Registration fee includes welcome cocktail and farewell buffet dinner

IAP members: 100
Early bird registration: 125
Standard rate: 150

The following registration fees are applicable:

Payment must be made through bank transfer to: Instituto Geológico y Minero de España
ISGWAS. International Symposium on Groundwater Sustainability
Instituto Geológico y Minero de España
Ríos Rosas, 23
28003 Madrid (Spain)
E-mail: isgwas.nhm@igme.es

CONGRESS SECRETARIAT
This registration form and by post or e-mail to:
Those interested in participating in the International Symposium on Groundwater Sustainability should fill out

U África de la Hera,
Nuria Hernández-Mora,
Henry Vaux,
Ramón Aragón,
Abdin Salih,
Stephen Ragone,
José Miguel Andreu,
Manuel Aldeguer Sánchez,
Manuel Alcalde Sánchez,
Jennifer McKay,
Luis Marín,
Juan Antonio López Geta,
Ricardo Hirata,
Alice Aureli,
Ramón Llamas,
José Antonio Pina, Universidad de Alicante
José Antonio Pina, Universidad de Alicante

Scientific Committee

- Ramón Llamas, Real Academia Española de Ciencias, Chairperson
- Alice Aureli, UNESCO
- Ricardo Hirata, Academia Brasileira de Ciencias
- Juan Antonio López Geta, Instituto Geológico y Minero de España
- Luis Marín, Academia Mexicana de Ciencias
- Jennifer McKay, University of South Australia
- Stephen Ragone, US National Ground Water Association
- Abdin Salih, UNESCO
- Tushaar Shah, International Water Management Institute, Sri Lanka
- Henry Vaux, US National Academy of Sciences
- Nuria Hernández-Mora, Coordinator
- Africa de la Hera, Coordinator

Local Committee

- Manuel Alcalde Sánchez, Comisario, Confederación Hidrografica del Jucar
- Manuel Aldueger Sánchez, Comisario, Confederación Hidrografica del Segura
- José Miguel Andreu, Universidad de Alicante
- Ramón Aragón, IGME – Murcia
- Bruno Balestros, IGME – Valencia
- Concha Bru, Universidad de Alicante
- Antonio Estévez, Universidad de Alicante

Organization

The International Symposium on Groundwater Sustainability is part of the Interacademy Panel’s (IAP) Water Program for the Triennium 2004-2006. The IAP has delegated in the Real Academia Española de Ciencias (Spanish Royal Academy of Sciences or RAC) the organization of the symposium.

The Spanish Ministry of Education and Science supports the celebration of the Symposium in Spain and has subscribed an agreement with the RAC through the Instituto Geológico y Minero de España (IGME or Spanish Geological Survey). The IGME is responsible for coordinating the organization and logistics of the symposium.

Registration Information

Symposium dates: January 24-27, 2006
Early Bird registration deadline: December 1st, 2005
The following registration fees are applicable:

- Standard rate: 150€
- Early bird registration: 125€
- IAP members: 100€
- Students (proof of status required): 35€

Registration entitles attendees to a CD Rom including speaker presentations and to attend scheduled social events. IAP members and invited speakers are also entitled to attend the scheduled field trip.

Symposium Publications

Proceedings from the Symposium, including reports from the round table discussions, will be collected in a final symposium publication. Details on this publication will be available at a later date.

A CD-ROM with the preliminary texts by the invited speakers and panelists will be delivered to attendees at the beginning of the Symposium.

Symposium Venue

The congress will be held at the University of Alicante, a mid-sized city on the Mediterranean coast in southeastern Spain. The weather is usually mild and warm, even in late January.

Alicante has an excellent public transportation system and world class accommodation and leisure facilities. The city has an international airport and can be accessed by train or intercity from Madrid or Barcelona. Information on various types and prices of accommodations will soon be available in the symposium’s website.

Languages

Spanish and English. Simultaneous translation services will be provided.

Symposium Secretariat

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With the collaboration of

- US National Ground Water Association
- UNESCO
- US National Academy of Sciences
- Academia Mexicana de Ciencias
- Academia Brasileira de Ciencias
- Other institutions to be confirmed

First Announcement
sustainability of groundwater resources. It is in this context that the Interacademy Panel's (IAP) Sustainability from different disciplines and regions of the world in long-term sustainability of groundwater development educational initiatives can be developed to insure the arrangements, economic incentives, legal structures and understanding socioeconomic forces as well as on effectively monitoring and modeling climatic and negative ecological, economic and social consequences that may render them unsustainable over the long term. The development of groundwater resources has largely been the result of the initiative of millions of individual farmers and small municipalities throughout the world that have sought the resource often with little or no public intervention or oversight. This silent revolution has brought about innumerable social and economic benefits. But lack of effective supervision and control of these developments has often resulted in unintended negative ecological, economic and social consequences that may render them unsustainable over the long term.

It is in this context that the Interacademy Panel's (IAP) International Symposium on Groundwater Sustainability (IGWS) is particularly relevant at this time. Achieving the long-term sustainable use of groundwater resources will depend as much on understanding socioeconomic forces as well as on effective monitoring and monitoring climatic and hydrogeologic conditions. We need to develop adequate monitoring and information networks. But it is also imperative to understand what institutional arrangements, economic incentives, legal structures and educational initiatives can be developed to insure the long-term sustainability of groundwater development and use throughout the world.

The International Symposium on Groundwater Sustainability (IGWS) will bring together experts from different disciplines and regions of the world in Alicante, southeastern Spain, to discuss challenges and propose solutions to contribute to the long-term sustainability of groundwater resources.

### Program

#### Tuesday, January 24
11:30 Registration
12:30 Opening ceremony
Inaugural lecture
The Role of Groundwater in Overall Water Resources Policy
Dr. Ramón Llamas, Spanish Royal Academy of Sciences

#### 15:00 Luncheon

#### Theme I: The Science of Hydrogeology: Current Innovations and Trends

- 14:30-16:30 Keynote speakers
  - "The Post-Modern Water Balance and its Role in Groundwater Management"
    Dr. Stephen Ragone, National Ground Water Association, USA
  - "Current trends in the modeling of Heterogeneous Systems, with Examples Taken from Aquifers of Various Types"
    Dr. Ghiaa of Maral, École des Mines de Paris, France
  - "Economics and Groundwater’s Roles in Systemwide Management"
    Dr. Jayound, University of California-Davis, USA
  - "Urban Humeology in Developing Countries: Chronicle of a Foreshore Crisis"
    Dr. Ricardo Hirta, University of Sao Paulo, Brazil
  - "Groundwater Management in Arid Zones: Emphasis on Gaur Systems"
    Dr. Abid Saini, UNESCO, Iran
  - "Dr. Jay"
    Dr. Ghiaas of Marsily
    Dr. Stephen Ragone

#### Wednesday, January 25
15:00 Welcome cocktail

#### Theme II: Groundwater Economics: Experiences Throughout the World

- 9:00-11:30 Keynote speakers
  - "The Economics of Ground Water Management and the American Experience"
    Dr. Henry Vaux, U.S. National Ground Water Association
  - "Groundwater Irrigation in South Asia and North China: The Challenges of Managing a Colonial Anachrony"
    Dr. Tudrash Shah, International Water Management Institute, Sri Lanka

#### Thursday, January 26
9:00-11:30 Keynote speakers
- "The Role of the Academies of Science for Improved Groundwater Governance"
  Dr. Tushar Shah, International Water Management Institute, Sri Lanka
  "Groundwater’s Role in Managing Water Scarcity in the Mediterranean Basin and Pakistan"
  Dr. Alberto Garrido, Universidad Politécnica de Madrid, Spain
  "Coffee break"
  "Round table From Groundwater to Wealth For One-Acre Farmers in Developing Countries"
  Dr. Paul Polak, International Development Enterprises, USA
  "The Mexican Experience on Groundwater Use Groups"
  Dr. Oscar Escolero, Universidad Autónoma de Mexico
  "Dr. Henry Vaux"
  "Dr. Tushar Shah"
  "Dr. Alberto Garrido"

11:15-13:00 Lunch

#### Theme III: The Ecological Implications of Groundwater Use

- 14:30-16:30 Keynote speakers
  - "Groundwater Protection and Pollution"
    Dr. Emilio Custodio, IAP Past President, Spain
  - "Groundwater and Ecosystem Services"
    Dr. César Bergamini, Switzerland
  - "Water Security and Ground Water in North China"
    Dr. Jun Xia, Institute of Geographic Sciences & Natural Resources Research, Chinese Academy of Sciences
  - "Round table Urban Humeology in Developing Countries: Chronicle of a Foreshore Crisis"
    Dr. Ricardo Hirta, University of Sao Paulo, Brazil
  - "Groundwater Management in Arid Zones: Emphasis on Gaur Systems"
    Dr. Abid Saini, UNESCO, Iran
  - "Dr. Jay"
    Dr. Ghiaas of Marsily
    Dr. Stephen Ragone

11:15-13:00 Luncheon

#### Theme IV: Information, Education and Conflict Prevention

- 9:00-11:30 Keynote speakers
  - "The Role of the Academies of Science for Improved Groundwater Governance"
    Dr. Tushar Shah, International Water Management Institute, Sri Lanka
  - "The Role of Groundwater in the Water Conflict and Resolution between Israel and Palestinians"
    Dr. Jad Isaac, Applied Research Institute-Israel, Jerusalem
  - "Groundwater Education in Spain: IGMES Initiatives"
    Dr. Gerardo Ramos, IGME, Spain

11:15-13:00 Lunch

#### Theme V: Institutions for Groundwater Management

- 14:30-16:30 Keynote speakers
  - "Groundwater and Ecosystem Services"
    Dr. César Bergamini, Switzerland
  - "Politics and Institutions for Groundwater Management in a Systemwide Context"
    Dr. Eran Feitelson, Hebrew University of Jerusalem, Israel
  - "The Mexican Experience on Groundwater Use Groups"
    Dr. Oscar Escolero, Universidad Autónoma de Mexico
  - "Coffee break"
  - "Groundwater Use Rights Inventory in Spain: The Alberca Program"
    Dr. Eran Feitelson, IAP Past President, Spain
  - "Groundwater Education in Spain: IGME Initiatives"
    Dr. Luis Marín, Universidad Nacional Autónoma de Mexico
  - "Coffee break"
  - "Groundwater Education in Spain: IGMES Initiatives"
    Dr. Gerardo Ramos, IGME, Spain
  - "Round table From Groundwater to Wealth For One-Acre Farmers in Developing Countries"
    Dr. Paul Polak, International Development Enterprises, USA
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  - "Dr. Henry Vaux"
  - "Dr. Tushar Shah"
  - "Dr. Alberto Garrido"

11:15-13:00 Luncheon

#### Field trip
- 8:30-10:00 Field trip
  - "Water management in Alicante: Hydrogeology, Economics, Environment and Institutions"
  - The field trip is open to all participants, including invited speakers and panelists only.