

# PROGRAM ON “FUNDAMENTAL PHYSICS MEETS CURRENT AND FUTURE FACILITIES IN COSMOLOGY”



**December 2 – 13, 2024**  
**at Principia Institute, São Paulo, Brazil**

## PRELIMINARY LIST OF PARTICIPANTS

**Raul Abramo** (IFUSP, Brazil)  
**David Alonso** (Oxford U., USA)  
**Tessa Baker\*** (U. of Portsmouth, UK)  
**José Luís Bernal** (U. of Cantabria, Spain)  
**Philippe Brax** (U. Paris-Saclay, France)  
**Vitor Cardoso** (IST-Lisbon, Portugal)  
**Chihway Chang** (U. of Chicago & KICP, USA)  
**Ami Choi** (NASA, USA)  
**Scott Dodelson** (Carnegie Mellon U., USA)  
**Colin Hill\*** (Columbia U., USA)  
**Elisabeth Krause\*** (U. of Arizona, USA)  
**Mariana Vargas Magaña\*** (IFUNAM, Mexico)  
**Vivian Miranda** (YITP – Stony Brook, USA)  
**Gonzalo Palma** (U. of Santiago, Chile)  
**Guilherme Pimentel\*** (SNS – Pisa, Italy)  
**Anna Porredon** (CIEMAT, Spain)  
**Rogério Rosenfeld** (IFT-UNESP & ICTP-SAIFR, Brazil)  
**Henrique Rubira** (Technische U. München, Germany)  
**Ariel Sanchez** (MPE, Germany)  
**Marko Simonović\*** (CERN, Switzerland)  
**Riccardo Sturani** (IFT-UNESP & ICTP-SAIFR, Brazil)

\*To be confirmed.

This 2-week program is intended to strengthen the connection between theorists (both in cosmology and in high energy physics) with the current and next generation facilities. A vast amount of data measuring several different observables will be used to test our fundamental models of particle physics and general relativity. Several challenges in making precise theoretical predictions coupled with systematic errors in these delicate measurements will be addressed.

We plan to cover recent advances in the understanding of the early and late time universe, including topics such as inflation, dark matter, dark energy, CMB, gravitational waves, large-scale structure, gravitational lensing, 21cm astronomy among others. Each topic will contain talks both from theorists and experimentalists/observers. One of the main goals of this workshop is to address which theoretical models are the most interesting and appealing to be probed in next-generation facilities and the systematic challenges to be faced.

The program aims to have a maximum of three talks per day, giving ample time for discussion sessions and stimulating interaction among participants. There will be one discussion session per day. The workshop aims at experienced participants: postdocs, senior researchers and advanced graduate students. We plan to have 30-40 participants (spread along those two weeks), depending on funding.

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

**Registration deadline:**  
**October 12, 2024**

**Online registration and more information:**  
**[ictp-saifr.org/tpcffc2024](http://ictp-saifr.org/tpcffc2024)**



### ORGANIZERS

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