



Regional Centre for Space Science and Technology Education for Western Asia (RCSSTEWA) AMMAN- JORDAN



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Establishment

The establishment of the (RCSSTEWA) in Jordan, which was officially inaugurated under the Royal Patronage on 29/5/2012, and hosted temporarily in RJGC to be one of six regional centers worldwide which are:

- ❑ India and China for Asia-Pacific.
- ❑ Morocco and Nigeria for Africa.
- ❑ Brazil and Mexico for Latin America & Caribbean.
- ❑ Jordan for the Western Asia.



Historical overview

Based on United Nations initiatives and supports and further more the endorsement of the General assembly on its resolution Nos. 45/72 and 50 /27 a several regional centers around the world in general and this center in particular have been established.

In 2000, the report of the United Nations General Assembly states the following: "After reviewing the report of the assessment mission and the commitments made by interested countries, Jordan was selected as the country to host the Regional Centre for Space Science and Technology Education for Western Asia"

▪ In 2015, a construction project for the permanent building of the center was started in Amman.

▪ In 2018, the first phase of the building project was completed, and will be inaugurated under Royal patronage.

Vision

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

Mission

To develop space science in the West Asia region through the dissemination of knowledge and technology and its applications to achieve the goals of sustainable development.

Objectives of the Centre

- **Develop the skills and knowledge of space sciences and technology including remote sensing applications and environmental management programs including biodiversity protection for universities professors, scientists, researchers at local and regional levels.**
- **Assist teachers in developing space and astronomy science and technology curricula that will enable them to increase and develop the knowledge of their students at their respective institutes and in their own countries.**
- **Development of space communication skills for the transfer of technologies related to rural development, distance education, health services and disaster reduction and mitigation, air and sea navigation, networking of scientists and experts with governmental and industrial institutions to facilitate and exchange ideas, information and experiences.**

▪ **Assist the decision makers whom involved in development programs, at local and regional levels.**

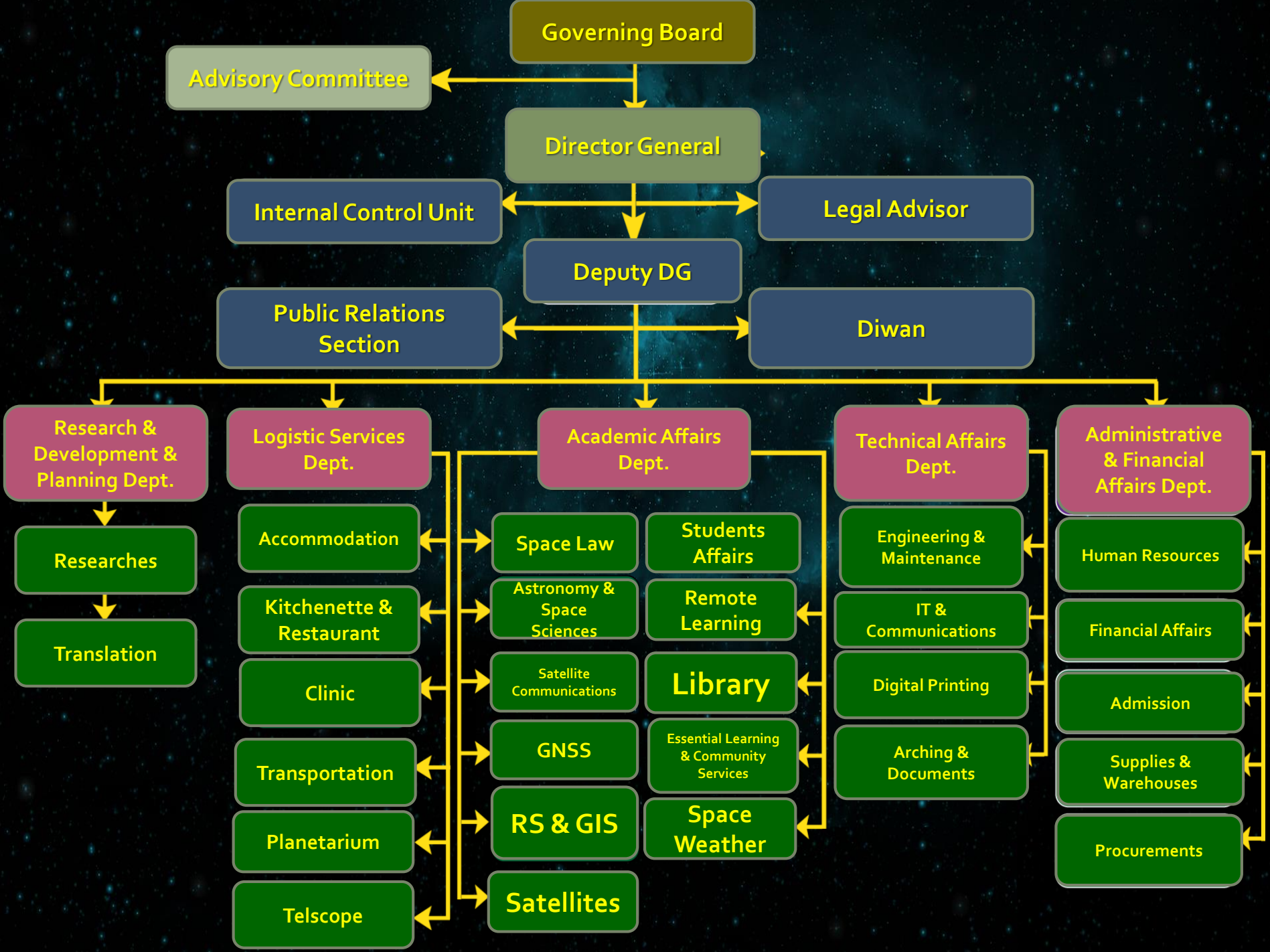
▪ **promote regional and international cooperation in space and astronomy science and technology and applications programs.**

▪ **Helping to raise awareness, and explain the importance of space science and technology to the public and its role in developing their daily lifestyle.**

▪ **Support Other related activities that will enhance the scientific development of the region.**



Organizational Structure



Governing Board

▪ **The Governing Board consist of a representative from each regional states signatory to the Convention establishing of the Centre (Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Palestine, Qatar, Sudan, Syria, UAE, Yemen) as well as the states that will sign the agreement.**

Functions of the Board

- **Defining the center's policy and approving plans and programs.**
- **Discuss and approve the annual budget of the center.**
- **Approving the balance sheet of the center and the auditor's report.**
- **Approving the regulations of the Center and its amendments.**
- **Evaluate the work of the Centre and issue the necessary guidance on it.**
- **Election of the President and Vice-Presidents.**
- **Appointing the Director and the deputy director.**

Meetings of the Board

- The Board held four meetings over the years (2012,2015, 2017, 2018).
- Several resolutions were adopted, most notably:
 - Election of a Chairman of the Board.
 - Election of the Vice-Presidents.
 - Selection of advisory Committee members from within and outside Jordan.
 - Approval of the Statute and the Financial Regulations and Rules of the center.
 - Signing of bilateral agreements with Member States.



The first meeting

- **Signing agreements with:**
- **Arab Union for Space Science and astronomy.**
- **The Pakistan space Agency.**
- **Islamic Network for Science and Technology (ISNET).**
- **Institute of Malaysian Space Science.**



The Third meeting



The second meeting

Members of the Board of Trustees visit the Regional Centre building 2017



Local partners:

1. RJGC

2. Al Albayt University

3. Meteorological Department.

4. Mutah University.

5. Al-Balqa Applied University

6. Supreme council of science and technology.

7. Jordan University of Science and Technology.

8. Union of Arab Universities.

9. Arab Union for Space Science and astronomy.

10. Jordanian Astronomical Society.

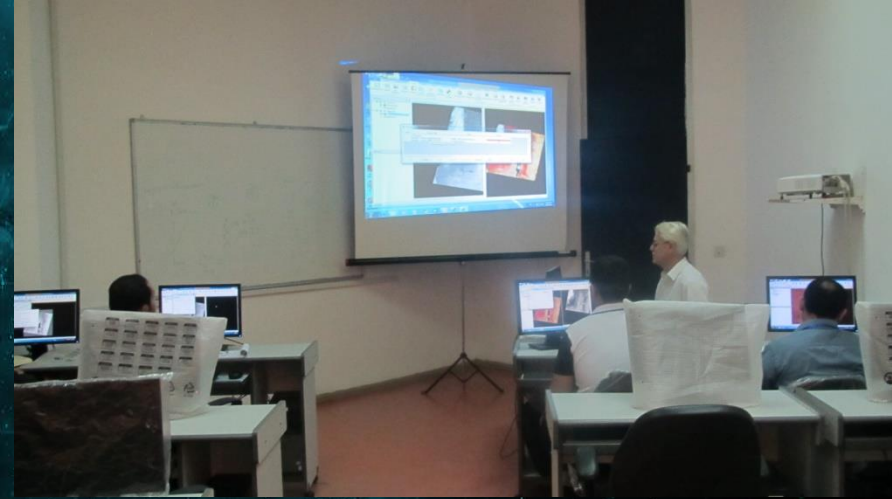
11. Regional Office for the development of astronomy in the Arab region.



**Services and facilities provided to
students in the Regional center**

1. Facilities and Services

- Classrooms with the most up-to-date training tools including the Teaching Aids.
- Remote sensing, GIS, aerial surveying, cartographic, space geodesy labs are equipped with modern computers and special software for each.
- Auditorium for 250 person with sound, image and lighting systems for conferences and scientific lectures.



- A library containing scientific and literary references as well as various specialized periodicals.
- Archive of documents, aerial photographs and satellite imagery.
- Residential accommodation for students.
- Mosque.
- Medical Clinic.
- Gyms.
- Cafeteria.
- Outdoor yards and parking.





**Permanent Regional Centre
building**

Permanent location of the Regional center:

- Implementation of the first phase of the Regional center building is currently completed.



شارع باقر

شارع الأمير حسن بن عبد الله

المبنى الدائم
للمركز الأقليمي

شارع الأمير طيف بن طارق

مركز
امن طارق

جامعة العلوم
الاسلامية العالمية

شارع الأمير فيصل بن الحسين



GR- PLANETARIUM GALLERY, CAFETERIA
1ST CAFETERIA

B1- STUDENTS SUITES
GR- AUDITORIUM

B2- STUDENTS SUITES
B1- CAFETERIA

B1- RESTAURANT

B2- STORES
B1- LIBRARY

B2- PLAY AREA SERVICES
(WCS, SHOWERS, CHANGING, LOCKERS)

PLANETARIUM ENTRANCE

AUDITORIUM ENTRANCE

STUDENTS ENTRANCE

ENTRANCE

MAIN ENTRANCE

GR- STUDENT ENTRANCE
1ST SERVICES

ADMIN ENTRANCE

B1- REGISTRATION

B1- ADMINISTRATION
CLASS ROOMS
GR- CLASS ROOMS &
1ST COMPUTER LABS

B2- FIRST AID SERVICES

B1- AUDITORIUM

GR- OFFICES

B1- MEETING HALLS

B1- MANAGER OFFICE

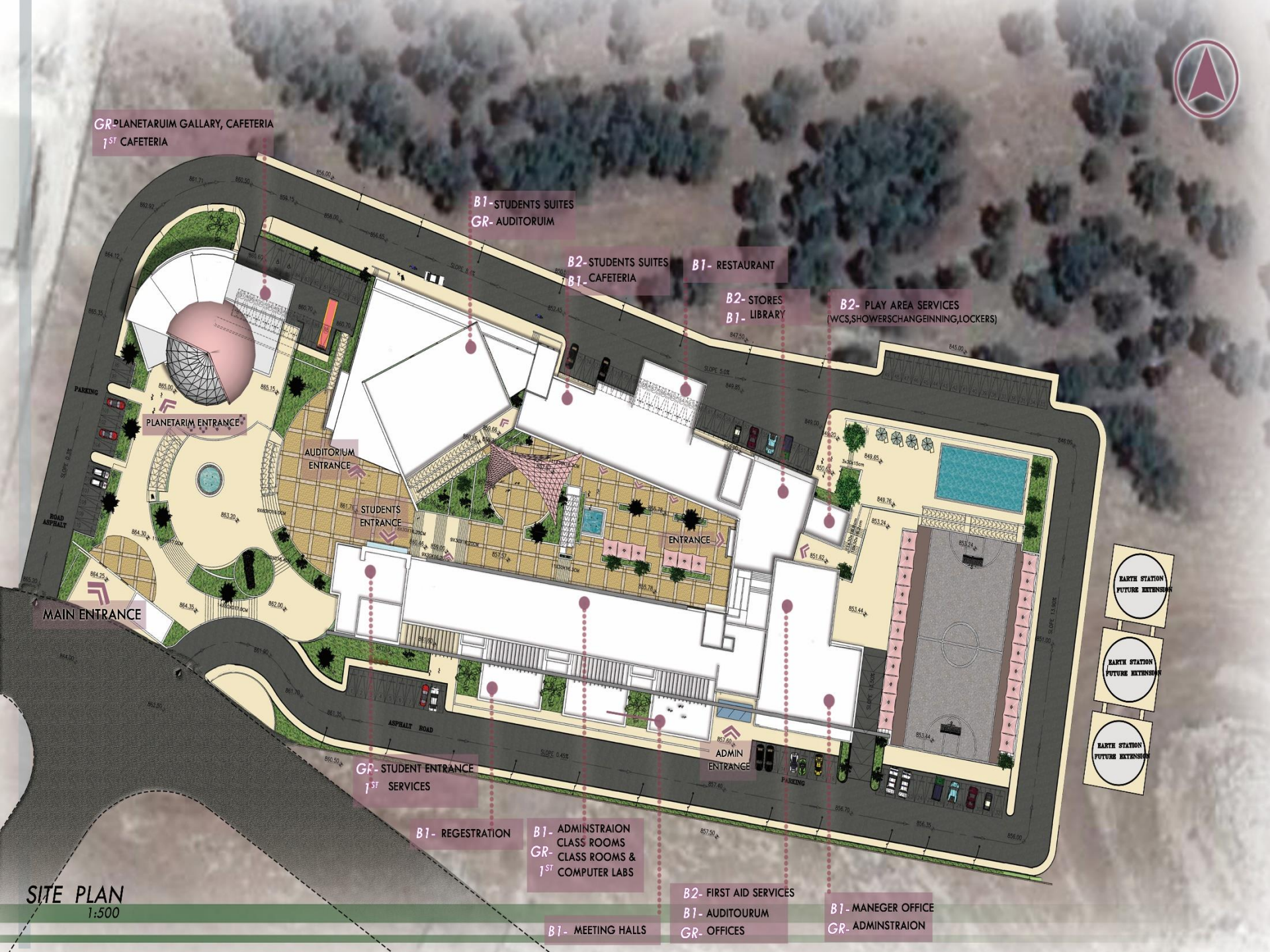
GR- ADMINISTRATION

EARTH STATION
FUTURE EXTENSION

EARTH STATION
FUTURE EXTENSION

EARTH STATION
FUTURE EXTENSION

SITE PLAN
1:500

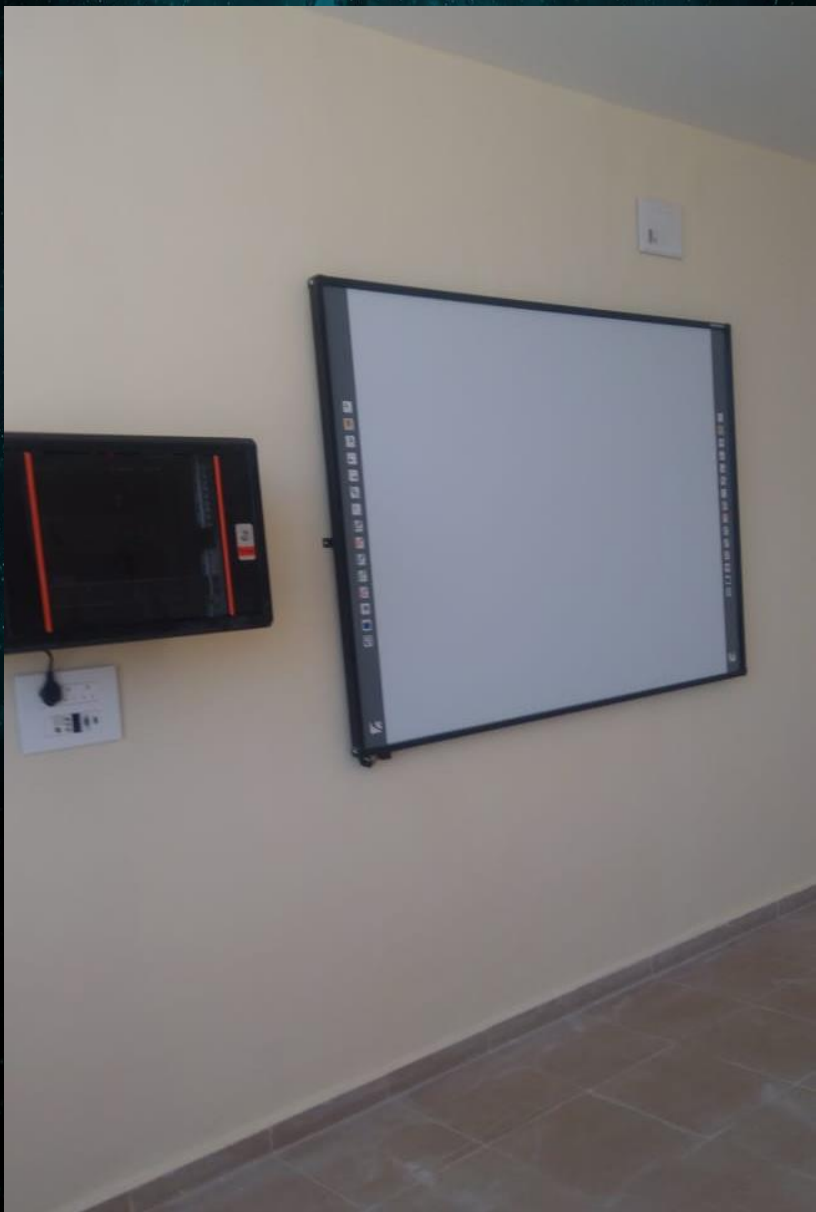






المركز الإقليمي للعلوم والتكنولوجيا
لشرق آسيا - الأردن - الأمم المتحدة
Regional Center for Space Science and Technology Education
for Western Asia - Jordan / United Nations









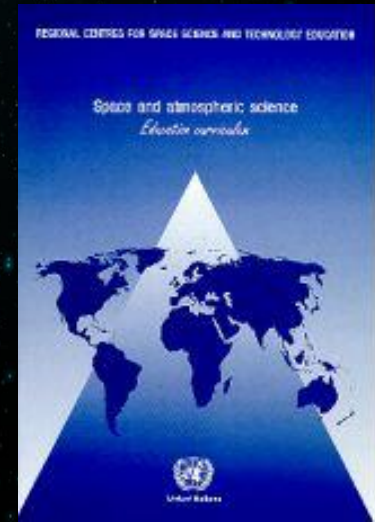
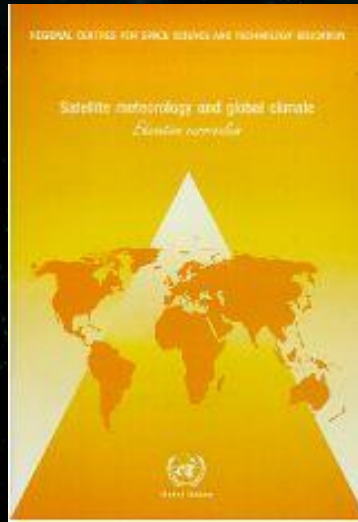
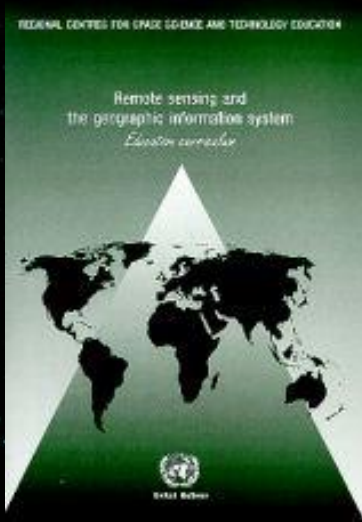




Academic and training programs

The Regional Centre offers a masters degree in the following disciplines in cooperation with (UNOOSA):

- Remote sensing and geographic information systems.
- Space weather.
- Space communications.
- Space science and astronomy.
- space law.



Master's program in remote sensing and geographic information systems

- In collaboration with Mutah University, the master's program in remote sensing and GIS was launched on October 8, 2013.
- The program consists of 4 semesters/33 credit hours.
- 6 batches were graduated in this program.



Training courses:

- **The Regional center conducting short-term (3 months), medium-term (6 months) and long-term (9-month) courses in all Regional Centre disciplines:**
 - **Remote sensing and geographic information systems.**
 - **Space communications.**
 - **Space meteorology and weather forecasts.**
 - **Space geodesy, and global positioning system.**
 - **Space science and astronomy.**

- **Course hours are considered in the Masters program.**

Many courses have been held with the participation of trainees from different countries of the region to contribute to the upgrading of their training skills and abilities.



Hosted Entities at RCSSTEWA



**Arab Union For Space Science &
Astronomy**



Jordanian Astronomical Society



**Arab Division of Experts on Geographical
Names**



**University College of Surveying &
Geospatial Sciences**



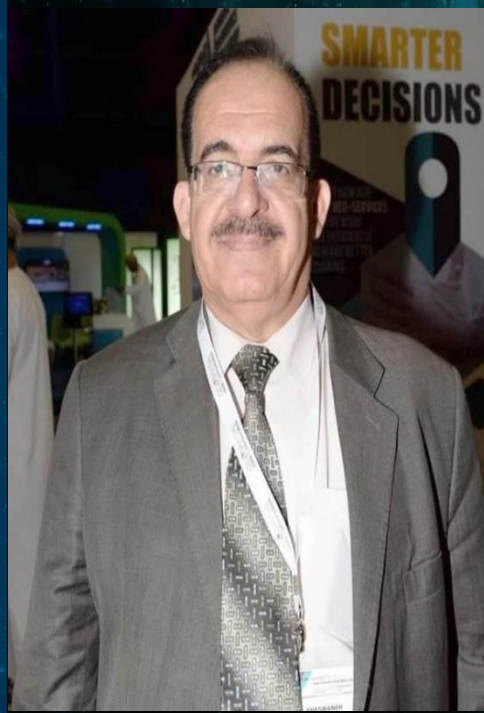
Jordan Geographic Society



Key achievements at the international level

UAE, Jordan, Algeria and Morocco elected as members of the International Astronomical Union

Jordan, Algeria and Morocco were elected as active members of the International Astronomical Union during the meeting held in the US with 3,500 members representing various countries of the world.



The unanimous acceptance of Jordan as a member of the presence of the Secretary-General of the International Astronomical Union, Dr. Pierre Piveniotti, which praised the efforts of the Regional Centre for Space Science and Technology Education for the West Asia region/United Nations, the Royal Jordanian Geographical Centre and the Arab Union, was unanimously voted of space science and astronomy, the Jordanian Astronomical Society and the Centre for Astronomy Development in space and astronomy at the local and regional levels.

Activities of the Center

Scientific conferences and workshops:

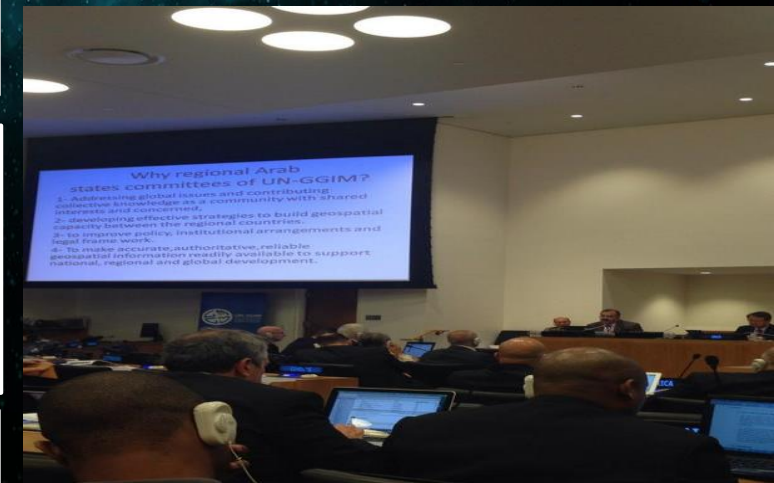
▪6th Conference 2012 and Seventh Conference 2015 for Arab experts in geographical names.

▪Specialized training workshop on digital soil maps and classifications 2014.

▪Scientific day "Applications of geographic information systems in national and regional security" 2013.

▪Specialized scientific day on "aerial imagery and GIS applications in communications and infrastructure technology" 2016.

▪6th Islamic Astronomical Conference 2012.





▪ Oman Astronomy and Space Conference 2013.

▪ Sharjah 11th Astronomical Conference

▪ The History of Science II 2014

▪ The second Conference on surveying and geographical names 2016.

▪ The first International conference on Geo-information 2017.

▪ The 12th Arab Conference on Space Science and astronomy and the Seventh Islamic Astronomical Conference, 2018.



World Space Week 2018



- Organized by the Regional Centre for Space Science and Technology Education for Western Asia and the Royal Geographical Centre of Jordan, held in observance of World Space Week, in cooperation with the Regional Bureau for the development of astronomy in the Arab States, the Arab Union for Space Science and astronomy and the Astronomical Society of Jordan.
- This activity is part of the World Space Week celebration, which is part of the UN General Assembly's programs, and this year's celebration focuses on the importance of the "role of space in uniting the World", inspired by the celebrations of the 50th anniversary of the United Nations Conference on the exploration and Use of outer space for peaceful purposes.

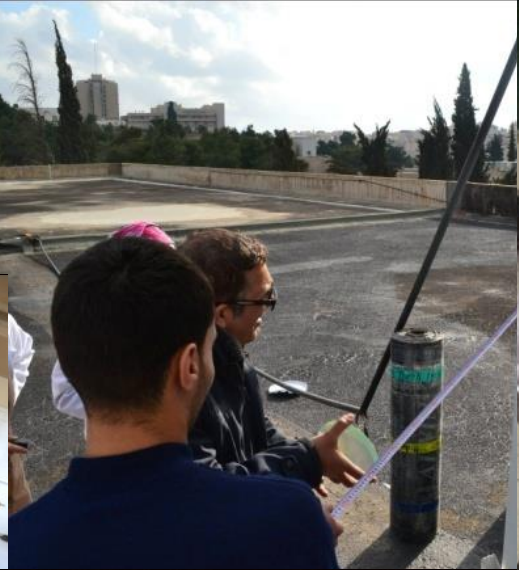
▪ A specialized scientific workshop on: Satellite technologies design and development in 2017.



Grinding mirror in the University Of Jordan

Out of the vision of RCSSTEWA to consolidate the culture of space and astronomy at the local level, RCSSTEWA in participation with the Arab Union for Astronomy and Space Sciences, Jordanian Astronomical Society and the University of Jordan prepare a **workshop telescopes industry, which is a unique experience at the local and regional level.**





Field activities and observations:

The Regional Centre, with the participation of the Arab Union for Space and Astronomy sciences and the Jordanian Astronomical Society, carried out various field events to observe various astronomical phenomena.

▪ **Observation of meteor showers and comets, such as Comet Pan starrs and Comet Lovejoy.**





▪Eclipses of the Sun and of the Moon.

▪Observing the new moon in Ramadan.

▪Observation camps in Wadi Rum (2013) and in Azraq (2014).



•Weekly activities: The Regional Centre, in cooperation with the Arab Union of Astronomy and Space Sciences (AUASS), the Jordanian Astronomical Society (JAS) and the Jordanian Physical Society (JPS), organizes a weekly active promotion of public awareness in astronomy and space science, which includes:

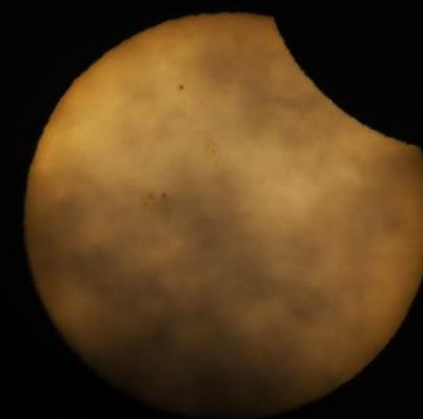
- 1. Public Lectures.**
- 2. Astronomy competitions.**
- 3. Star nights.**
- 4. Workshops for school students.**



• Participation in the observation of meteors and comets on a regular basis



•Lunar and solar eclipses:



• Ramadan Crescent Observation



Mahmoud A Abdelhadi 2014/ 1435 هلال رمضان لسنة



•Astronomical camps

The preparation of specialized astronomical camps for the monitoring of phenomena, astronomical phenomena or transient objects, comets and meteors and study in a specialized manner.



• Organizing scientific activities for children in cooperation with the Haya Cultural Center.



- **Other activities:**
- **Coordination with the United Nations Space Applications Programme in:**
- **1. Provide scholarships to a number of students to participate in the global Satellite navigation system program GNSS.**



- **2. The Regional Centre for Space Science and Technology Education for Western Asia/United Nations had a role to play in coordination with the United Nations Office for Outer Space Affairs and the German-Jordanian university in sending a research team of undergraduate students to conduct an experiment in the Microgravity programme: Drop Tower Experiment series)**

• Various activities

- Establishment of various activities to spread astronomical awareness in cooperation with the Arab Union for Space and Astronomy Sciences, the Jordanian Astronomical Society and the Jordanian Physical Society, including:
 - Lectures on various topics.
 - Astronomical competitions.
 - Astronomical observations.
 - Astronomical workshops for school students.



- Participation in the celebrations held by the Jordanian Astronomical Society to honor the distinguished members in the various fields of astronomy and space techniques.



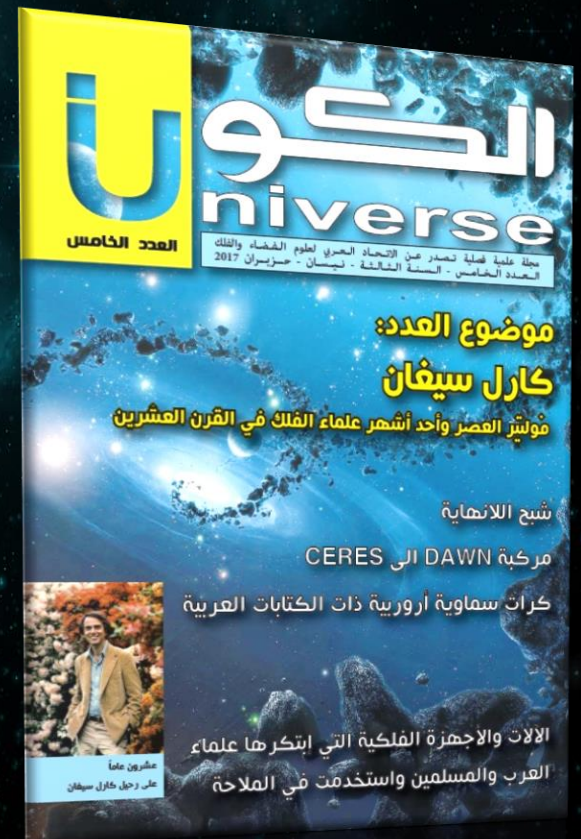
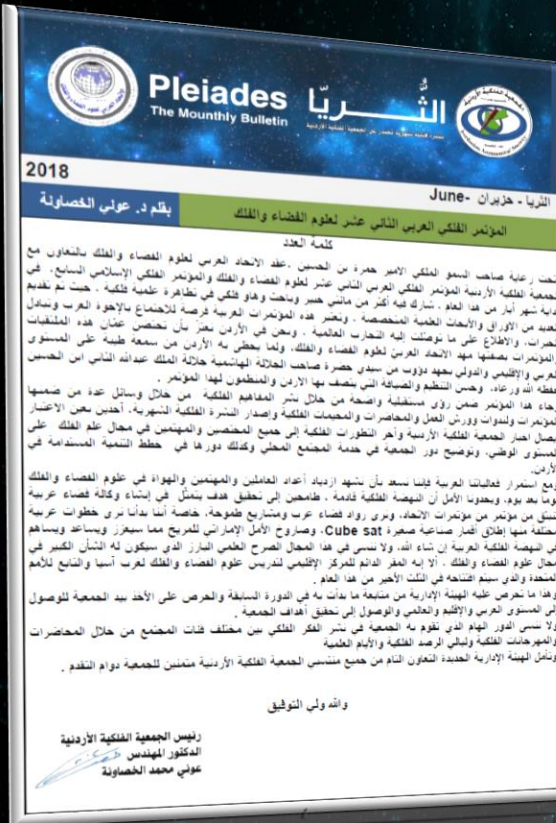
Exhibitions:

- 5th Annual Conference of Private Schools exhibition
- Exhibition of the second Educational conference/Schools of the Islamic Scientific College.
- SOFEX Exhibition 2012, 2014 and 2016.
- Jordan International Industries Exhibition.
- Exhibition of the Conference of technological Centers in electrical engineering and applied computer science.
- Astronomical exhibitions in schools in cooperation with the Arab Union for Space Science and astronomy and the Jordanian Astronomical Society.



Publications:

- Thuraya Brochure.
- The Universe Magazine.



Visits:

- His Majesty King Abdullah II bin Al Hussein.
- His Highness Prince Hamza Bin Al Hussein.
- Prime Minister and a number of cabinet ministers.
- UN-GGIM
- Shaikh Salman bin Jabr Al-Thani, head of astronomy Department, Qatar Center for Astronomy and Space sciences.
- United States Geospatial Intelligence Agency (NGA)
- Delegation from the Malaysian Institute of Space Science
- A number of public and private universities and schools.



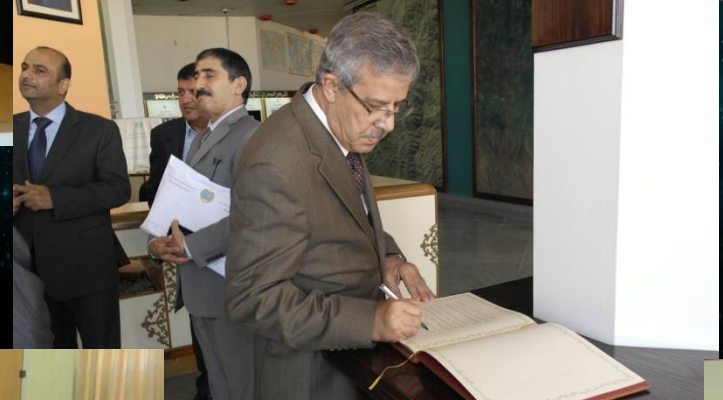


▪ Visit of Prof. Wong Jingnong, director of the Regional Centre for East Asia: In the framework of strengthening cooperation in the field of education, especially in the Joint symposium and scientific technological cooperation between the two centres.

Official visit to astronomy and space institutions in Kazakhstan 24-27 May 2018

- Eng. Awni al-Khasawneh with Kazakh Minister of Defence and Space industries, Bibot Atamkulov





The background of the slide is a deep blue space scene. It features a large, glowing nebula in the upper center, with intricate, wispy structures. Scattered throughout the dark blue field are numerous small, bright stars, some of which have prominent four-pointed diffraction patterns. The overall atmosphere is that of a vast, star-filled galaxy.

Future Aspects

▪ **Organizing The Jordanian Physics Olympiad at the end of 2019.**

Organizing The third Arab Astrophysics School in November of the month of November 2019.

▪ **Completion of the second phase of the Regional Centre's new location.**

▪ **Construction of Optical astronomical observatory with a diameter of 0.6 meters and a radio telescope.**

▪ **Building a planetarium and a space science fair in the new location.**

Conducting new Masters programs in the space fields in collaboration with various Jordanian and regional universities .

Creating a hub for the design and production of nanosatellites ■ (CubeSats).

Construction of a satellite receiving station.

Capacity building, training and sending students to get higher degrees in space science and technology.



Thank you for you attention