



## Knowledge Network of Indian Institute of Technology Gandhinagar Under TEQIP-II Initiative

### **Summer School on Parallel Computing**

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The summer course on Parallel Computing comprises of approximately 40 hrs of instruction and 30 hrs of hands on experience. The course will focus on parallel computing using state of the art technologies and how algorithms for scientific computing can be mapped efficiently to take advantage of the parallel computing architectures that are so pervasive today. The course is relevant for students from all disciplines that plan to use high performance computing for their computational work and covers both shared and distributed memory architectures on linux environment. The hands-on session will focus on using the techniques taught in the lectures to run parallel programs on IITGN's high performance computing cluster.

This summer school provides an opportunity for the faculty members and students to revisit the important fundamental concepts and use them to solve computation intensive problems. Participation in this summer school is invited through registration.

#### **Topics to be covered -**

Overview of Linux operating system, a survey of computer architectures, elements of OpenMP, Pthreads and OpenMPI and their implementation on clusters and multi-cores, elements of GPU computing using CUDA, implementing scientific computing algorithms on advanced computer architectures, using parallel numerical libraries for computation.

***The following format will be followed in the summer school: The day comprises of 4 hrs-Instructions +3 hrs of hands-on session.***

Presenters: Instructors:

1. Mr. Sudeep Narayan Banerjee (IIT Gandhinagar)
2. Prof. Ravi Hegde (IIT Gandhinagar)
3. Prof. Gaurav Srivastava (IIT Gandhinagar)
4. Prof. Pratyush Dayal (IIT Gandhinagar)