



Centre for Development of Advanced Computing

Parallel Computing Workshop on PARAM 10000

February 21 (Wednesday) – February 23(Friday), 2001, at IIT-Madras

Venue for lectures:

Hands-on Session:

Day 1: Wednesday, February 21

Time (Hrs)	Activity
09:00~09:45	Welcome – Film Show and An Overview of Parallel Computing Workshop on PARAM
10:00~10:45	PARAM 10000 – An Overview
10:45~11:00	Tea break
11:00~11:45	PARAM 10000– HPCC software: Active Messages and CDAC-MPI
11:45~12:30	PARAM 10000– An overview of Message Passing Interface
12:30~14:00	Lunch
14:00~18:00	Hands-on Session (Day1): Basic MPI programs in FORTRAN and C, Examples on Point-to-Point and Collective communications and computations, Numerical Integration of π function, and Demonstration of HPCC software.

Day 2: Thursday, February 22

Time (Hrs)	Activity
09:00~09:45	Parallel Programming Models and principles of algorithm Design
10:00~10:45	PARAM 10000 – HPCC Software: Debuggers and System Management Tools
10:45~11:00	Tea break
11:00~11:45	An overview of Performance Metrics and Scalability Analysis
11:45~12:30	Applications : Parallelisation of Composites Analysis software by FEM (FEMCOMP)
12:30~14:00	Lunch
14:00~18:00	Hands-on Session (Day 2): Vector-Vector multiplication, Infinity Norm of a matrix, Matrix-Vector multiplication algorithms, Matrix-Matrix multiplication algorithms, Demonstration of HPCC software, and Application software on Parallelisation of Composites Analysis by Finite Element Method (FEMCOMP).

Day 3: Friday, February 23

Time (Hrs)	Activity
09:00~09:45	PARAM 10000 – System and Application Benchmarks
10:00~10:45	Application software: PHEONICS – Computational Fluid Dynamics Software
10:45~11:00	Tea break
11:00~11:30	Open Discussions and Conclusions
11:30~12:30	Hands-on Session (Day 3): Sparse Matrix-Vector Multiplication, Sample sort algorithm, Conjugate Gradient method, Gaussian Elimination and Jacobi method to solve matrix system of linear equations, Solution of Partial differential Equations, and Demonstration of HPCC software and PHOENICS software
12:30~14:00	Lunch
14:00~17:00	Hands-on Session (Day 3): (<i>Continued</i>)