

**Faculty Development Programme (FDP) on High Performance Computing (HPC) of Computational Fluid Dynamics Problems  
Tentative Schedule (24 – 29<sup>th</sup> December 2018)**

Day & Date	9.00 – 11.00		11.15 – 13.15	14.15 – 16.15	16.30 – 18.45	
<b>Day I</b> Monday 24.12.2018	Registration & Inauguration From 8.30 am	Introduction to HPC by YNR	Module 1: Parallel computing fundamentals, Open MP & PThreads By CHS	Module 1: MPI Programming By CHS	Module 1: Lab Open MP & PThreads By CHS & HPR	
<b>Day II</b> Tuesday 25.12.2018	Module 2: Communication between processors. By YGB		Module 2: Different architectures and parallel programming models By PS	Module 2: Domain Decomposition Method & Spectral analysis of numerical methods By YNR	Module 2: Lab Establishment of the Nodes Master and Slaves by PS & HPR	
<b>Day III</b> Wednesday 26.12.2018	Module 3: Spatial discretization schemes & Compact schemes by HPR		Module 3: Spectrally optimized DRP Schemes & Construction of time integration schemes by YGB	Module 3: Conversion of Sequential Programming to Parallel Programming By CHS	Module 3: Lab:- Solution of hyperbolic and elliptic model problems using MPI By CHS / HPR / PS	
<b>Day IV</b> Thursday 27.12.2018	Module 4 Numerical Filters By YGB		Module 4: control of spurious waves and aliasing error, multidimensional filters. by YGB	Module 5: HPC -Large Scale CFD Applications on Multi-to-Many Core Processors By VCVR	Module 5: Matrix Solvers & Mesh Partitioning Techniques By VCVR	
<b>Day V</b> Friday 28.12.2018	Pedagogy By IAK		Pedagogy By NVSN	Pedagogy Test -1 Assessment Tools By DVS	Pedagogy Test -2 Assessment Tools By DVS	
<b>Day VI</b> Saturday 29.12.2018	Module 6: Solution of hyperbolic and elliptic model problems using MPI By YGB / HPR		Module 6: LES of compressible flows using filters, numerical filters and their band limiting abilities, by YGB	Module 6: HPC of transitional and turbulent flows, HPC of aeroacoustic problems. by YGB	Module 6: HPC in bioinformatics by PS	Valedictory Address At 5.30 PM

**YGB: Dr. Yogesh G. Bhumkar    VCVR: Dr. VCV Rao    YNR: Prof. Y.N. Reddy  
IAK: Prof. IAK Reddy (Rtd.)    DVS: Prof. DVLN Somayajulu**

**CHS: Dr. Ch. Sudhakar  
NVSN: Prof. NVSN Sharma**

**HPR: Dr. H.P. Rani  
PS: Dr. Perugu Shyam**