ICTP | International Centre for Theoretical Physics
SAIFR | South American Institute for Fundamental Research

Campus of IFT-UNESP – São Paulo, Brazil

DAVID ALONSO
University of Oxford, UK
Large scale structure observables

JOSE M. EZQUIAGA
Niels Bohr Institute, Denmark
A premiere on Gravitational Wave Cosmology

FRANCISCO ANTONIO VILLAESCUSA NAVARRO
Simmons Foundation and Princeton University, USA
Machine Learning Methods for Cosmology

GONZALO PALMA
Universidad de Chile, Santiago, Chile
Physics of Inflation

EMMANUEL SCHAAN
SLAC National Accelerator Laboratory, USA
Physics of the Cosmic Microwave Background

ROMAN SCOCCIMARRO
New York University, USA
Large scale structure theory

July 28 – August 8, 2025

V JOINT ICTP-TRIESTE/ICTP-SAIFR SCHOOL ON COSMOLOGY

Since the turn of the century, cosmology has become a data driven science. Several observational probes of the Universe, such as the cosmic microwave background, the large scale distribution of galaxies, the weak gravitational lensing of galaxy shapes, the mapping of supernovas, the number of clusters of galaxies and gravitational waves from coalescing binaries are being studied by different observatories to explore fundamental physics describing the nature of dark matter and dark energy. Moreover, new tools and data intensive techniques, like artificial intelligence and simulation based inference, are being developed and their potential for cosmological applications is yet to be fully explored.

This is the fifth edition of a joint ICTP-Trieste/ICTP-SAIFR two-week Cosmology School, aimed at providing students and young researchers with the necessary tools for understanding the current issues in modern cosmology and to familiarize them with how recent observations can be used to constrain different cosmological models and parameters.

There is no registration fee and limited funds are available for travel and local expenses.

Application deadline:
May 17, 2025

Online application and more information:
ictp-saifr.org/ictptriestesc2025

ORGANIZERS
Paolo Creminelli (ICTP-Trieste)
Mehrdad Mirbabayi (ICTP-Trieste)
Rogerio Rosenfeld (IFT-UNESP/ICTP-SAIFR)
Riccardo Sturani (IFT-UNESP/ICTP-SAIFR)