

Session Program

31 May 2024

MAP-Fis Essays Workshop

MAP-Fis Essays Presentations

Zoom Video Conference Room
Zoom Video Conference Room

Friday 31 May

09:15

MAP-Fis Essays Presentations: Session B - Relativity & Gravitation (I)

Session | **Location:** Zoom Video Conference Room, Zoom Video Conference Room

09:15–09:40

Solving the Hubble tension with nonminimally coupled $f(R)$ theories of gravity

Speaker

Miguel Barroso Varela

09:40–10:05

Non-linear Evolutions of Black Holes in Numerical Relativity

Speaker

José Pedro Mota Valente Ferreira

10:05–10:30

Deep-Learning Classification and Parameter Inference of Rotational Core-Collapse Supernovae

Speaker

Solange Nunes

10:30–10:55

Deep Learning for transient signals in gravitational-wave astronomy

Speaker

Tiago Fernandes

10:55

11:10

MAP-Fis Essays Presentations: Session A - Climate & Environment

Session | **Location:** Zoom Video Conference Room, Zoom Video Conference Room

11:10–11:35

Dusty Atmospheric Rivers: relationship between intense transport of water vapour and aerosols in the Iberian Peninsula

Speaker

Diogo Luís

11:35–12:00

Impactos das alterações climáticas na formação de Cold Air Pools na Região Demarcada do Douro

Speaker

Marta Teixeira

12:00–12:25

TO BE DETERMINED

Speaker

SHEDRACH CHIAHA

12:25

11:10

MAP-Fis Essays Presentations: Session B: Relativity & Gravitation (II)

Session | **Location:** Zoom Video Conference Room, Zoom Video Conference Room

11:10–11:35

Extreme mass ratio inspirals around non-Kerr compact objects

Speaker

Manuel Mariano

11:35-12:00

Accretion patterns from exotic compact objects**Speaker**

Pedro Passos

12:00-12:25

Machine learning anomaly detection techniques for the search of new signals at LHC with ATLAS experiment**Speaker**

Annalisa Berti

12:25

14:00

MAP-Fis Essays Presentations: Session A: Material Physics & Condensed Matter I**Session** | **Location:** Zoom Video Conference Room, Zoom Video Conference Room

14:00-14:25

Emergence of novel properties at the interfaces in oxide heterostructures and superlattices**Speaker**

Alexandre Silva

14:25-14:50

Naturally Layered Ruddlesden-Popper Ferroelectrics towards Energy Efficient Materials**Speaker**

António Cesário

14:50-15:15

Biofunctional Cyclic Dipeptide Nanofibers for Energy Harvesting and Nonlinear Optical Conversion**Speaker**

Daniela Santos

15:15-15:40

Spatially and temporally modulated active patch for skin cancer treatment**Speaker**

Diana Bogas

15:40-16:05

Remediação ambiental**Speaker**

Paulo Boano

16:05

14:00

MAP-Fis Essays Presentations: Session B: High Energy Physics**Session** | **Location:** Zoom Video Conference Room, Zoom Video Conference Room

14:00-14:25

Bootstrap and Holographic CFTs**Speaker**

Filipe Serrano

14:25-14:50

A multi-point bootstrap approach to Quantum Field Theory**Speaker**

Ricardo Rodrigues

14:50–15:15

Light and Ultralight Dark Matter: exploring novel synergies between particle physics, strong gravity and cosmology**Speaker**

Vinícius Oliveira

15:15–15:40

Gravitational echoes from primordial phase transitions**Speaker**

Marco Finetti

15:40–16:05

Coding the Cosmos, Searching for Superstrings**Speaker**

Ricarda Heilemann

16:05

16:20

MAP-Fis Essays Presentations: Session A: Material Physics & Condensed Matter I**Session** | **Location:** Zoom Video Conference Room, Zoom Video Conference Room

16:20–16:45

Combined local probe technique and ab-initio calculation on layered Perovskites**Speaker**

Pedro Alexandre Silva De Sousa

16:45–17:10

Understanding anomalies in liquid water with upconversion thermometry**Speaker**

Ramon Filho

17:10–17:35

Advanced Photoelectrodes in Photoelectrochemical Cells for Solar Water Splitting and Green Hydrogen Generation**Speaker**

Sofia Gonçalves

18:00

16:20

MAP-Fis Essays Presentations: Session B: Optics & Photonics**Session** | **Location:** Zoom Video Conference Room, Zoom Video Conference Room

16:20–16:45

Insect-Brain Inspired Neuromorphic Nanophotonic Devices**Speaker**

João Azevedo

16:45–17:10

Hybrid optical fiber sensors interfaced with micro/nano fabrication technologies: towards a multisensing platform**Speaker**

João Santos

17:10–17:35

Development of polarimetric remote sensing technique for road condition inquiry and fast probing**Speaker**

Nazar Romanyshyn

17:35-18:00

Versatile Neuromorphic Frameworks for Optical Computing

Speaker

Vicente Rocha

18:00