

Under the patronage of  
***H.H. Sheikh Nahayan Mubarak Al-Nahayan***  
Minister of Education and  
the Chancellor of the United Arab Emirates University,  
and on behalf of the United Arab Emirates (UAE) Government,  
the UAE University hosts:

**UN/ESA/NASA/UAE Workshop  
on the International Heliophysical Year IHY 2007**

Co-organized by the Committee on Space Research (COSPAR), the International  
Astronomical Union (IAU), the National Astronomical Observatory of Japan (NAOJ),  
and the Physics Department, UAE University

November 20-23, 2005  
Abu Dhabi and Al-Ain, UAE



## Background

The United Nations, in cooperation with national and international space-related agencies and organizations, organized annually since 1990 workshops on basic space science, particularly for the benefit of scientists and engineers from developing nations. Drawing on nearly 15 years of workshops on basic space science, the United Nations Office for Outer Space Affairs, through the United Nations Basic Space Science Initiative (UNBSSI) will assist scientists and engineers from all over the world in participating in the International Heliophysical Year (IHY). At the 12<sup>th</sup> UN/ESA Workshop on Basic Space Science, held in P.R. China in 2004, it was recommended to focus future workshops on the preparations of IHY to be celebrated worldwide in 2007.

The objectives of IHY are to discover the physical mechanisms that drive the coupling of Earth's atmosphere to solar and heliospheric phenomena. The systematic global study of this interaction is to be the central theme of the IHY. In view of these aims, the objectives for IHY are:

- ◆ provide benchmark measurements of the response of the magnetosphere, the ionosphere, the lower atmosphere and Earth surface to identify global processes and drivers which affect the terrestrial environment and climate;
- ◆ global study of the Sun-heliosphere system outward to the heliopause to understand the external, and historic drivers of geophysical change;
- ◆ foster international scientific cooperation in the study of heliophysical phenomena now and in the future; and
- ◆ communicate the unique scientific results of the IHY to the interested scientific community and to the general public.

This UN/ESA/NASA/UAE Workshop has been endorsed by the United Nations General Assembly as part of the 2005 activities of the United Nations Program on Space Applications. The workshop will be co-organized by the Committee on Space Research (COSPAR), the International Astronomical Union (IAU), the National Astronomical Observatory of Japan (NAOJ), and the Physics Department, UAE University.



### IHY/UNBSSI Small Instrument Array Deployment Opportunity

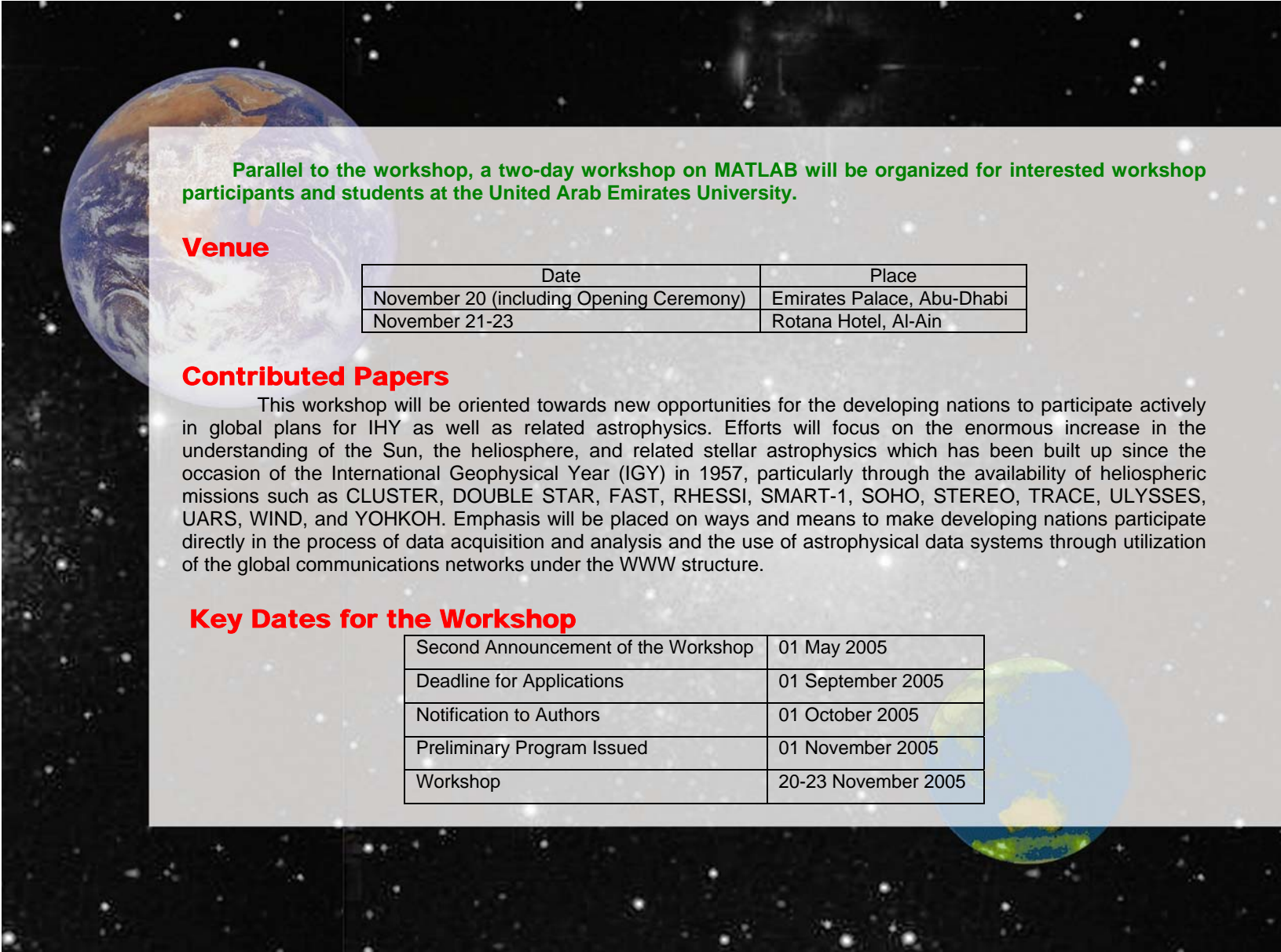
A major thrust of the International Heliophysical Year (IHY) is to deploy arrays of small, inexpensive instruments such as magnetometers, radio antennas, GPS receivers, all-sky cameras, etc. around the world to provide global measurements of ionospheric and heliospheric phenomena. This program is a collaboration between the IHY and the United Nations Basic Space Science Initiative (UNBSSI), which has been dedicated to the IHY through 2008. The small instrument program is envisioned as a partnership between instrument providers and instrument host countries. The lead scientist will provide the instruments (or fabrication plans for instruments) in the array; the host country will provide manpower, facilities, and operational support to obtain data with the instrument typically at a local university. Funds are not available through the IHY to build the instruments; these must be obtained through existing channels. All instrument operational support for local scientists and engineers, facilities, data acquisition, etc will be provided by the host nation. It is our hope that the IHY can facilitate the deployment of 3-5 of these networks world wide. This UN/ESA/NASA workshop is being organized to begin the discussion between potential instrument providers and host countries.

### Program

The workshop will be structured around the following topics:

1. Participation of developing nations in project development for international heliospheric space missions and supporting low-cost ground-based instrument array initiatives for world-wide studies in space science.
2. Studies in preparation for the participation of developing nations in IHY.
3. Actions, results and practice of the access to data of the Sun-Earth system from space missions through data archives and the need for other non-space related archives.
4. Space missions in astrophysics and solar system studies: Opportunities and results.
5. Concurrent design tools for project development for international space-related projects.
6. Scientific results and plans for basic space science initiatives in developing nations.

During the workshop, additional working group sessions will be held to assess past and develop future activities related to the above topics.



Parallel to the workshop, a two-day workshop on MATLAB will be organized for interested workshop participants and students at the United Arab Emirates University.

### Venue

| Date                                     | Place                      |
|--|----------------------------|
| November 20 (including Opening Ceremony) | Emirates Palace, Abu-Dhabi |
| November 21-23                           | Rotana Hotel, Al-Ain       |

### Contributed Papers

This workshop will be oriented towards new opportunities for the developing nations to participate actively in global plans for IHY as well as related astrophysics. Efforts will focus on the enormous increase in the understanding of the Sun, the heliosphere, and related stellar astrophysics which has been built up since the occasion of the International Geophysical Year (IGY) in 1957, particularly through the availability of heliospheric missions such as CLUSTER, DOUBLE STAR, FAST, RHESSI, SMART-1, SOHO, STEREO, TRACE, ULYSSES, UARS, WIND, and YOHKOH. Emphasis will be placed on ways and means to make developing nations participate directly in the process of data acquisition and analysis and the use of astrophysical data systems through utilization of the global communications networks under the WWW structure.

### Key Dates for the Workshop

|                                     |                     |
|-------------------------------------|---------------------|
| Second Announcement of the Workshop | 01 May 2005         |
| Deadline for Applications           | 01 September 2005   |
| Notification to Authors             | 01 October 2005     |
| Preliminary Program Issued          | 01 November 2005    |
| Workshop                            | 20-23 November 2005 |

## National Committees:

### ◆ National Advisory Committee\* :

- Dr. Hadeef Bin Jouan Al-Dhaheri (Chairman)
- Dr. Abdulla Al-Khanbashi
- Dr. Mohamed Al-Azab
- Eng. Tariq Al Awadhi, Director (TRA)
- Dr. Hamid Al-Naimiy (Coordinator)

### ◆ Technical Organizing Committee:

- Alaa El-Din, Fouad
- Amrane, Nouredine
- Al-Naimiy, Hamid (Chairman)
- Bin Turch, Mahfoud (Public Relations)
- Bofarousha, Muna (Dean Assistant)
- Dimassi, Khodor (Media Director)
- Fernini, Ilias (Organizer and Webmaster)
- Ghamlouche, Hassan
- Guessoum, Nidhal (AUS)
- Haj Yousef, Mohamed (Organizer and Webmaster)
- Hamed, Fathallah
- Hashish, Adel
- Issa, Bashar
- Khawaja, Usama
- Metwally, Walid
- Othman, Adel Abdul-Hadi (Treasurer)
- Qamhie, Naser
- Querci, Francois R. (France)
- Talal, Ahmed (IT)
- Thaker, Saleh
- Tit, Nacir



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\* More names will be added

◆ **International Scientific Committee:**

- Albrecht, Rudolph: ESA
- Al-Naimiy, Hamid: UAE
- Bahattacharya, Archana: Indian Institute of Geomagnetism, India
- Benz, Arnold: Switzerland (ETH/Zurich)
- Fernini, Ilias: UAE
- Gopalswamy, Nat: IHY/NASA
- Guhathakurta, Lika: NASA
- Haubold, Hans (Chair): UN
- Inan, Umran: USA (Stanford University)
- Kitamura, M.: NAO Japan
- Klimov, Stanislav: Russia
- Opgenoorth, Herman: ESA
- Shepherd, Gordon: COSPAR
- Wang, Jingxiu: NAO China
- Webb, David: IAU

ESA : European Space Agency  
UAE : United Arab Emirates  
IHY : International Heliophysical Year  
NASA : National Aeronautics and Space Administration  
UN : United Nations  
NAO : National Astronomical Observatory of Japan  
COSPAR : Committee on Space Research  
IAU : International Astronomical Union  
AUS : American University of Sharjah  
TRA : Telecommunications Regulatory Authority



## About the United Arab Emirates University

The United Arab Emirates University was established upon a kind initiative from the late President of the United Arab Emirates, His Highness Sheikh Zayed Bin Sultan Al Nahayan, by virtue of the Federal Law 4 of the year 1976. His Highness envisioned the University becoming a federal institution of an Arab-Islamic identity, and a focus of intellect, culture, and science. The university mission is to meet the educational and cultural needs of the UAE society by providing programs and services of the highest quality. It contributes to the expansion of knowledge by conducting quality research and by developing and applying modern information technology. It plays a significant role in leading cultural, social and economic development in the country. The University consists of nine Faculties (Colleges):

1. Faculty of Humanities and Social Sciences,
2. Faculty of Sciences,
3. Faculty of Education,
4. College of Business and Economics,
5. Faculty of Shari'ah and Law,
6. College of Food Systems,
7. Faculty of Engineering,
8. Faculty of Medicine and Health Sciences, and
9. Faculty of Information Technology.



The UAEU role is not limited to teaching, research, and community services. The University is also an instrumental element in the development of all fields: cultural, social, economic, scientific and technological. The UAEU realizes that the key to success is its ability to significantly contribute to the development of the country. The UAEU is committed to achieve its mission and goals by utilizing all available intellectual and physical resources.

**Useful Links:**

**UAE University:**

<http://www.uaeu.ac.ae/>

**Physics Department, UAE University:**

<http://www.fsc.uaeu.ac.ae/physics/>

**Workshop Webpage:**

<http://www.fsc.uaeu.ac.ae/physics/UNESA.htm>

**Workshops and information material on IHY:**

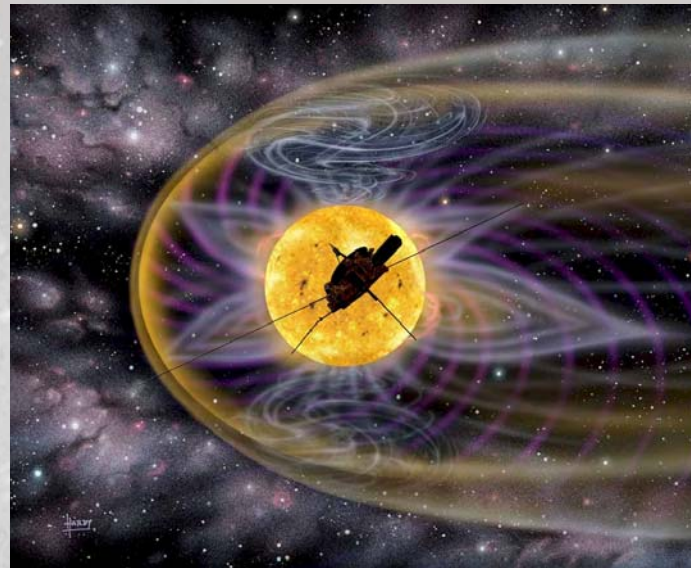
<http://www.oosa.unvienna.org/SAP/bss/index.html>

<http://ihy2007.org/>

**Information on the IHY/UNBSSI program:**

[http://ihy.gsfc.nasa.gov/ihy\\_unbssi.shtml](http://ihy.gsfc.nasa.gov/ihy_unbssi.shtml)

<http://ihy.gsfc.nasa.gov/instruments.shtml>



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