

**QIP Sponsored 2-week
Short Term Course on
Many-Core Parallel Programme
June 04 - June 15, 2018**



Indian Institute of Technology Delhi



Program Coordinator

Prof. Subodh Kumar

**Department of Computer Science & Engineering and
Coordinator, High Performance Computing.**

INTRODUCTION

Computer systems of the day are parallel. They comprise multiple cores, GPUS, and other accelerators. Large scale scientific applications scale to multiple connected computers. In this context, the traditional sequential programming style is getting outdated. It is important to prepare the next generation of IT engineers with the requisite knowledge to take advantage of the ubiquitous parallelism, or they may themselves become non-competitive soon. This course is designed as a first step in filling this void in many curricula. Participants will learn how to think and reason in parallel contexts and differentiate it from sequential style of programming.

PROGRAMME OBJECTIVES

- ✚ Introduction to OS and Concurrency
- ✚ Reason in parallel and distributed control
- ✚ GPU computation

PEDAGOGY

The programme consists of lecture and lab sessions by multiple experts in the area. Theory and practical aspects will be covered. A follow-up unpaid internship of one month after the workshop is available to candidates to help build expertise in HPC using IITD supercomputer.

COMMUNICATION ADDRESS

Prof. Subodh Kumar,

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Delhi -110 016

PROGRAMME CONTENTS

- ✚ Programme organization and shell
- ✚ Batch computing environments
- ✚ Parallel program structure
- ✚ Introduction to distributed control and logic
- ✚ Performance measurement
- ✚ Parallel debugging
- ✚ GPU architecture
- ✚ CUDA and distributed memory programming
- ✚ Scalability
- ✚ Load Balancing Inter-Process communication
- ✚ Synchronization

PREREQUISITE

- ✚ Basic familiarity with Linux
- ✚ Participants must be able to program in C/C++

REGISTRATION

Please email a scanned copy of your duly filled registration form latest by MAY 30, 2018 to hpc.qip@cse.iitd.ac.in and send the hard copy along with DD* of Rs. 500/- for registration fee in the favour of **"Registrar IIT Delhi"** payable at New Delhi.

*Registration fee is refundable for those, who participate in the event.

Many-Core Parallel Programme
Department of Computer Science & Engineering, IIT Delhi
June 04 - June 15, 2018

Name:

Designation:

Department:

Organization:

Current Academic Duties:

Communication Address:

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Tel: **Mobile:** **Email:**

DD Number: **Accommodation Required: Y/N**.....

Applicant Signature

Head of the Institution/ College
(Signature with Seal)