



المركز الإقليمي  
لتدريس علوم وتكنولوجيا الفضاء لعرب آسيا  
الأمم المتحدة



الجمعية الفلكية الأردنية  
Jordanian Astronomical Society  
Founded: 1997



المكتب الإقليمي لتنمية الفلك في الدول العربية  
International Astronomical Union



المركز الجغرافي الملكي الأردني



الاتحاد العربي لعلوم الفضاء والفلك



# The 12<sup>th</sup> Arab Conference on Astronomy and Space Science

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# The 7<sup>th</sup> Islamic Astronomical Conference

1 – 3 May 2018 (Amman/Jordan)





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# INTRODUCTION

The 12th Arab Conference on Astronomy and Space Science and the 7th Islamic Astronomical Conference are held on the twenty anniversary of the Arab Union for Astronomy and Space Sciences (AUASS), where the AUASS has rapidly grown and developed over the past years to include most of the Arab researchers in the fields of astronomy, astrophysics, space sciences and technologies. The AUASS members have surpassed 500 scientists and researchers in the various fields of astronomy & space science. The AUASS became one of the qualitative unions under the Council of Arab Economic Unity (a part of the Arab League). The AUASS is also a member of the International Astronomical Union (IAU).

The AUASS aims at developing astronomy and space science in the Arab countries in order to play its role in developing the Arab societies scientifically and technologically. The AUASS also aims at emphasizing the contribution of the Arab Islamic civilization in the realm of astronomy and related sciences; studying scientific issues of common interest between Arab countries; and stimulating the exchange of scientific data and information, as well as expertise, in the fields of astronomy and basic space science to improve the scientific and technical competence of the scientists working in Arab countries.

The AUASS stimulates the popularization of astronomy and space sciences through an active outreach program; it promotes the organization of conferences, seminars, and workshops on astronomy and space science; it also promotes the establishment of institutions, clubs and societies dedicated to astronomy and space science in the Arab countries; it tries to determine the beginnings of lunar months using scientific calculations as well as observations; it

tries to unify the scientific and technical terms of astronomy and basic space science that are in use in the Arabic language, and encourages the writing and translation of astronomy books.

The first conference on astronomy and space science took place twenty years ago as an initiative by the Arab Union of Astronomy and Space Science, in order to build means of communication between specialists in the fields. The first five conferences were held in Amman (which hosts the AUASS headquarters), after which, the 6th Conference was held in Tripoli/ Libya; the 7th Conference in Jordan; the 8th Conference in Djerba/ Tunisia; the 9th conference in Khartoum/ Sudan; the 10th Conference in Muscat/ Oman; and the 11th Conference in Sharjah/ UAE. Eventually, the 12th Conference is back to Amman, the Capital of the Hashemite Kingdom of Jordan, in order to have a distinguished conference on the 20th anniversary of the AUASS. This Conference is expected to have some distinguished speakers, events and exhibitions; particularly through the participation of some renowned experts in the fields, who will enrich the discussions, and share their long and diverse expertise, and stimulate local and regional institutions to more interest in astronomy and space science. This 12th Conference will also coincide with the official inauguration of the permanent headquarters of the Regional Center for Space Science and Technology Education for Western Asia (RCSSTE-WE)—affiliated to the United Nations, and the permanent headquarters of the Arab Union for Astronomy and Space Sciences (AUASS). This project will later host, among other things, a high-tech planetarium and various astronomical observatories. Hopefully, this will be the core of original research in astronomy and space science, in Jordan and the Arab countries at large.

## THE HIGHER COMMITTEE



### Chairman

Prof. Hamid M. K. Alnaimiy

- Director of Sharjah University, UAE
- President of AUASS



### Co-Chairman

Dr. Awni M. Khasawneh

Director of the Royal Jordanian Geographic Centre (RJGC); Director of the Regional Centre for Space Science and Technology Education for Western Asia (RCSSTE-WE)



### Prof. Shawqi al Dallal

Professor of Physics, Ahlia University, Bahrain



### Prof. Saleh Al- Shidhani

President of the Omani Astronomical Society; Professor at Sultan Qaboos University (SQU), Muscat, Oman

## THE SCIENTIFIC ORGANIZING COMMITTEE (SOC)

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Prof. Jamal Mimouni	Algeria
Prof. Waheeb Eissa Al-Nasser	Bahrain
Prof. Hisham Ghassib	Jordan
Prof. Ali Al-Taher Sharaf Al-Deen	Sudan
Prof. Gang Zhao	China
Prof. Zeki Eker	Turkey
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## ORGANIZATIONAL COMMITTEE

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Mrwan Shwkeh	The Jordanian Astronomical Society
Raed Abu-naseryeh	Royal Jordanian Geographic Centre
Yousef Algalaiene	Royal Jordanian Geographic Centre
Taimour Saffouri	Royal Jordanian Geographic Centre

## GOALS OF THE CONFERENCE

1. Dissemination and exchange of knowledge and information in the fields of astronomy and space science.
2. Enhancing the communication amongst Arab specialists in these fields.
3. Enhancing the interest in astronomy and space science in educational institutions.
4. Clarifying the role of astronomy and space science in the development of modern societies.
5. Stimulating Arab institutions to play a larger role in the fields of astronomy and space science.
6. Studying the challenges and the peaceful usage of astronomy and space science.
7. Realizing the goals of the AUASS in disseminating the culture of science and technology.
8. Giving the opportunity to persons interested in astronomy and space science to gain new knowledge and recent developments in the fields.
9. Giving researchers the opportunity to present their research efforts and their field studies in astronomy and space science.
10. Disseminating modern techniques of studying Arab astronomical heritage and its connecting to modernity.
11. Discussing the role of astronomical associations and clubs as pioneers in the civil society.
12. Administrative discussions of the Higher Council and the General Assembly of the AUASS.
13. Convention of the members of the Steering Committee of the Office of Astronomy for the Development for the Arab World (AW-ROAD).



## **THEMES OF THE CONFERENCE**

### **Theme 1: Cosmology (theoretical and observational):**

It includes the origin and evolution of the Universe, inflation, large scale structure of the Universe, the cosmic background radiation, Big Bang nucleosynthesis, dark energy and dark matter.

### **Theme 2: Astrophysics:**

It includes variable stars, binary stars, X-ray binaries, stellar astrophysics (atmospheres, interiors and evolution), exoplanets, interstellar medium and galactic astrophysics.

### **Theme 3: Search for Life in the Universe:**

It includes the biochemical and geophysical conditions for the emergence and continuity of life (in the solar system and beyond), techniques of astronomical and biological search for biological activity in the Universe.

### **Theme 4: Astronomical Observatories and Instrumentation:**

It includes the electromagnetic astronomy (radio waves, microwaves, infrared, visible light, ultraviolet, X-rays & gamma-rays), site selection and testing, cosmic rays astronomy, neutrino astronomy, gravitational waves astronomy.

### **Theme 5: Solar Activity and Space Weather:**

It includes the solar activity cycle (theory and observations), solar magnetism and its interaction with the Earth's atmosphere and magnetosphere, space weather studies, geomagnetic storms and methods of mitigation, climatic effects of solar activity.

### **Theme 6: Artificial Satellites and Applications:**

It includes microsattellites (particularly CubeSats), Earth surveying satellites (remote sensing, satellite meteorology, satellite telecommunications).

### **Theme 7: Celestial Mechanics, Spherical Astronomy and Geodesy:**

It includes orbital motion and perturbations, positional astronomy, geodetic applications of satellites, geodesy and the general theory of relativity (GTR).

### **Theme 8: Planetology and Astrogeology:**

It includes the origin and evolution of the solar system's planets and moons, atmospheres and interiors of planets and moons, planetary magnetism and interactions, impact cratering, near earth objects (NEO's), solar system exploration by space probes.

### **Theme 9: Astronomy & Space Science and the Society**

It includes: astronomy as a hobby and voluntary youth initiatives, astronomy and the Internet, astronomy and the traditional and electronic media, astronomy and educational curricula (schools and universities), writing and translation of astronomical materials, the role of planetariums and astronomical museums, astronomy and space for the development of contemporary societies. astronomy and economics, light pollution and astronomical reserves, astronomical tourism, astronomy and philosophy, astronomy and the future of mankind.

### **Theme 10: Archaeoastronomy and the Arab-Islamic History of Astronomy:**

It includes archaeoastronomy (particularly in the Arab region), Mesopotamian astronomy, ancient Egyptian astronomy, ancient Greek and Hellenistic astronomy, Arab-Islamic astronomy, and Medieval European and Renaissance astronomy.

### **Theme 11: Astronomical Applications in Islamic Sharia:**

It includes the beginning of lunar months (theory and observations), determination of Islamic prayer times, the dusk, dawn and zodiacal light, determination of al-qibla direction.

### **Theme 12: Administrative axis (on the occasion of the twentieth anniversary of the founding of the Union):**

It includes: Briefings on the activities of the Arab Union for Space and Astronomy Sciences and its achievements during the past 20 years, the future of the Union and its strategy for the next ten years, mechanisms of expansion of the Union and its activities in the Arab countries, mechanisms to strengthen scientific collaboration between Arab scientists and researchers in the fields of space and astronomy, mechanisms to attract Arab specialists in these fields who work in Western countries to the AUASS, and the relationship of the AUASS with other international institutions (such as the International Astronomical Union, IAU, and the Office of Astronomy for Development OAD, ...).

## GENERAL INFORMATION ABOUT THE CONFERENCE

### Venue and date:

- Venue: The Regional Center for Space Science and Technology Educational for Western Asia (RCSSTE-WE), in Amman, Jordan.
- Date: 1 – 3 May 2018.

### Participation fees:

- \$ 300 (US) for each participant, which include registration, printed materials, conference bag, coffee breaks and lunch meals during the conference.
- Participants shall pay their own travel tickets, local transport and hotel accommodation.

### Abstract and paper submissions:

- Abstract submission deadline is the 15th of April 2018.
- Special reports may be submitted by astronomy and space associations, which show astronomy and space related activities in their respective countries.

### Accommodation:

- We shall provide you later with hotel names and addresses and some special room rates for participants in the conference.

### Entry Visa:

- Participants who need entry visa to Jordan will be provided with official letters in this regard.

### **Costume:**

- The official costume is required during the Opening Ceremony of the conference.

### **Medical care:**

- Participants are required to cover their own medical insurance and/ or expenses.

### **Weather:**

- Weather in Jordan is usually moderate during the month of May.

### **Currency:**

- Jordanian Dinar is the official currency in Jordan.
- US dollar is also accepted in hotels, touristic restaurants and malls.
- Currency exchange offices and ATMs are widespread (at the Amman International Airport, in Hotels, banks and shopping malls ...).

### **Language of the Conference:**

- Arabic is the official language of the conference.
- Non-Arabic speakers may present their work in English.

### **Recreational activities:**

- Special touristic trips will be organized to the ancient city of Petra and/ or to the Dead Sea.
- Participants interested in the touristic trips shall cover their own costs.

## PAPERS AND PRESENTATIONS

Please send a copy of your full paper and presentation (if applicable) to the Email address - ([auassconference12@gmail.com](mailto:auassconference12@gmail.com)), according to the following criteria:

- Presentation (if applicable): as a Microsoft PowerPoint.
- Full paper: as a Microsoft Word file.
- Font type: Times New Roman.
- Font size: 14.
- Title's font size: 20 (bold), in the middle.
- Author's name font size: 18, in the middle.

### Abstracts:








Please send an abstract of your work as a Microsoft Word file to the Email address: [auassconference12@gmail.com](mailto:auassconference12@gmail.com), according to the following criteria:

- Maximum number of words: between 300 to 400.
- Margins: 20 mm in each direction.
- Font type: Times New Roman.
- Author's name: size 14, in the middle.
- Affiliation: size 14, below the author's name.
- Author's job: size 14, below the affiliation.
- Text font: size 14 as a whole, with the work's title in bold.
- Author's address and website (if applicable).
- Author's phone number, fax number and Email address.

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