



# RCSSTE-WE NWESLETTER

1<sup>st</sup>  
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Global Partnership in Space  
Exploration and Innovation



Dr. Eng. Awni Mohammed Al - Khasawneh

# Introduction

The United Nations Organization, and through its United Nations Office for Outer Affairs (UNOOSA), has constantly made efforts to establish forms of cooperation between the nations. Thanks to the brotherly links between the Arab states, the Regional Center for Space Science and Technology Education for Western Asia (RCSSTE-WE) was established, which is the Centre that gathers Arab speaking researchers and scientists to cooperate in the transfer of space science and technology to the Arab World.

Due to the role played by the Hashemite Kingdom of Jordan in the field of collaboration between Arab scientists and researchers in the fields of astronomy and space science, especially that the Kingdom hosts a number of space and astronomy related foundations such as the Arab Union for Astronomy and Space Science (AUASS) and the Arab World's Regional Office of Astronomy for Development (AW-ROAD), Amman, the Capital of Jordan, was chosen to host the Regional Center for Space Science and Technology Education for Western Asia. The government of Jordan, as represented by the Royal Jordanian

Geographic Centre (RJGC), and following instructions by the Hashemite King of Jordan, had played a leading role in the hosting and support of the Centre, culminated in the official inauguration of the Regional Center for Space Science and Technology Education for Western Asia under the Royal patronage on the 29th of May 2012, to become one of six regional centers in the World.

**Director of the Regional Center for Space Science and Technology Education  
for Western Asia (RCSSTE-WE),  
Director of the Royal Jordanian Geographic Centre (RJGC),  
Brigadier General Dr. Awni Khasawneh**

A handwritten signature in blue ink, appearing to be 'A. Khasawneh'.



## The Board of Trustees of the Regional Center Form a Committee to Establish an Arab Space Agency



The Fourth Meeting of the Board of Trustees of the Regional Center for Space Science and Technology Education for Western Asia (RCSSTE-WE), which lasted for three days, was concluded. The meeting has discussed its agenda, which included the elections, the launch of the RCSSTE-WE's homepage, the supplies regulations related to the Regional Center, as well as the activation of the Center's role as an academic and training hub in the region in the fields of space science and technology. The meeting was chaired by Brigadier General Dr. Awni Al Khasawneh (the Director General of the Royal Jordanian Geographic Center/ RJGC, the Director General of the RCSSTE-WE & the representative of the Chairman of the Joint Chiefs of Staff), with the participation of 12 Arab member states: Syria, Egypt, Iraq, Sudan, Oman, Kuwait, Libya, Yemen, Lebanon, Qatar, United Arab Emirates, as well as the host country Jordan, with the presence of Prof. Hamid Alnaimiy, Director of Sharjah University and President of the Arab Union for Astronomy and Space Science (AUASS). The members of the Council praised the role played by the Government of the Hashemite Kingdom of Jordan to accomplish this great scientific edifice despite the lack of financial resources. They also expressed their appreciation and admiration for what they saw of the readiness of the Regional Center and its advanced facilities (lecture halls, computer labs, administrative offices, as well as service facilities ...), which will be of great benefit to students and researchers at the Arab and regional levels. Delegates of the Arab Member States presented the achievements and activities of their countries in the fields of astronomy, space science and technology. They stressed the need for a joint Arab action, particularly

in the field of establishing an Arab space agency. They emphasized the need for an Arab cooperation in these fields, and to start an Arab Space project that would serve the Region, and they have shown their will to provide their expertise and knowledge to the Regional Center to move forward with the development of space sector. The meeting came out with several recommendations, the most important of which is the preparation of a strategy and the establishment of an Arab information portal and the establishment of a database for all the space activities in the Arab countries, with the need to intensify the dissemination of the Regional Center's role in all media at the local, Arab and international levels. Members also stressed the need to provide financial support to the Regional Center, in order to complete the second phase of the Center's project, especially with the establishment of a modern planetarium, an optical observatory, and a radio telescope—among other things; particularly that this center serves all Arab countries. The participants also stressed the need to send students and trainees from Member States of the Regional Center to pursue their M. Sc. studies and to attend some short-, medium- or long-term courses. They have also formed a committee of its members to study the establishment of an Arab space agency and benefit from the means and facilities available in various Arab countries. During the meeting, elections were held for the Chairman of the Board of Trustees and his deputies, the Director General of the Regional Center and his deputy, and the formation of a committee of members of the Council to develop a strategy for the Center for five years (2020-2025-). Consultants of the Regional Center were chosen amongst some renowned scientists,

and supplies regulations were adopted, so that a complete set of the Administrative and Financial Regulations for the Center are now available. The members stressed their support for the Administration of the Regional Center and their full confidence in them and their role in achieving its objectives and its scientific mission, praising the efforts made by the Royal Jordanian Geographic Centre (RJGC) in order to make this meeting a great success.



### Mission:

To assist participating countries in developing and enhancing the knowledge and skills of their citizens in relevant aspects of space science and technologies in order that such individuals can effectively contribute to national development space programs.

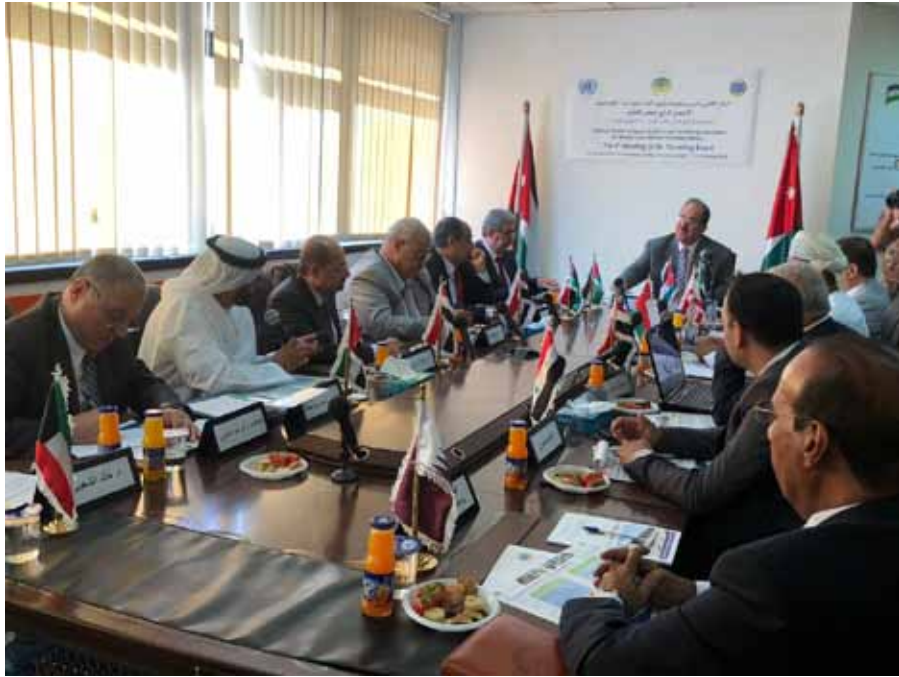
### Vision:

To utilize the capabilities of space science and technology for the benefits of humanity, national socio-technological development through education, research and training.



## The Fourth Meeting of the Regional Center's Board of Trustees Convenes in Amman

Members of the Board of Trustees of the Regional Center for Space Science and Technology Education for Western Asia (RCSSTE-WE) stressed the need to provide financial support to the Regional Center, and to send students and trainees from Arab youth to participate in its academic and training programs in the fields of space science and technology. They also stressed the support and keenness of Jordan to transfer space science and technology among the peoples of the Arab region, especially in light of the readiness of the permanent building of the Regional Center in the Jordanian Capital



the host country Jordan. The meeting was also attended by a representative of the UAE Space Agency, Eng. Nasser bin Hamad, and a representative of the Qatari Armed Forces, Brigadier General Youssef Shahin al-Ateeq. At the beginning of the meeting, Dr. Al-Khasawneh welcomed the members and the audience and explained the latest developments related to the Regional Center, its objectives and its academic and training programs. He also presented the stages of construction of the Regional Centers four-floor building, including its classrooms, specialized laboratories in the fields of space science and astrophysics.

Amman. This came during the Fourth Meeting of the Board of Trustees of the Regional Center, which was held at the Royal Jordanian Geographical Center (RJGC) on Tuesday 9/20/18, under the chairmanship of Jordan, represented by Brigadier General Dr. Awni Al Khasawneh (the Director General of the RJGC, the Director General of the RCSSTE-WE & the representative of the Chairman of the Joint Chiefs of Staff). Participating Arab countries are: Sudan, Syria, Iraq, Oman, Palestine, Kuwait, Lebanon, Libya, Egypt, Yemen, as well as

He also pointed to the availability of all service facilities that will provide a lot of comfort for the students, such as the halls, library, clinic, gardens and more, adding that this new location it will be inaugurated in the next few months. Members of the Board also visited the Regional Center's permanent location in the Tabarbour area in Amman, and made a tour in its premises, including the administrative offices, lecture halls and common services facilities. They praised the efforts that contributed to the construction of this important academic edifice, which

would contribute to the creation of an Arab generation equipped with the necessary knowledge in space science and technology. The Fourth Meeting also discussed the decisions and recommendations related to the Third Meeting of 2017, in addition to discussing the topics on its agenda. The Meeting also covered a number of topics including academic and training programs offered by the Regional Center, and ways to develop them by signing cooperation agreements and MOU's with relevant scientific and technical institutions at the local, regional and international levels. Then, the representative of the Chief of Staff General Al-Khasawneh launched the website of the Regional Center, which is characterized by modern and innovative designs and modern interactive specifications that simulate the latest developments in the digital revolution, with an easy access to all the relevant information about the Regional Center and its activities related space to science and technology.

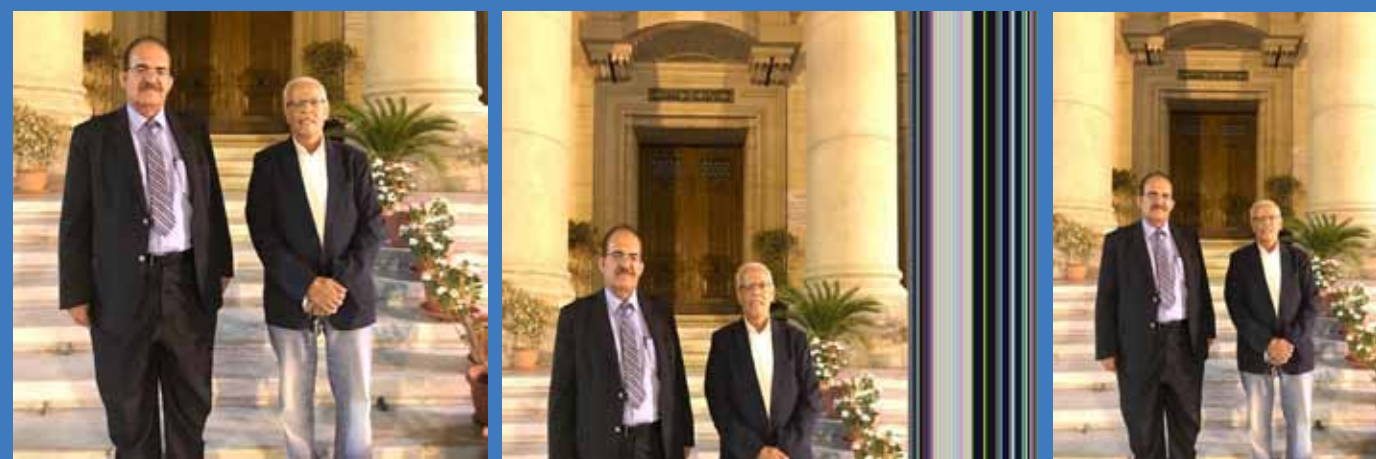






Visit of Professor Mohammad Ibbini the vice chancellor of the University of Science & Technology to the Permanent location of RCSSTEWE.

Visiting Astronomical Division at Cairo University and discussing future cooperation with Professor Osama Shalabiah the head of Astronomical Division At Cairo University & Dr Awni khasawneh the Director of RCSSTEWA.



Participation and Key Note speaker on the Fifth conference of Engineering & Surveying in the West Bank /State of Palestine



Visit to the National Authority for Remote Sensing & Space Sciences.

A delegation from Regional Center lead by Dr : Awni khasawneh has visited the NARSS which is considered the pioneering Egyptian institution in the field of satellite remote sensing. They met with the Director General of the NARSS Dr Mahmood to discuss future cooperation between RJGC & NARSS.







*The IAU XXX General Assembly in Vienna, Austria, August 2018, after two busy weeks packed with symposia, meetings and events. The General Assembly was an enormous success, with more than 3000 attendees from 89 countries across the world, including almost 100 members of the press. These numbers made it one of the largest IAU General Assemblies ever organised. The participants enjoyed a vast collection of scientific presentations in six symposia and 22 focus meetings on research, development, advancement and collaboration within astronomy. The programme also included music performances to entertain the many visitors.*

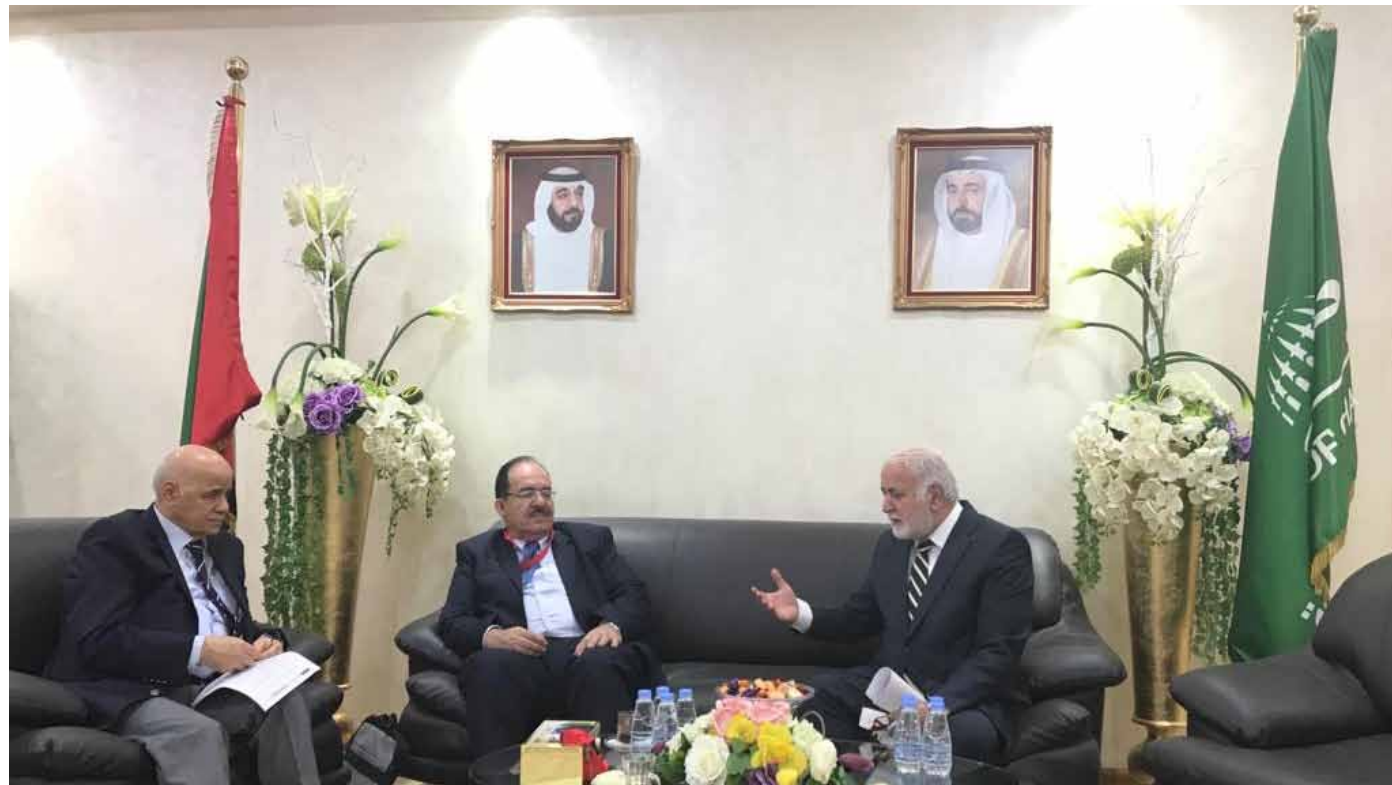


## The IAU XXX General Assembly in Vienna, Austria, August 2018

*Jordan, the United Arab Emirates, Algeria and Morocco were elected as a working member of the International Astronomical Union (IAU) during the session held in Vienna, attended by 3500 members representing different countries of the world.*



## Discussing future cooperation between Regional Center and Sharjah University .



## Attending the the first Sharjah International Conference on Particle Physics&Astrobiology and Astrophysics from 11-13Nov 2018



## A workshop about Global Partnership in Space Exploration and Innovation

# Global Partnership in Space Exploration and Innovation



March 2019



Regional Centre for Space Science and Technology for Western Asia Affiliated to the United Nations (RCSSTEA), in cooperation with the United Nations Office for Outer Space Affairs (UNOOSA), will host the Scientific Workshop on “Global Partnership in Space Exploration and Innovation « from 25\_28 March 2019 at the Regional Centre for Space Science and Technology for Western Asia in Amman, Jordan . The organizers will bring together local, regional and global scientists, engineers, educators, policy-and-decision makers and experts to discuss and develop thinking on global partnership in space exploration and innovation. The Workshop will include both strategic and capacity-building components and will aim to leverage and build upon the efforts of entities already collaborating on space exploration and innovation.





Organized by the Regional Center for Space Science and Technology Education for West Asia and the Royal Jordanian Geographical Center, a ceremony was held for the World Space Week in cooperation with the Regional Bureau for Astronomy Development in the Arab States, the Arab Union for Space and Astronomy Sciences and the Jordanian Astronomical Society.

This event is part of the celebration of the World Space Week, which is part of the United Nations General Assembly. This year's celebration focuses on the importance of the "role of space in uniting the world", inspired by the 50th anniversary of the United Nations Conference on the Exploration of Outer Space And its use for peaceful purposes.



## Courses Conducted at The Center

Basic	3 months
Introduction to GIS	
Hardware and software requirements of GIS	
Database structures and formats	
Vector data structures	
Raster data structures	
Data inputting, editing and topology in GIS	
Advanced GIS	6 months
Integration of spatial and non-spatial data	
Map Projections and data transformation in GIS	
Spatial data analysis (vector-based)	
Spatial data analysis (raster-based)	
Advanced Skills in GIS	9 months
Digital Elevation Model (DEM) and its applications	
Remote sensing and GIS data integration	
Errors and accuracy evaluation in GIS (data quality and source of errors)	
Network analysis in GIS	
Characteristics of large area database, global and regional	
Decision support system	
Overview of current GIS packages	
Trend of geo-informatics	
Fundamental concepts of the Global Positioning System (GPS)	
Types of GPS, GPS satellites, constellation of GPS satellites	
Applications of GPS in resource surveys, mapping and navigation	
Photogrammetry	6 months
Fundamentals of aerial photogrammetry	
Aerial cameras	
Film Processing (black/white, colour, black/white infrared, colour infrared films) film density and characteristic curves	
Aerial flight planning	
Basic geometric characteristics of aerial photographs	
Scale, ground coverage and resolution of aerial photo, tilt and relief displacement	
Stereo vision, stereomodel and stereoscopes	
Measurement of height from aerial photos, parallax and parallax measurement	
Satellite sensors for stereo coverage, along track/across track stereo scanning	
Principles of stereo photogrammetry	