

TIME MACHINES

public program

talks | scientific aperitifs | shows

30 November 2023 - 24 March 2024

Time Machines is an exhibition by INAF, the Italian research Institute for the study of the cosmos, a journey to discover the Universe and the instruments that humanity has built in order to understand it and reveal its mysteries.

During the four-month exhibition a series of meetings will be held at Palazzo Esposizioni Roma allowing visitors to learn more about the state of the art of research in astrophysics, without neglecting artistic and cultural contaminations. There will be scientific aperitifs, featuring INAF researchers, debates with some of the most important representatives from space missions and astronomical discoveries, and intellectuals from the humanistic world, as well as theatrical performances, comedians and poetry slam competitions.

PROGRAM

Thursday November 30th, 6:30 PM | Sala Auditorium

talk with

Roberto Vittori, astronaut

The man who went to space three times

He attended the Italian Air Force Academy and obtained his military pilot's licence in the United States. Today Roberto Vittori is General of the Italian Air Force and the first European astronaut to have visited the International Space Station (ISS) three times. The first visit dates back to 2002, when on board the Soyuz spacecraft he took part in the Marco Polo mission, the second in 2005 with the Eneide mission. In 2011 he took off aboard the Space Shuttle covering the role of mission specialist.

A meeting to learn more about the life and career of one of the Italians who contributed most to the human conquest of space.

SIGN LANGUAGE TRANSLATION

Wednesday December 6th, 6:30 PM | Sala Cinema

talk with

Michel Mayor, University of Geneva, Nobel Prize for Physics

Other worlds in the Universe? The search for life in space

The search for life on other planets is one of the fields of study that most intrigues both experts and science enthusiasts. Together with Professor Mayor, Nobel Prize winner for Physics in 2019 for the discovery of the first planet orbiting a solar-type star, we will take a journey among the stars and try to understand where we are with the discovery of extraterrestrial life forms.

Tuesday December 12th, 8 PM | Sala Auditorium

concert/show

Templum luminis

by **Stefano Giovanardi**, astronomer and **Angelina Yershova**, composer, pianist and producer

At the top of the mountain overlooking the cosmos, night falls. With a mechanical shudder, the dome of the great observatory opens, unfolding a crack onto the Universe. Imperceptible light filters through the darkness, emerging from a chasm of time, arriving from remote stars. The astronomer holds his breath, overlooking a never-seen fragment of the cosmos. The scientific liturgy of the Temple of Light begins.



Palazzo Esposizioni Roma

Wednesday December 20th, 6:30 PM | Caffè delle Esposizioni

scientific aperitifs with

Ilaria Musella, INAF Astronomical Observatory of Capodimonte and **Serena Benatti**, INAF Astronomical Observatory of Palermo

From dust grains to life - a journey among stars and planets

How are stars and planets born? How do they evolve over time and what are the ingredients needed to form a planetary system? How do we study and learn about them? These are just some of the questions we will try to answer with this two-voice dialogue, a path to reconstruct in less than an hour millions or even billions of years of changes that occur inside the stars and their surroundings.

Wednesday January 10th gennaio, 6:30 PM | Caffè delle Esposizioni

scientific aperitifs with

Marco Feroci, INAF Institute of Space Astrophysics and Planetology in Rome, and **Silvia Piranomonte**, INAF Astronomical Observatory of Rome

The extreme Universe: a cocktail of X-rays, gamma rays and much more

Flashes, explosions, head-on collisions, matter swallowed up or transferred from one star to another... the Universe seen at high energies is certainly not a place where you can get easily bored. With this two-voice dialogue we will lead you to discover some of the most extreme and violent physical sources in the cosmos, where energies that are impossible even for the most modern laboratories on Earth are reached, where it is possible to study physical conditions of matter that would otherwise not be reproducible.

Friday January 12th gennaio, 11:30 and 8 PM | Sala Auditorium

show

The Science Experience

Improvisation theatre show by **I Bugiardini**

Improvisational theatre and scientific dissemination meet on stage to create a unique show. A person coming from the world of scientific research shares and talks about his professional and personal path accompanied by I Bugiardini, a company specialised in the art of going on stage without a script and building a performance in real time. A game based on free associations and inspirations will create a unique mixture, where the real world will meet, to merge and mix up, with the infinite scenarios offered by the other (im)possible worlds.

Wednesday January 24th, 6:30 PM | Caffè delle Esposizioni

scientific aperitifs with

Angelo Antonelli, INAF Astronomical Observatory of Rome, and **Anna Wolter**, INAF Astronomical Observatory of Brera

Arrays of Cherenkov telescopes: how to observe the most energetic photons from Earth

Cherenkov telescopes use our atmosphere as a detector to collect the light emitted by the most powerful and extreme events in the Universe, such as explosions and collisions of stars, stellar winds and jets launched by supermassive black holes. Two new projects under construction are taking this science to the next level, using the combined gaze of arrays of telescopes. The ASTRI project, led by INAF, has begun the construction of an array of nine telescopes in Tenerife and is a precursor of the small telescopes that will be part, together with medium and large telescopes, of the international Cherenkov Telescope Array Observatory (CTAO) project, as well 60 telescopes in two observation sites, one in the northern hemisphere (Canary Islands) and one in the southern hemisphere (Chile). CTAO will be the largest ground-based gamma-ray observatory, with unprecedented precision and energy range. A two-way dialogue will accompany you in discovering these ambitious projects.



Thursday January 25th, 6:30 PM | Sala Auditorium

talk with

Michele Ciliberto, National Institute of Renaissance Studies, **Giovanni Iuzzolino** and **Riccardo Finozzi**, Bank of Italy

Humanism and the new economy: the birth of modernity

The revolution of Italian Humanism implies the development and novelty of the role of banks. Michele Ciliberto, among the greatest scholars of humanistic culture, Giovanni Iuzzolino and Riccardo Finozzi from Banca d'Italia converse around the points of connection between the two paradigms of modern civilization.

Wednesday January 31st, 6.30 PM | Caffè delle Esposizioni

scientific aperitifs with

Stavro Lambro Ivanovski, INAF Astronomical Observatory of Trieste, **Elisabetta Dotto**, INAF Astronomical Observatory of Rome and **Elena Mazzotta Epifani**, INAF Astronomical Observatory of Rome

A "small" aperitif: asteroids and comets

Asteroids and comets are "small" ancient and primitive bodies that orbit around the Sun, almost unchanged for billions of years: real time machines. By studying them from Earth with telescopes and from space with robotic probes, astronomers try to give an answer to the most fascinating questions that arise when looking at a night sky: what was the primitive nebula like and how did it evolve? How common is our planetary system in the Galaxy? How were created, on our planet, the conditions that made possible the development of life?

Thursday February 1st, 6.30 PM | Sala Auditorium

talk with

Roberto Tamai, Program Manager Extremely Large Telescope - ELT - European Southern Observatory ESO

What horizons will ESO's ELT, the largest "time machine" in the world, open up for us?

They called it "the largest eye on the sky in the world", because with its 39 metres of primary mirror the Extremely Large Telescope (ELT) of the ESO (European Southern Observatory) will become, once completed, the largest telescope in the optical and infrared. Combining unprecedented dimensions and a suite of cutting-edge instruments capable of enabling a wide range of scientific possibilities, ESO's ELT will enable us to make a giant leap forward in our knowledge of the Universe.

Roberto Tamai, Program Manager at ESO for the ELT, will tell us about this incredible time machine.

Thursday February 8th, 6:30 PM | Sala Auditorium

talk with

Marica Branchesi, Gran Sasso Science Institute - GSSI, and **Viviana Fafone**, National Institute of Nuclear Physics - INFN

Eight years of gravitational waves - multimessenger astronomy, from LIGO-VIRGO to the Einstein Telescope

It was February 11, 2016 when the news reached the whole world: we had observed the first signal of gravitational waves. A century after Einstein's predictions we were finally able to "touch" the existence of ripples in the space-time fabric, opening the doors to a new field of study: multi-messenger astronomy. Eight years after that historic announcement, we have discovered many things thanks to the interferometers of the LIGO-Virgo collaboration and we expect just as many from the Einstein Telescope, the soon-to-be-built detector.

SIGN LANGUAGE TRANSLATION

Sunday February 11th, 8 PM | Sala Auditorium

show

STEMmano ponno esse donne o ponno esse scienziate (Those hands can be women or can be scientists)

by and with **La Scienza Coatta**, a scientific dissemination project, and **Ludovica Di Donato**, author and actress

on the occasion of the International Day of Women and Girls in Science (UNESCO initiative)

They call them nerds or "Miss"; they are too irrational and emotional, they are not good and efficient: who are they? Not what we want to tell in this show. *Those hands can be women and they can be scientists* is the show curated by La Scienza Coatta, which will tell the huge contribution of women in STEM disciplines with memes and a touch of irony.

Wednesday February 21st, 6:30 PM | Caffè delle Esposizioni

scientific aperitifs with

Giangiaco Gandolfi, INAF Astronomical Observatory of Rome and **Antonella Gasperini**, INAF Astrophysical Observatory of Arcetri

The historical roots of Italian Astrophysics

The link between the study of the sky and our country is very deep and distant in time: from Galileo to Angelo Secchi, Italy saw the birth of the first instruments for observing the cosmos, both with the naked eye and with the aid of measurement tools. A two-voice dialogue will allow us to outline some of the most relevant contributions to the study of the Universe obtained thanks to Italian scholars and will reveal the existence of an extraordinary and unique historical heritage.

Wednesday February 28th, 6:30 PM | Caffè delle Esposizioni

scientific aperitifs with

Gabriella De Lucia, INAF Astronomical Observatory of Trieste and **Luca Valenziano**, INAF Astronomical Observatory of Bologna

Euclid, the machine for reconstructing the history of the Universe

In July 2023, the European Euclid satellite opened its optical and infrared eyes on the cosmos. His first images were so clear that they were defined as "hypnotic" and this gives us hope because his goal is more than ambitious: to help us reveal pieces of the history of our Universe that we still cannot understand, as well as shedding light on the mysteries of dark matter and energy.

Thursday March 7th, 8 PM | Sala Auditorium

show

coSmic - The art of resolving cosmic complexity in comedy

by and with **Tony Marzolla**, author, director and actor

A monologue which, with a stand-up comedy style, addresses the "mysteries" of the Universe, from the first space missions to the new frontiers of astrophysics. Without neglecting scientific data, this show is able to speak to everyone, even the youngest, accompanying the viewer by the hand from a gripping beginning to an exciting destination: the awareness that this pale blue dot where we rest our feet is the most precious thing we could ever want.

Wednesday March 13th, 6:30 PM | Caffè delle Esposizioni

scientific aperitifs with

Roberto Ragazzoni, INAF Astronomical Observatory of Padova and **Mauro Centrone**, INAF Astronomical Observatory of Rome

It's easy to say Star - Natural or artificially created stars allow us to probe the most hidden Universe

A two-voice dialogue to take stock of what happens in astrophysics research laboratories. An insight into some of the most advanced instruments that will allow us to reveal the mysteries of the Universe



in the coming years: lenses, mirrors, lasers, antennas... What awaits us in the future? What are researchers building in their laboratories to help humanity answer open questions about the cosmos?

Thursday March 21st, 11.30 and 8 PM | Sala Auditorium

show

Poetry for the sky

Lorenzo Maragoni (poet and performer) and **Chiara Di Benedetto** (Studio Bleu) present the show resulting from a poetry slam project

The *Poetry for the sky* project was born with the aim of bringing poetry and astronomy closer together, providing an original point of view on the Time Machine exhibition. What we will observe on stage will be the result of three days of complete immersion in the rooms and themes of the exhibition. A group of artists will be guided in this adventure by the creators Chiara di Benedetto and Lorenzo Maragoni, with the support of researchers who work every day to push our knowledge in the astrophysics field a little further. A different way of talking about science, which will see the public participating in deciding the winner of a real contest with poetry.

Sunday March 24th marzo, 6:30 PM | Sala Auditorium

talk with

Andrea de Pasquale, General Director of Education and Research MIC and **Paolo Galluzzi**, Historian of science

The unity of the Italian scientific and cultural heritage

From the perspective of cultural and scientific heritages there is no futile distinction between "the two cultures". The history and life of heritage rather narrate a unity of intent, expectations and motivations. The idea is to enhance the identity of humanism and science in the common vision of a civil thought devoted to the search for truth.

Andrea de Pasquale, the leading expert on Italian archival heritage, and Paolo Galluzzi, the leading expert on Galileo's work, put the unity of historical heritage at the centre of the conversation.

INFORMAZIONI

Palazzo Esposizioni Roma – Sala Auditorium and Cinema

Admission via steps in via Milano 9a, Rome

ADMISSION FREE WHILE PLACES LAST – RESERVATIONS ARE REQUIRED.

Reservations may be made on this website from 9.00 am on the day before the chosen performance until one hour before the performance is due to begin. If for any reason you are unable to come, please remember to cancel your reservation on the website so that someone else can book the place you're freeing up. Please show up at least 10 minutes before the performance starts, otherwise your reservation will no longer be considered valid and your place will be given to the first person waiting in line at the entrance.

Caffè delle Esposizioni – Garden Bistrot

via Nazionale 194 and via Milano 13, Rome

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