

IGARSS

IEEE International Geoscience And Remote Sensing Symposium

Barcelona 2007

Sensing And
Understanding
Our Planet



23-27 July 2007
Centre de Convencions
Internacional
Barcelona
www.igarss07.org

2007 Call for Papers



General Chairman's Welcome



Ignasi Corbella
General Chairman

Don't miss the opportunity to experience the flavor of the Mediterranean! Barcelona, the host city of IGARSS'07, is one of the most emblematic spots of this part of the world. It is Spain's second largest city and the economic, historical and administrative capital of Catalonia, a small country of six million inhabitants, more than a thousand years of history and a culture and language of its own. In Barcelona you will enjoy the unique cultural and artistic ambience of Catalonia, including Modernism, Architecture and South-European culture and cuisine.

The IGARSS'07 Local Organizing Committee is working hard to set up a high quality technical program as well as social tours. The selected conference venue is the new "Centre de Convencions Internacional de Barcelona" (CCIB), located in one of the newest parts of the city and near the sea front. After a hard day of interesting technical sessions, in just a few minutes you can be admiring the immensity of the sea wandering by the nearby beach. The host hotel is the "AC", located within walking distance of the conference center and offering all the comfort and services of modern hotels. A large selection of other hotels scattered around the city, including the historical part, have also been pre-reserved. For those who prefer seeking their own lodging Barcelona offers a large variety of options, ranging from low price hotels to the most exclusive ones.

The theme of this year symposium, "Sensing and Understanding our Planet" suggests what remote sensing scientific activity should ultimately achieve: information gathered by all sensors and techniques must be wisely used mainly to *understand* our Earth. This will improve prediction of natural disasters as well as global climate change and provide tools to prevent their consequences. Moreover, understanding Earth is needed to devise ways for using natural resources in a sustained way. Goal 7 of the UN Millennium Goals commits us to "*ensure environmental sustainability*" and this is not just a nice sentence. According to the UN report, "*achieving the goal will require greater attention to the plight of the poor, whose day-to-day subsistence is often directly linked to the natural resources.*" As experts on the leading-edge technologies of Earth observation, we should play a prominent role in achieving this goal, as IGARSS is the forum where tools and technological advances for understanding our planet are presented. This is our contribution to the important task of assuring all people access to resources for their subsistence without endangering the fragile equilibrium of our planet.

The wide variety of topics suggested for the conference range from fundamental concepts to engineering techniques applied to sensor design, or data processing and from general applications in all Earth environments to specific on-going and future missions. I invite all researches in any aspect related to Geoscience and Remote Sensing, even not specifically listed in the suggested topics, to join us in the most important, annual event of the field. I look forward to seeing you in Barcelona. Barcelona is waiting for you.

Ignasi Corbella, *General Chairman*

Important Dates

Abstract Submission System On-line	1 December 2006
Invited Abstract Deadline	5 January 2007
General Abstract Deadline	12 January 2007
Abstract Status Available On-line	19 March 2007
Full Paper Submission Deadline	27 April 2007
Publishing Author Registration Deadline	27 April 2007
Early Registration Deadline	31 May 2007

Sponsoring Societies



The IEEE Geoscience and Remote Sensing Society (GRSS) is pleased to co-sponsor the 27th International Geoscience And Remote Sensing Symposium (IGARSS) in Barcelona, Spain. IGARSS is the premier world conference on remote sensing. Held annually in world-wide venues, this prestigious meeting has become an international focus for remote sensing theory, programs, applications and state of the art technology.



The conference returns to European soil after four years and is sure to repeat the record-breaking attendance experienced in Toulouse, France in 2003.

As a professional society, IEEE GRSS seeks to advance geoscience and remote sensing science and technology through scientific, technical and educational activities. The Society strives to promote a high level of technical excellence among its members by exchange of information through conferences, meetings, workshops, publications and through its committees to provide for the needs of its members.

IEEE GRSS Membership

The IEEE GRSS is the fastest growing society in the IEEE. Membership is open to professionals and students with varying degrees of academic accomplishment and work experience. Student memberships in any IEEE society are extremely economical and the benefits are the same as regular members. For professionals only interested in the benefits of GRSS, affiliate membership meets the need. Regular memberships in IEEE provide additional benefits including the option to belong to more than one society and receive IEEE benefits such as IEEE Spectrum Magazine and insurance or credit offered through the organization. Regular members are also eligible for senior membership in the IEEE GRSS after minimal professional experience in the field. Explore details of qualifications and membership opportunities in IEEE GRSS by visiting the newly remodeled website: <http://www.grss-ieee.org>

Abstract Submission

Participation in IGARSS is open to all individuals interested in or working in the fields of geoscience and remote sensing. Abstracts received by the deadline will be considered for program placement under the standard peer review process. Late abstracts cannot be accepted due to the large number of submissions and short review schedule.

The 2007 IEEE IGARSS Technical Program Committee will organize all accepted abstracts into either oral or interactive poster sessions based upon their potential contribution to the conference and the composition of quality sessions. There is room for only 900 oral and 1,350 interactive presentations in the program. *Attention publishing authors! Only accepted papers that are registered and presented at the conference in Barcelona will be published in the conference proceedings*

Abstract Submission Instructions:

- ◆ Abstracts will be accepted beginning 1 December 2006.
- ◆ Log in to the conference website www.igarss07.org to submit abstracts.
- ◆ All abstracts must be submitted using the on-line system. No exceptions.
- ◆ Invited abstract deadline is 5 January 2007, general abstract deadline is 12 January 2007
- ◆ All abstracts must be written in English and contain a minimum of 500 words to be fairly reviewed.
- ◆ The maximum page limit for all abstracts is two, one-sided pages.
- ◆ Include paper title, presenting author name, affiliation and email address at the top of each abstract.
- ◆ Abstracts should clearly and concisely state the problem, methodology used and central conclusions.
- ◆ Each person may only submit up to three abstracts, inclusive of invited and general submissions.
- ◆ Keep in mind that students paying a reduced student registration may only register one presentation at the conference. Regular delegates will be allowed to register up to three presentations.
- ◆ Every author is responsible for checking the status of their abstract by visiting the conference website: www.igarss07.org after 19 March 2007. No acceptance letters will be sent.

Proposed Tutorials

The IGARSS 07 Local Organizing Committee will organize and offer tutorials, presented by experts in the field of remote sensing. These full day and half day course offerings will be taught on Sunday, prior to the start of the conference. Please refer to the conference website for details as they become available.

Student Prize Paper Competition

All IEEE student members are invited and encouraged to enter the IGARSS Student Prize Paper Competition. Ten finalists will be selected by committee to present their paper during a special session at the conference in Barcelona. All finalists will be offered partial travel support funding. Following the special session at IGARSS, a complimentary ticket and three monetary awards will be given to the top three presenters at the GRSS Annual Awards Banquet. Please refer to the instructions on the Student Prize Paper page of the conference website www.igarss07.org to submit an extended abstract and travel support application to the competition committee.

Conference Proceedings

Presenting authors with accepted abstracts are not required to publish their paper(s) in the conference proceedings. The IEEE copyrighted proceedings are searchable by the Engineering Index. If an author chooses to publish in the conference proceedings, the following instructions apply:

- ◆ Log in to conference website www.igarss07.org to follow instructions for submitting full paper(s).
- ◆ All papers must be submitted before the deadline of 27 April 2007.
- ◆ Only papers submitted, registered and presented at the conference in Barcelona will be published in the final IEEE copyrighted conference proceedings on IEEE Xplore.
- ◆ Student delegates paying a reduced student rate may only register one paper for the conference. Regular delegates may register up to three papers. Co-authors may register and present papers on behalf of the first author.

Registration

For information and to register on-line, visit the conference website: <http://www.igarss07.org>.

Please fill in the pre-registration form at your earliest convenience. To modify the information or make your orders and payments, you will be required to log in. Registration fees include admission to all technical sessions, the exhibit and break areas, and a copy of the draft DVD proceedings.

Registration does not oblige contributors to pay the fees in advance.

Publishing authors must pre-register and remit payment before 27 April 2007. Presenting authors not choosing to publish must pre-register and remit payment before 31 May 2007. To take advantage of lower registration rates, early registration and payment must be received before 31 May 2007.

Category	Until 31 May (Euro)	After 31 May (Euro)
IEEE or CRSS Member	• 625.00	• 725.00
Non-Member	• 780.00	• 880.00
Student Member*	• 234.00	• 289.00
Student Non-Member*	• 368.00	• 418.00
Retired/IEEE Life Fellow	• 261.00	• 380.00
One Day Pass	• 440.00	• 440.00
Accompanying Person**	• 50.00	• 50.00

* Student registration people must send by fax to the Secretariat (+34 93 401 6517) the corresponding proof (student identification or letter from advisor.)

** Accompanying persons registrants are limited to family members and does not allow attendance in Technical Sessions. *The registration deadline is 10 July 2007. If unable to complete the registration by this date you will need to register at the symposium.*

Suggested Topics

Land

- LA01 Remote Sensing of Hydrologic and Soil Parameters
- LA02 Hydrology, Water Resources and Quality
- LA03 Remote Sensing of Soil Moisture
- LA04 Agricultural Mapping and Monitoring
- LA05 Land Use, Land Cover and Land Cover Change
- LA06 Vegetation and Crops Monitoring and Growth
- LA07 Forest Classification and Monitoring
- LA08 Forest Parameter Estimation by Multi-parameter SAR Interferometry
- LA09 Floods, Droughts, Evapotranspiration and Soil Erosion
- LA10 Wetlands
- LA11 Arid and Semi-Arid Lands
- LA12 Land Surface Dynamics

Oceans

- OC01 Pollution Detection and Monitoring
- OC02 Ocean Color
- OC03 Monitoring Extreme Ocean Events
- OC04 Radar Observations of Current Features
- OC05 Active Microwave and HF Sensing of the Ocean
- OC06 Passive Microwave Observations of the Ocean
- OC07 Ocean Surface Winds from Space
- OC08 Skin and Multi-Sensor Sea Surface Temperature
- OC09 Underwater Sensing

Atmosphere

- AT01 Precipitation and Clouds
- AT02 Aerosols, Air Pollution and Climate
- AT03 Earth Radiation Budget
- AT04 Atmospheric Profiling
- AT05 Ozone layer monitoring

Cryosphere

- CR01 Sea Ice and Snow
- CR02 Permafrost, Ice Sheets, Glaciers and IPY
- CR03 Regional and Global Sea Ice Monitoring in Climate Change Monitoring

Disaster and Hazards

- DH01 Early Warning, Monitoring and Management of Natural Disasters.
- DH02 Geological Hazards
- DH03 Fire Mapping and Monitoring
- DH04 Crustal Movements, Earthquakes and Volcanoes
- DH05 Mine and Subsurface Object detection
- DH06 Land Slides and Avalanches.

Environmental, Urban and Other Applications

- EU01 Ecosystems
- EU02 Environmental Monitoring of Land and Sea
- EU03 Environmental Degradation and Pollution.
- EU04 Environmental Modeling
- EU05 Carbon Cycle and Modeling
- EU06 Coastal and Riparian Environments
- EU07 Geology and Geomorphology
- EU08 Cartography and Topography
- EU09 Urban Monitoring, Transportation and Modeling
- EU010 Resource Management
- EU011 Industrial Applications

Electromagnetics Modeling and Simulation

- EM01 Wave Propagation
- EM02 Scattering, Absorption and Emission
- EM03 Radiative Transfer Modeling
- EM03 Numerical Algorithms and Techniques
- EM04 Microwave and Optical Modeling of Terrestrial surface and atmosphere.

Radar

- RA01 Monostatic, Bistatic and Multistatic Radar
- RA02 Ground and Foliage Penetrating Radar
- RA03 Radar Interferometry
- RA04 Radar Polarimetry
- RA05 Pol-InSAR Applications and Methodology
- RA06 Active Scatterometry or with Signals of Opportunity
- RA07 Altimetry
- RA08 Radar and SAR Calibration

Microwave Radiometry

- MR01 Microwave Radiometer Technology
- MR02 Interferometric Radiometers
- MR03 Polarimetric Radiometers
- MR04 RFI Mitigation for Microwave Radiometry
- MR05 Calibration of Microwave Radiometers

Lidar

- LI01 Lidar Sensors
- LI02 Lidar Altimetry
- LI03 Lidar: Information Extraction and Applications
- LI04 Lidar Calibration Passive

Optical sensors

- OP01 Multispectral and Hyperspectral Sensors
- OP02 Imaging Spectroscopy
- OP03 Polarimetric Optical Radiometers
- OP07 Optical Sensors Calibration

Advanced Sensors

- AS01 Advanced Sensor Concepts
- AS02 Very high resolution sensors
- AS03. Enabling Technologies
- AS04. UAV-based Sensors
- AS05. Sensor Networks, Sensor Webs, and Cooperative Sensors
- AS06. Remote Sensing using GPS

Missions and Campaigns

- MC01 GEOSS Architecture and Data Management.
- MC02 Integrated Earth Observations Systems for GEOSS
- MC03 Space Agencies Missions and Technologies
- MC04 Planetary Remote Sensing
- MC05 Instruments and Programs: Terra, Aqua, ALOS, AMSR, Radarsat, Aquarius/SAC-D, SMOS, TRMM, GPM, TerraSAR, ENVISAT...

Data Processing Techniques

- DP01 Change Detection and Multitemporal Analysis
- DP02 Data Compression and Format Techniques
- DP03 Data Mining, Archiving and Retrieval
- DP04 Developing, Deploying, and Operating Standard-based Data Systems
- DP05 Geographic Information Systems (GIS) and Data Visualization
- DP06 Geophysical Processes and Parameter Estimation
- DP07 Hyperspectral Image Analysis
- DP08 Registration and Feature Extraction
- DP09 Statistical Approaches for Image Exploitation and Analysis
- DP10 Data Assimilation
- DP11 Data Fusion
- DP12 Multisensor and Multitemporal Data Fusion
- DP13 Image Enhancement and Restoration
- DP14 Image Classification
- DP15 Image Segmentation and Analysis
- DP16 Edge detection.
- DP17 Spatial Scaling and Remote Sensing
- DP18 Radar Processing Techniques
- DP19 SAR Image Processing Techniques
- DP20 LIDAR Data Processing
- DP21 Inverse Problems
- DP22 Target Detection and Object Recognition

Education and Policy

- EP01 Remote Sensing Educational Activities and Innovations
- EP02 Data Access Policy
- EP03 Remote Sensing & the Internet
- EP04 Remote Sensing and Public Policy and Management Decisions
- EP05 Interagency collaborations

Accommodations

The organizers have arranged block reservations in different hotel categories, offering special rates to IGARSS'07 participants. We recommend you make your reservation at your earliest convenience, as Barcelona is quite busy during the dates of the Conference. The booking forms are available on the conference website www.igarss07.org Check the release date for reservations at special rates, after then the reservations will be made on request to the hotel.

Host Hotel – AC Barcelona 4*

Hotel AC Barcelona is situated nearby the International Convention Center (CCIB) in the expanding business and trade fair district of Barcelona. The hotel offers a wide range of services: free minibar, complimentary newspapers, 24h laundry service, 24h room service, internet connection, TV with more than 20 channels, 4 pillows and bath amenities. There are rooms for non-smokers and for handicapped people. Moreover, you can enjoy a good restaurant and a welcoming bar at the same hotel as well as an outdoor swimming pool for the sunny moments. The parking and business facilities will make your stay the most comfortable.



Accommodation Rates

Special rates to IGARSS'07 participants.

All rates are listed in Euros.

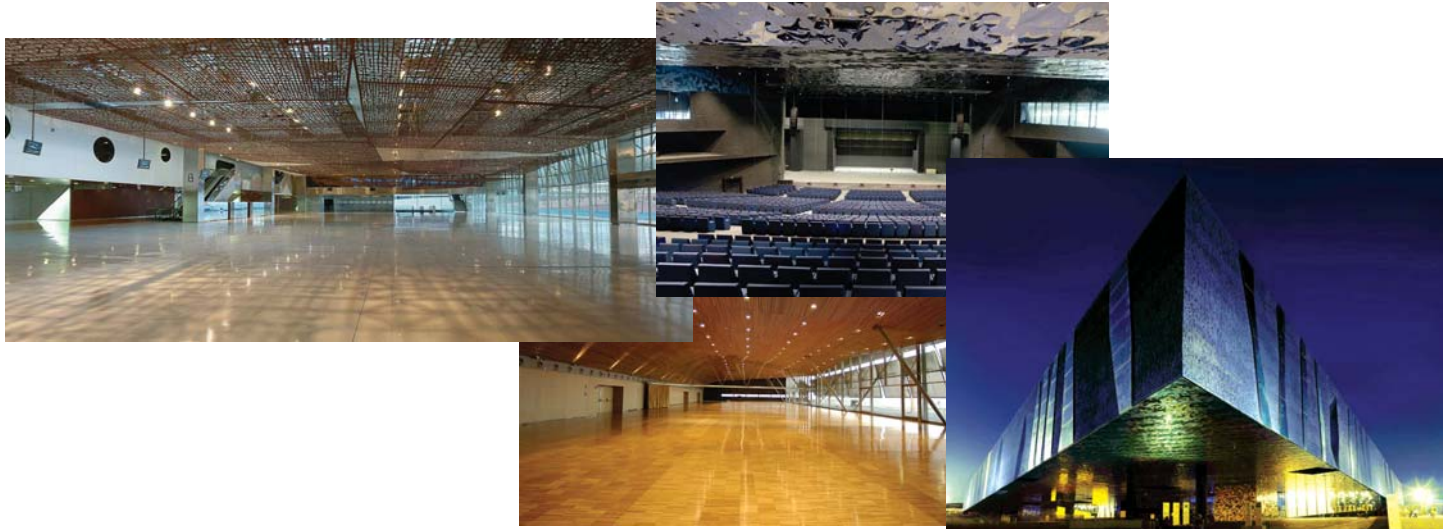
(*) Breakfast and taxes included. AC Standard Room • 145 *

Other recommended hotels with special rates to IGARSS'07 participants

Hotel	Web-site	Double Single use	Double
Catalonia Duques de Bergara 4*	http://www.hoteles-catalonia.es/	• 107	• 129
Hotel Catalonia Ramblas 4*	http://www.hoteles-catalonia.es/	• 118	• 129
Hotel Catalonia Berna 4*	http://www.hoteles-catalonia.es/	• 107	• 129
Husa Avenida Palace 4*	www.husa.es	• 198	• 225
Husa Barcelona 4*	www.husa.es	• 134	• 145
Husa Barcelona Mar 4*	www.husa.es	• 154	• 154
Husa Wilson 3*	www.husa.es	• 122	• 139
Husa Oriente 3*	www.husa.es	• 147	• 147
Husa Meson Castilla 2*	www.husa.es	• 112 Double Single use •96 Single	• 123

Barcelona International Convention Centre (CCIB)

The International Convention Center is located in a new area developed on the shoreline around the river Besòs, on a beautiful site taken from the sea. The Convention Centre is the work of the prestigious Spanish architect José Luis Mateo and was designed to give emphasis to light. It is a highly versatile space that is open to the sea and has 45 bright rooms on 5 floors. These include the large exhibition room (which can be organized into 8 different modular arrangements) and a spectacular Banquet Hall.







Travel Support

IGARSS is a truly international event, and the IEEE GRSS contributes limited funds to partially fund travel to Barcelona for members. Strict criteria must be met to apply for these grants. Please refer to the Travel Support page of the conference website www.igarss07.org for guidelines, application form and evaluation criteria.

How To Arrive to CCIB

Public transport in Barcelona is very efficient. The following may be used to access the CCIB:

-  **Underground:** L4 Stop (yellow line): "Maresme / Fòrum"
-  **Buses:** Metropolitan Transports of Barcelona (TMB): Lines 7 and 41
-  **Tram:** T-4 Line of Sant Martí - Besòs Tram
-  **Taxis:** From down town the journey takes between 20 to 25 minutes, depending on the traffic. There is a taxi rank outside the AC Princess Hotel (next to the CCIB) Airport. The Barcelona-El Prat International Airport is located 12 kilometres outside the city, to the south. Most European airlines, and many international ones, operate flights from its international terminal.

Taxis are the most comfortable way to get from the airport to the city. You will see a taxi stand on the left of the main airport exit. From the airport to the city, the journey takes between 20 to 30 minutes, depending on the traffic. The cost is approximately 20 euros with a small extra charge for each piece of luggage. The tariffs are on the side of the taxi. Other transportation options include Aerobús bus service, RENFE trains and the Under ground. For schedules, cost and information visit the conference website.

Websites of Interest

- ◆ www.bcn.es
- ◆ <http://www.barcelonaturisme.com/turisme/home.htm>
- ◆ <http://www.barcelona-on-line.es/eng/>

About Barcelona



The name Barcelona comes from Barcino, the roman settlement in the 2nd century BC. Many remains of that ancient Barcino can still be seen today at different places in the Old City. In 985 the Almansour's muslin troops razed the city to the ground. It was rebuilt soon afterwards and it kept growing and progressing through the Middle Ages.

Until the end of the 19th century, Barcelona comprised the area now known as Ciutat Vella, or the Old City. This district is mainly composed by the Gothic Quarter, La Rambla and El Raval, and is famous for its historic monuments, narrow streets and vaguely bohemian atmosphere. The Eixample is the area over which the city began to spread from 1860, following the demolition of the medieval city walls. This area is an example of urban planning in Europe with a great number of Modernist buildings, many of them designed by the famous architect Antoni Gaudi.

Nowadays, Barcelona is a city that is open to the sea. The trading port is the third most important one in the Mediterranean and the favorite stop-over point for luxury cruise liners. The coast continues through the Barceloneta, a traditional fishing and sailing area, to the Olympic Village. In between the Olympic Marina and the 4km of beach constitute and excellent area of sports and leisure.

Barcelona has many museums, exhibition halls and religious buildings. From the two adjacent hills, Tibidabo and Montjuïc, which are areas of amusement, leisure and cultural activities, you can enjoy a terrific view of the city.



Social Tours

There are so many ways to enjoy the sights, smells, tastes and sounds of Barcelona! Social tours are described on the conference website in detail and can be easily booked on-line as well. A sampling of tours are listed below:

- ◆ **The Gothic Quarter & Picasso Museum**
- ◆ **The World of Gaudí**
- ◆ **Parks and Gardens of Barcelona**
- ◆ **Barcelona and Children**
- ◆ **FCBarcelona & Olympic Games**
- ◆ **The world of Dalí**
- ◆ **Montserrat**
- ◆ **Wines and Cavas**

