



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

**Visvesvaraya Technological University**

(A State University of Government of Karnataka established as per the VTU Act, 1994)  
"Jnana Sangama", Belagavi-590018, Karnataka, India

**National Supercomputing Mission (NSM),**

**a flagship initiative by the Government of India Sponsored Event**

**One Week Faculty Development Program  
On**

**“HIGH PERFORMANCE COMPUTING”**

**COVERING VTU SYLLABUS OF  
SUBJECT PARALLEL COMPUTING (BCS702)**



**15<sup>th</sup> Sep – 19<sup>th</sup> Sep, 2025**

**Organized by**

**Department of Computer Science  
& Engineering, VTU, Belagavi**

**and**

**Walchand College of Engineering, Sangli**

**In Association with**

**CDAC, Pune**



**प्रगत संगणन विकास केंद्र**

**CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING**

**Venue: Jnana Sangama, VTU-Belagavi**





## About the University:

Visvesvaraya Technological University (VTU) is one of the largest and most prestigious technological universities in India. Established in 1998 by the Government of Karnataka, the university was created to plan, manage, and elevate the standards of engineering education across the state.

VTU currently has over 200 affiliated colleges and operates through four regional centres located in Belagavi, Muddenahalli, Kalaburagi, Mysuru, and also three constituent colleges ensuring its reach and impact across Karnataka.

As a multi-disciplinary, multi-level institution, VTU offers a wide range of programs in engineering, technology, and management at the undergraduate, postgraduate, and doctoral levels.

By emphasizing academic excellence, research, and innovation, VTU continues to play a crucial role in shaping the future of technical education in India. Through initiatives like Faculty Development Programs (FDPs), the university promotes continuous learning and professional growth among educators, ensuring the highest standards of teaching and learning.

## About the Dept. :

Department of Computer Science and Engineering was established in the year 2002. Faculty of the department have wide professional expertise and are actively involved in research and technical services. The area of research includes image processing, cloud computing, network security, big data analytics, machine learning, artificial intelligence, IoT, security, distributed system and many more. The department is also very active in manpower development and regularly organizes tailor made workshops and training programs.

## About Collaborators:

Centre for Development of Advanced Computing is implementing the National Super-computing Mission (NSM) a capacity building initiative of Ministry of Electronics and Information Technology, Government of India. Walchand College of Engineering (WCE), Sangli, established in 1947 with the lavish campus having state-of-the-art laboratories. WCE is one of the nodal centre for conducting NSM activities. WCE is a state government aided oldest and autonomous premiere engineering institute in Maharashtra.

## About the Course:

The program will introduce several parallel programming models, including Open Multiprocessing (OpenMP) for shared memory machines, Message Passing Interface (MPI) for distributed memory machines, and Compute Unified Device Architecture (CUDA), and a parallel computing platform developed by NVIDIA for exploiting GPU. It will also include hands-on practice on these programming models.

It is primarily intended for professors who presently teach or plan to teach HPC-related courses like Parallel Computing (BCS702) of VTU 7th Semester CSE. Researchers who use or plan to use parallel programming are also welcome to attend. The program will also cover the role of High-Performance Computing (HPC).





## Objectives of the Course:

- To introduce the fundamentals of parallel computing including parallel architectures, programming models and commonly used parallel programming constructs/libraries/languages.
- To deliver hands-on sessions to provide experience applying HPC tools on both CPU and GPU platforms.
- To educate faculties on Integrating HPC course into the curriculum.

## Course Content:

- Understanding Multicore and Manycore architectures
- Shared Memory Parallelism with OpenMP
- CUDA Programming
- Distributed Memory Parallelism with MPI
- Parallel Computing Patterns: Reduction, Matrix multiplication, convolution etc.
- Profiling sequential and parallel codes
- Performance measures in Parallel Computing, HPC
- Theory and Experiments of the subject Parallel Computing (BCS702)

## Resource Persons:

Resource persons from Institutions of national importance (like IIT, IIIT, NIT), CDAC, Industries and other premier institutions across the country will manage the FDP.

## Who Can Apply:

The FDP is intended for faculty members of affiliated Institutes/colleges of VTU belonging to Belagavi and Kalaburagi regions who are currently teaching or planned to teach the subject Parallel Computing (BCS702) of VTU. Registration will be accepted on a first-come, first-served basis, and participants are encouraged to register early due to limited seats.

**Preferred Faculty Members are required to bring a laptop that operates on a Linux environment or operating system.**

## Benefits:

- Interaction with eminent speakers from industry and academia.
- FREE Access to HPC resources during the FDP.
- Food and accommodation will be provided in campus during FDP.
- TA/DA has to be taken care by Institute/ Participants

## Important Dates

- **Registration Open: 06/09/2025.**
- **Last date for Registration: 12/09/2025**
- **Registration fee: Free**
- **The number of participants is limited to 50.**

**The Registrant shall provide the Declaration by the Candidate and the NoC from the Institution, following the format outlined on the next page.**

One Week Faculty Development Program

On

**“HIGH PERFORMANCE COMPUTING”**

COVERING VTU SYLLABUS OF SUBJECT PARALLEL COMPUTING (BCS702)

## NO OBJECTION CERTIFICATE:

The applicant Prof./Dr./Mr./Ms. \_\_\_\_\_  
from our institution will be permitted to attend the One Week FDP Sponsored by National Supercomputing Mission (GOI) on “High Performance Computing” Covering VTU Syllabus of Subject Parallel Computing (BCS702) to be held during 15<sup>th</sup> September to 19<sup>th</sup> September 2025 at the Department of Computer Science & Engineering, VTU, Belagavi

Date:  
Place:

Signature  
(Head of The Institute's Seal)

## DECLARATION BY THE CANDIDATE

I agree to maintain the discipline for the entire duration of One Week Faculty Development Program scheduled from 15/09/2025 to 19/09/2025 and I shall participate in the course for entire duration, if selected.

Date:  
Place:

Signature of Candidate

**Please print, cut & fill the above and paste the content onto your letterhead. During registration, upload the either filled scanned copies using the Google Form link, while the hard copies should be submitted on the day of the FDP.**

### Contact for more Details:

Dr. Rohit B Kaliwal  
Mob: 9449259947  
Email: [rohit.kaliwal@vtu.ac.in](mailto:rohit.kaliwal@vtu.ac.in)

**REGISTER NOW**



**SCAN HERE**



### CHIEF PATRON

**Prof. Vidyashankar S.**

Hon'ble Vice Chancellor, VTU, Belagavi.

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**Prof. T. N. Sreenivasa**

Registrar (Evaluation), VTU, Belagavi.

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Finance Officer, VTU, Belagavi

### Patrons from Collaborators

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Member Administrative Council, WCE, Sangli

**Prof. U.A. Dabade,**

I/C Director, WCE, Sangli

**Mr. Ashish Kuvelkar,**

Retd. Senior Scientist, CDAC-Pune

**Prof. D.B. Kulkarni**

Head, NSM Nodal Centre, WCE

**Ms. Aprupa Pawar**

WCE, Sangli

### Program Chair

**Dr. S. A. Angadi**

Chairperson, Computer Science & Engineering

### FDP Coordinators

**Dr. M. N. Birje**

Professor, Dept. of CSE & Director ITISMU,  
VTU, Belagavi

**Dr. Rohit B. Kaliwal**

Assistant Professor, Dept. of CSE, VTU, Belagavi

### VTU Organising Committee

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**Dr. Rashmi R Rachh,** Associate Professor

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