

# Online Workshop on High Performance Computing for Astronomy and Astrophysics

September 20-23, 2021

Organized by the SKA-India Consortium and IIT Kharagpur  
Under the aegis of National Supercomputing Mission



## About the Workshop:

In recent times, different research areas in Astronomy & Astrophysics have started to rely on high performance computing (HPC). The workshop aims to cover different aspects relevant for using HPC to solve problems in such areas. Basics of HPC programming framework will be complemented by timely and relevant topics in Astronomy & Astrophysics where HPC resources are indispensable.

## Topics:

- Introduction to HPC
- OpenMP & MPI with demonstration
- CUDA and GPU optimized codes
- Domain decomposition methods using MPI
- Fluids and magnetohydrodynamics
- Cosmological simulations
- Radiative transfer
- Numerical relativity
- Neutral hydrogen surveys
- Pulsar surveys
- Radio continuum imaging
- Radio transients

## Speakers:

Abhirup Datta, IIT Indore  
Ashish Kuvelkar, CDAC  
Bharat Kumar, NVIDIA  
Bhaswati Bhattacharyya, NCRA-TIFR Pune  
Girish Kulkarni, TIFR Mumbai  
Neeraj Gupta, IUCAA Pune

## Workshop Links:

[Online Registration Form](#)

Webpage:

[www.ccds.iitkgp.ac.in/hpcastro.html](http://www.ccds.iitkgp.ac.in/hpcastro.html)

Contact email: [ccdsoffi@ccds.iitkgp.ac.in](mailto:ccdsoffi@ccds.iitkgp.ac.in)

## Important Dates:

Last date for registration: *September 15, 2021, 5:00PM*  
(Registration may close earlier, if capacity is reached. Early registration is recommended.)

Notification and sharing of link: *September 17, 2021*

## Who should attend:

Scientists, Faculty Members, Postdoctoral Fellows,  
Doctoral Students, Postgraduate Students

## Organizing Committee:

Ashish Kuvelkar, CDAC  
Dipanjan Mukherjee, IUCAA, Pune  
Narendra Nath Patra, RRI, Bengaluru  
Pabitra Mitra, IIT Kharagpur  
Somnath Roy, IIT Kharagpur  
Tirthankar Roy Choudhury, NCRA-TIFR, Pune

Nishikanta Khandai, NISER Odisha  
Prateek Sharma, IISc Bengaluru  
Prayush Kumar, ICTS-TIFR Bengaluru  
Preeti Malakar, IIT Kanpur  
Shriharsh Tendulkar, TIFR Mumbai  
Somnath Roy, IIT Kharagpur

