

Workshop on: Space Projects and Collaboration between the United Arab Emirates & Italy

Space is the final frontier in the long history of human explorations. Its infinite size, hostility to life and challenging engineering and technology requirements make it the least-desired place where human should explore. Yet, our innate curiosity continuously pushes us to explore the limits of our creativity and imagination *in* the unfriendly space. It is in outer space that humans get to answer the question that haunts us the most: *how did life originate on planet Earth?* To this end, governments have devolved incredible financial resources in designing futuristic space missions and experiments. However, the era of *all-in-house-space-missions* is long gone, and space has become the terrain where experts from different nations *share* their knowledge, and ultimately *ease* their respective financial burden and *maximize* their mutual scientific and economic benefits.

In this framework, the Italian Embassy in Abu Dhabi is celebrating the “**Italian Space Day**” anniversary by organizing a workshop focalized on current and potential space collaborations between Italy and the United Arab Emirates. In particular, the morning session of the workshop will focus on: (i) the *ongoing* collaboration between the Italian Space Agency (ASI) with the United Arab Emirates Space Agency (UAESA) mission to the asteroid belt (EMA), and (ii) illustrate the Mohammad Bin Rashid Space Centre (MBRSC), ASI and Thales Alenia Space (TAS) many projects aimed at lunar exploration. The afternoon session of the workshop aims at catching up with the most recent scientific discoveries, from faraway cosmology to *nearby* planetology space projects.

The venue at **Khalifa University (KU)** appositely aims at attracting the attention of young M.A. and PhD Emirati scientists to the cutting-edge projects that UAE has undertaken, and the potential of future collaborations with Italian scientific centres. In this regards, the speakers of the afternoon session will provide deeper insights into the science triggering these space projects.

Space Projects and Collaboration between the United Arab Emirates & Italy

25th January 2024, at Khalifa University (Abu Dhabi)

Agenda

10:30--10:45 Opening Speeches

- **Prof. Sir John O'Reilly:** President of Khalifa University (5 min.)
- **H.E. Lorenzo Fanara:** Ambassador of Italy to the United Arab Emirates (5 min.)
- **Prof. Sean Swei:** Director of KU Space Technology & Innovation Centre (5 min.)

First Session

10:45--12:15 Space Projects (4 speakers 1:20)

- **Emirates Mission to the Asteroids Belt (EMA)** – **Dr. Alsaeed Noora:** United Arab Emirates Space Agency, UAESA (20 min.)
- **MIST-A: the Italian Spectrometer aboard the EMA Mission** – **Dr. Raponi Andrea:** Italian National Institute for Astrophysics, INAF/IAPS (20 min.)
- **Emirates Lunar Mission: Rashid 1, 2 & Beyond** – **Dr. Almarzooqi Hamad:** Mohammad Bin Rashid Space Centre, MBRSC (20 min.)
- **Lunar Operations & Perspectives** – **Dr. Vincenzo Giorgio:** Thales Alenia Space (20 min.)

One Hour Break

Second Session

Moderator: Prof. Elena Pancino (Khalifa University)

13:30--16:00 Latest Scientific Discoveries (from faraway galaxies to planet Earth)

- **GALAXIES: New Clues & New Challenges for Galaxy Evolution from JWST** – Prof. Macciò Andrea: New York University Abu Dhabi, UAE (25 min.)
- **STARS: European Space Missions for the Search & Characterization of Exoplanets** – Prof. Piotto Giampaolo: University of Padova, Italy (25 min.)
- **PLANETS: Emirates Mars Mission: Science Overview & Results** – Dr. Alsaeed Noora: UAE Space Agency, UAESA (25 min.)
- **ASTEROIDS: a Treasure Trove for the Origin and Evolution of the Solar System** – Dr. Lucchetti Alice: INAF-Osservatorio Astronomico di Padova, Italy (25 min.)
- **TELESCOPES: New-Generation Wide-angle Telescopes for Space Monitoring** – Dr. Zaggia Simone: INAF-Osservatorio Astronomico di Padova, Italy (25 min.)

Third Session

Moderator: Prof. Sean Swei (Khalifa University)

16:00--17:00 Khalifa University Enabling UAE-led Space Technologies

- **Novel Lander Design for Space Applications** – Prof. El-Khasawneh Bashar: Khalifa University (10 min.)
- **KU Lunar Rover Activities** – Prof. Zweiri Yahya: Khalifa University (15 min.)
- **Space Materials for Future Space Missions** – Prof. Yarjan Samad: Khalifa University (15 min.)
- **Efficient Space Electronics & Sensors** – Prof. Baker Mohammad: Khalifa University (15 min.)

Workshop End

The POSTER to be used in socials-platforms promotion.

Space Projects & Space Collaborations between United Arab Emirates & Italy

January 25, 2024

Khalifa University  Abu Dhabi



I - Opening Speeches (10:30--10:45):

Prof. Sir John O'Reilly, President of Khalifa University
H.E. Lorenzo Fanara, Ambassador of Italy to UAE

II - UAE/ITA Space Projects & Collaborations (10:45--12:15):

Emirates Mission to the Asteroids Belt (EMA),
Dr. Noora Alsaeed (UAE Space Agency)
MIST-A: The Italian Spectrometer aboard the EMA Mission,
Dr. Andrea Raponi (INAF-Institute of Space Astrophysics & Planetology)
Emirates Lunar Mission: Rashid Rover 1, 2 & Beyond,
Dr. Hamad Almarzooqi (Mohammad Bin Rashid Space Center)
Lunar Operations and Perspectives,
Dr. Vincenzo Giorgio (Thales Alenia Space)

III - Recent Space Discoveries (13:30--16:00):

GALAXIES: New Clues and New Challenges for Galaxy Evolution from JWST,
Prof. Andrea Macciò (New York University, Abu Dhabi)
STARS: European Space Missions for the Search & Characterization of Exoplanets,
Prof. Giampaolo Piotto (University of Padova, Italy)
PLANETS: Emirates Mars Mission: Science Overview and Results,
Dr. Noora Alsaeed (UAE Space Agency)
ASTEROIDS: A Treasure Trove for the Origin and Evolution of the Solar System,
Dr. Alice Lucchetti (INAF-Osservatorio Astronomico di Padova, Italy)
TELESCOPES: New-Generation Wide-angle Telescopes for Space Monitoring,
Dr. Simone Zaggia (INAF-Osservatorio Astronomico di Padova, Italy)

IV - Khalifa University Space Technologies (16:00-17:00):

Novel Lander Design for Space Applications
Prof. Bashar Khasawneh (Khalifa University)
Lunar Rover Activities,
Prof. Yahya Zweiri (Khalifa University)
Space Materials for Future Space Missions,
Prof. Yarjan Abdul Samad (Khalifa University)
Efficient Space Electronics and Sensors
Prof. Baker Mohammad (Khalifa University)



Embassy of Italy
Abu Dhabi

جامعة خليفة
Khalifa University

ASI
Agenzia Spaziale Italiana

مركز محمد بن راشد
للفضاء
UAE SPACE AGENCY

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