, and lower latency network to connect multiple nodes and clusters. To avail all these benefits hands on tutorials will be provided by experts coming from CDAC & NVIDIA.

REGISTRATION DETAILS

Interested participants are requested to send their registration form latest by 30th July, 2019. Registration fee for participants from:

Lucknow University : Rs. 1500/-

Other Institutes : Rs. 2000/-

However to confirm the participation registration fee need to be paid by cash latest by **30th July, 2019.**

Seats are limited, early bird registration will be entertained.

IMPORTANT NOTES

Workshop Dates : **5-9 August, 2019.**

Workshop Timings : **Daily 10:00-17:00**

Deadline for Registration : **30th July, 2019.**

Venue : **Physics Department,**

University of Lucknow, Lucknow.

Email : physics@lkouniv.ac.in

For any query contact :

The Head,
Physics Department
University of Lucknow



Workshop on High Performance Computing (HPC)

Venue: Physics Department, University of Lucknow

Date : 05th August 2019 – 09th August 2019

Day 1, 5th Aug: Inaugural of the Workshop & Registration at 15:00

Timings	10.00 – 11.15	11.15 – 11.30	11.30 – 13.00	13.00 – 14.00	14.00 – 16.00	16.00 – 16.30	16.30 – 17.00
Topics	Morning Session	Snacks/Tea break	Morning Session Continued	Lunch Break	Afternoon Session	Snacks/Tea break	Afternoon Session Continued

	Session	Day 2	Day 3	Day 4	Day 5
Topics	Morning	1) Overview of HPC 2) Linux Introduction	1) OpenMP Programming	1) MPI Programming	1) Introduction to GPU Computing 2) Accelerating application using OpenACC 3) Hands-On OpenAcc
Hands-On Session	Afternoon	1) Linux Commands 2) Basic Linux scripts	1) OpenMP Programming Hands-On Session 2) Linux Application installation Demo	1) MPI Programming Hands-On Session 2) Job scripts creation, submission and querying.	1) Introduction to CUDA Programming 2) Hands-On CUDA Programming in C

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Physics Department, University of Lucknow, Lucknow

Registration form

Name:

Designation:

Affiliation:

Address:

Area of interest:

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E-mail:.....

Phone no.:.....

Day & Date:

Signature of the participant