

Introduction to HPC and ML/DL for Astrophysics

May, 11th – 14th, 2026

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Monday, May 11th

09:30 – 11:00 *Introduction to HPC and heterogeneous systems*

11:00 – 11:30 Coffee break

11:30 – 13:00 *Introduction to CINECA HPC systems and how to use them*

13:00 – 14:00 Lunch break

14:00 – 15:30 *Introduction to Git and tutorial*

15:30 – 16:00 Coffee break

16:00 – 17:30 *Introduction to Git and tutorial*

Tuesday, May 12th

09:30 – 11:00 *HPC applications for astrophysics within SPACE-CoE: OpenGadget*

11:00 – 11:30 Coffee break

11:30 – 13:00 *HPC applications for astrophysics within SPACE-CoE: OpenGadget*

13:00 – 14:00 Lunch break

14:00 – 15:30 *HPC applications for astrophysics within SPACE-CoE: gPLUTO*

15:30 – 16:00 Coffee break

16:00 – 17:30 *HPC applications for astrophysics within SPACE-CoE: gPLUTO*

Wednesday, May 13th

09:30 – 11:00 *Estimating Stellar Parameters from Photometry*

11:00 – 11:30 Coffee break

11:30 – 13:00 *Classifying Stars, Galaxies, and Quasars*

13:00 – 14:00 Lunch break

14:00 – 15:30 *Photometric Redshift Estimation Under Real Survey Biases*

15:30 – 16:00 Coffee break

16:00 – 17:30 *When Accurate Models Produce Wrong Science*

Thursday, May 14th

09:30 – 11:00 *Introduction to Deep Learning*

11:00 – 11:30 Coffee break

11:30 – 13:00 *Introduction to Computer Vision*

13:00 – 14:00 Lunch break

14:00 – 15:30 *Hands-on: Designing and training a Neural Network*

15:30 – 16:00 Coffee break

16:00 – 17:30 *Hands-on: Working with more complex architectures*