



United Nations/Jordan Workshop: Global Partnership in Space Exploration and Innovation

Co-organized by
United Nations Office for Outer Space Affairs &
Regional Centre for Space Science and Technology Education for Western Asia

With support provided by
Arab Union for Astronomy and Space Sciences,
Inter Islamic Network on Space Sciences and Technology &
Royal Jordanian Geographic Centre

25-28 March 2019
Amman, Jordan



Names are listed in alphabetical order

Honorary Committee:

Mohammed Al Ahabbi	United Arab Emirates Space Agency, Director General
Hamid Al-Naimiy	Sharjah University & Arab Union for Astronomy and Space Sciences, President
Simonetta Di Pippo	United Nations Office for Outer Space Affairs, Director
Awni M. Khasawneh	Royal Jordanian Geographic Centre (RJGC) & Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA), Director General
Amer Nadeem	Inter-Islamic Network on Space Sciences and Technology (ISNET) & Pakistan Space and Upper Atmosphere Research Commission (SUPARCO), President

Names are without titles and are listed in alphabetical order

Scientific & Programme Committee:

Mohammed Al Ahabbi	United Arab Emirates Space Agency
Atef Ali	Inter Islamic Network on Space Sciences and Technology (ISNET)
Marwan Al-Mosa	Jordanian Mutah University
Hamid Al-Naimiy	Sharjah University & Arab Union for Astronomy and Space Sciences
Husam Alnaser	Jordanian Al al-Bayt University
Waheeb Al-Nasser	University of Bahrain
Qais Al Omari	Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
Ali Altaane	Jordanian Al-Balqa University
Mashhoor Al-Wardat	Jordanian Al al-Bayt University
Piero Benvenuti	International Astronomical Union (IAU)
Ian Freeman	United Nations Office for Outer Space Affairs
Kevin Govender	IAU Office of Astronomy for Development (OAD)
Nidhal Guessoum	American University of Sharjah (AUS)
Hayk Harutyunyan	Byurakan Astrophysical Observatory (BAO)
Nivin Hasan	Royal Jordanian Geographic Centre (RJGC)
Niklas Hedman	United Nations Office for Outer Space Affairs
Mohammed Ibbini	Jordan University of Science and Technology
Imran Iqbal	Pakistan Space and Upper Atmosphere Research Commission (SUPARCO)
Hui Jiang	China National Space Administration
Najib Abou Karaki	Jordanian University Al-Hussein bin Talal
Tanya Keusen	United Nations Office for Outer Space Affairs
Awni M. Khasawneh	Royal Jordanian Geographic Centre (RJGC) & Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
Jamal Maimouni	Al-Shery Astronomy Association, Algeria
Areg Mickaelian	Byurakan Astrophysical Observatory; SWCA ROAD; Armenian Astronomical Society (ArAS)
Muhammad Naveed	Inter Islamic Network on Space Sciences and Technology (ISNET)
Ahmed Osman	United Nations Office for Outer Space Affairs
Eqab Rabee	Jordanian Al al-Bayt University
Ammar Sakaji	Jordanian Astronomical Society

Osama Shalabiea	Astronomy, Space Science and Meteorology Department Cairo University
Christopher Sto.Domingo	United Nations Office for Outer Space Affairs
Irianna Vlachopoulou	United Nations Office for Outer Space Affairs

Local Organizing Committee:

Nivin Hasan	Royal Jordanian Geographic Centre (RJGC)
Ibraheem Albaddawi	Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
Ahmad Abushattal	Jordanian University Al-Hussein bin Talal
Abdallah Alghrair	Royal Jordanian Geographic Centre (RJGC)
Mashhour AlWardat	Jordanian Al Al-Bayt University
Yousef Algalaiene	Royal Jordanian Geographic Centre (RJGC)
Raed Abu-Naseryeh	Royal Jordanian Geographic Centre (RJGC)
Taimour Saffouri	Royal Jordanian Geographic Centre (RJGC)
Hanna A. Sabat	Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
Qais Al Omari	Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
Ali Altaane	Jordanian Al-Balqa University
Otba Al-Ma'aitah	Royal Jordanian Geographic Centre (RJGC)
Muhammad Matar	Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
Saddam Hajahjeh	Greater Amman Municipality
Ali Olimat	Royal Jordanian Geographic Centre (RJGC)
Naser Albadawi	Royal Jordanian Geographic Centre (RJGC)
Khalid Tayeh	Royal Jordanian Geographic Centre (RJGC)
Abdallah Naimat	Royal Jordanian Geographic Centre (RJGC)
Murad Mardini	Royal Jordanian Geographic Centre (RJGC)
Ala'a Mubaideen	Royal Jordanian Geographic Centre (RJGC)
Areen Al Qudaa	Royal Jordanian Geographic Centre (RJGC)
Raghad Al Omari	Royal Jordanian Geographic Centre (RJGC)

DAY 1 – Monday, 25 March 2019

Arrival and Registration

9:00-9:30 Arrival from the hotels at the Regional Centre and registration of participants

Opening Ceremony

9:30-11:00 To include, inter alia, welcome speeches, a group photo and the opening of the exhibition.

Speakers

- **Awni M. Khasawneh**, Royal Jordanian Geographic Centre (RJGC) & Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
- **Simonetta Di Pippo**, United Nations Office for Outer Space Affairs
- **Mohammed Al Ahbabi**, United Arab Emirates Space Agency
- **Hamid Al-Naimiy**, Sharjah University & Arab Union for Astronomy and Space Sciences
- **Piero Benvenuti**, Italian Space Agency
- **Ewine F. van Dishoeck**, International Astronomical Union (IAU)
- **Suhil Al Abed**, ESRI Company
- **Amer Nadeem**, Pakistan Space and Upper Atmosphere Research Commission (SUPARCO)

Chief Guest

- **Omar Razzaz - Prime Minister of Jordan**

11:00-11:30

Coffee Break

THEMATIC SESSION 1 - *Current space exploration and innovation programs*

11:30-13:00

Chair

- **Simonetta Di Pippo**, United Nations Office for Outer Space Affairs

Co-Chair

- **Awni Khasawneh**, Royal Jordanian Geographic Centre (RJGC) & Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)

Rapporteur

- **Burcu Akata Kurc**, Middle East Technical University

Speakers

- **Salem Al Marri**, Mohammed Bin Rashid Space Centre
- **Ibrahim Baddawi**, Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
- **Quanlin FAN**, Chinese Academy of Sciences
- **Donato Giorgi**, French National Centre for Space Studies (CNES)
- **Jun GOMI**, Japan Aerospace Exploration Agency (JAXA)
- **Rodrigo Leonardi**, Brazilian Space Agency
- **Raffaele Mugnuolo**, Italian Space Agency (ASI)
- **Montaser Sallam**, Innovative Solution In Space (ISIS)
- **Osama Shalabiea**, Cairo University
- **Thomas Weissenberg**, European Space Agency (ESA)

13:00-15:00

Lunch Break

(Lunch to take place outside the Regional Centre)

Poster Session

15:00-16:30

Chair

- **Nivin Hassan**, Royal Jordanian Geographic Centre (RJGC)

Co-Chair

- **Tanya Keusen**, United Nations Office for Outer Space Affairs

	<p>Poster Presenters (name, affiliation and poster topic):</p> <ul style="list-style-type: none"> • Ahmed Abdelkarim, University of Khartoum (University of Khartoum Space Research Centre: Vision, missions and goals) • Burcu Akata Kurc, Middle East Technical University (From natural resources to synthetic nanomaterials: Can we use this technology for sustainable settlements?) • Ashraf Al-Bahlawan, Mullard Space Science Laboratory (The Euclid visible instrument: An international engineering collaboration) • Sheika Alkaabi, UAE University (Studying the Mars atmosphere through the Emirate Mars Mission) • Rokhsana Ismail, Aden University (New perspective for education and training using remote sensing and geographic information system at Aden University) • Kavya Kamepalli, International Institute of Aerospace Engineering and Management (IIAEM), Jain University (Space technologies and SDG4) • Syed Muhammad Miqdad Medhi, Xi'an Jiaotong University (Pakistan Space Programme and international cooperation) • Simone Pirrotta, Italian Space Agency (Italian nanosatellites for exploration in international cooperation) • Hannah Rana, Space Generation Advisory Council & University of Oxford (Design considerations of planetary landers for lunar exploration missions) • Camilo Andres Reyes Mantilla, Julius-Maximilians-Universität Würzburg (How two Latin American institutions came together to start the first regional program for Lunar Exploration- Case Study of Colombia and Ecuador) • Fabio Santoni, DIAEE-Sapienza University of Rome (A joint academic program for capacity-building) <p>Note: Presentations on posters will be limited to a five minute stand up per person. Participants are then encouraged to engage in related informal exchanges during the breaks.</p>
16:30-17:00	<i>Coffee Break</i>
THEMATIC SESSION 2 - <i>Current space exploration and innovation cooperation mechanisms and potential future ones</i>	
17:00-18:15	<p>Chair</p> <ul style="list-style-type: none"> • Hamid Al-Naimiy, Sharjah University & Arab Union for Astronomy and Space Sciences <p>Co-Chair</p> <ul style="list-style-type: none"> • Sa'ed Dababneh, Jordanian Al-Balqa University <p>Rapporteur</p> <ul style="list-style-type: none"> • Hannah Rana, Space Generation Advisory Council & University of Oxford <p>Speakers</p> <ul style="list-style-type: none"> • Ganiy I. Agbaje, African Regional Centre for Space Science and Technology Education in English (ARCSSTE-E) • Naser Bin Hammad, United Arab Emirates Space Agency • Jun GOMI, Japan Aerospace Exploration Agency (JAXA) • Hui JIANG, China National Space Agency (CNSA) • Irmgard Marboe, University of Vienna • Thomas Weissenberg, European Space Agency (ESA)
18:30	Departure from the Regional Centre back to the hotels

DAY 2 - Tuesday 26 March, 2019

9:20	Arrival at the Regional Centre from the hotels
Space for Women Event	
9:30-11:00	Chair <ul style="list-style-type: none">• Ewine F. van Dishoeck, International Astronomical Union (IAU) Co-Chair <ul style="list-style-type: none">• Hanan Malkawi, Yarmouk University Rapporteur <ul style="list-style-type: none">• Camilo Andres Reyes Mantilla, Julius-Maximilians-Universität Würzburg Speakers <ul style="list-style-type: none">• Simonetta Di Pippo, United Nations Office for Outer Space Affairs & International Gender Champion• Sheika Alkaabi, United Arab Emirates University• Cassie Conley, National Aeronautics and Space Administration (NASA)• Ghina M Halabi, Cambridge University• Hannah Rana, Space Generation Advisory Council & University of Oxford• Jingnong WENG, Regional Centre for Space Science and Technology Education in Asia and the Pacific (RCSSTEAP) & Beihang University
11:00-11:30	<i>Coffee Break</i>
THEMATIC SESSION 3 - <i>Developing open and inclusive global space exploration partnerships</i>	
11:30-13:00	Chair <ul style="list-style-type: none">• Piero Benvenuti, Italian Space Agency Co-Chair <ul style="list-style-type: none">• Naser Bin Hammad, United Arab Emirates Space Agency Rapporteur <ul style="list-style-type: none">• Eqab Rabee, Jordanian Al al-Bayt University Speakers <ul style="list-style-type: none">• Teresa Castillo Olascoaga, Mexican Space Agency• Ian Christensen, Secure World Foundation• Anas Emran, African Regional Centre for Space Science and Technology Education in French (ARCSSTE-F)• Jonathan Friend, Surrey Satellite Technology Ltd Commercial Lunar Missions Support Services (CLMSS)• Hamza Hameed, International Institute for the Unification of Private Law (UNIDROIT)• Simone Sasse, AirBus• Jingnong WENG, Regional Centre for Space Science and Technology Education in Asia and the Pacific (RCSSTEAP) & Beihang University
13:00-14:00	<i>Lunch Break</i>
THEMATIC SESSION 4 – <i>Planetary Protection</i>	
14:00-15:00	Chair <ul style="list-style-type: none">• Atef Ali, Inter Islamic Network on Space Sciences and Technology (ISNET) Co-Chair <ul style="list-style-type: none">• Mashoor Al-Wardat, Arab Union for Astronomy and Space Sciences

	<p>Rapporteur</p> <ul style="list-style-type: none"> • Hanna Sabat, Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA) <p>Speakers</p> <ul style="list-style-type: none"> • Wajdy J. Al-Awaida & Nabil Ayoub, American University of Madaba • Cassie Conley, National Aeronautics and Space Administration (NASA) • Niklas Hedman, United Nations Office for Outer Space Affairs & Committee on Space Research (COSPAR) • Georgios Profitiliotis, University of Athens
THEME 5 – Space and Astrophysics	
15:00-16:30	<p>Chair</p> <ul style="list-style-type: none"> • Mohammad Ibbini, Jordan University of Science and Technology (JUST) <p>Co-Chair</p> <ul style="list-style-type: none"> • Baha Khasawneh, Princess Sumaya University for Technology (PSUT) <p>Rapporteur</p> <ul style="list-style-type: none"> • Ala'a Alazzam, Jordanian University <p>Speakers</p> <ul style="list-style-type: none"> • Ahmad Abu Shattal, Jordanian University Al-Hussein bin Talal • Mashoor Ahmad Al-Wardat, Al Al-Bayt University • Moneeb Aleid, American University Of Beirut AUB • Ali Ataani, Jordanian Al-Baqa University • Saed Dababneh, Al-Balqa Applied University • Makram Ibrahim, National Research Institute of Astronomy and Geophysics • Ammar Sakaji, Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
16:30-17:00	<i>Coffee Break</i>
THEME 6 – Terrestrial Analogues	
17:00-17:45	<p>Chair</p> <ul style="list-style-type: none"> • Moneeb Aleid, American University of Beirut <p>Co-Chair</p> <ul style="list-style-type: none"> • Marwan Al-Mosa, Jordanian Mutah University <p>Rapporteur</p> <ul style="list-style-type: none"> • Ali Ataani, Jordanian Al-Baqa University <p>Speakers</p> <ul style="list-style-type: none"> • Gian-Gabriele Ori, Ibn Battuta Centre • Enrico Flamini, Italian Space Agency (ASI) • Abdelqader Abed or Mamoun Nawafleh, Jordanian University
17:50	Departure from the Regional Centre back to the hotels

DAY 3 - Wednesday 27 March, 2019**Full Day Trip to Wadi Rum**

Note: A planetary geologist will explain Wadi Rum as a terrestrial analogue to Mars (Abdelqader Abed or Mamoun Nawafleh, Jordanian University)

8:00	Pick up at hotels and depart Amman
12:00- 12:30	Arrival at Wadi Rum
12:30-13:30	Lunch
13:30-14:15	Visiting Run Sky Adventure Campground
14:15-16:00	Desert Jeep Tour (6 participants per Jeep)
16:00	Departure from Wadi Rum
20:00	Arrival back in Amman

DAY 4 - Thursday 28 March, 2019

OUTCOME OF THE CONFERENCE – AGREEMENT ON OBSERVATIONS AND RECOMMENDATIONS

9:50	Arrival at the Regional Centre from the hotels
10:00-11:00	Chair <ul style="list-style-type: none">• Niklas Hedman, United Nations Office for Outer Space Affairs Co-Chairs <ul style="list-style-type: none">• Nivin Hasan, Royal Jordanian Geographic Centre• Ibrahim Baddawi, Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
11:00-11:30	<i>Coffee Break</i>
CLOSING CEREMONY	
11:30-12:00	Closing remarks <ul style="list-style-type: none">• Simonetta Di Pippo, United Nations Office for Outer Space Affairs• Awni M. Khasawneh, Royal Jordanian Geographic Centre (RJGC) & Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WA)
12:10	Departure from the Regional Centre to the hotels or directly to the airport. Note: The workshop will close at 12:00 promptly, as some participants will need to travel home later that same day.

