

## INTERNATIONAL ASSOCIATION OF HYDROGEOLOGISTS

### IRISH GROUP

## Groundwater: Opportunities and Pressures

**TULLAMORE COURT HOTEL  
TULLAMORE  
Co. OFFALY**

**Tuesday 24<sup>th</sup> & Wednesday 25<sup>th</sup> April, 2007**



### International Association of Hydrogeologists (Irish Group)

The International Association of Hydrogeologists (IAH) was founded in 1956 to promote co-operation amongst hydrogeologists, to advance the science of hydrogeology world wide, and to facilitate the international exchange of information on groundwater. The IAH is a worldwide scientific and educational organisation with more than 3,500 members in 135 countries.

The Irish Group of the IAH was started in 1976 and has over 130 members. It hosts a well-attended, annual groundwater conference in the Irish Midlands, and holds technical discussion meetings on the first Tuesday of every month between October and June, in the Geological Survey of Ireland in Dublin. The following members are serving on the 2007 IAH (Irish Group) Committee:

<i>President:</i> Paul Johnston, Trinity College Dublin	☎(01) 896 1372
<i>Secretary:</i> Malcolm Doak, RPS Group Ltd	☎(01) 488 2990
<i>Treasurer:</i> Karenlee Ibbotson, White Young Green	☎(01) 293 1200
<i>Fieldtrip Secretary:</i> Coran Kelly, Geological Survey of Ireland	☎(01) 678 2848
<i>Education Publicity:</i> Ulrich Offerdinger, Queen's University Belfast	☎+44(0)28 9097 4517
<i>Burdon Secretary:</i> Morgan Burke, Greenstar	☎(086) 388 7909
<i>Northern Region Secretary:</i> David McLorinan, White Young Green, Belfast	☎+44(0)28 9070 6077
<i>Conference Secretary:</i> Pamela Bartley, Bartley Hydrogeology Ltd.	☎(091)70 4848
<i>Conference Subcommittee:</i> Taly Hunter Williams, GSI	☎(01) 678 2780
Yvonne Cannon, RPS Group Ltd.	☎(01) 288 4499
Orla McAlister, TMS Environment Ltd.	☎(01) 462 6710
Michael Gill	☎(058) 415 68

### CONFERENCE OBJECTIVE

This year, the 27<sup>th</sup> Annual Conference of the IAH (Irish Group) is discussing:

- current approaches to groundwater resource management at both regional and local scales;
- risks to groundwater, in terms of both quantity and quality;
- groundwater as an exploitable energy resource.

Groundwater is often thought of as the hidden resource, yet it supplies around 30% of our water supplies, both public and private. With the growing population and burgeoning development in Ireland, there are increasing requirements to develop water resources, and groundwater in particular. Consequently, there is a need, driven by EU legislation, to manage water in a holistic, inclusive manner, which has been taken to mean in the context of 'river basins'. The water cycle and all associated water sources are to be managed in an integrated way. Therefore, the subject of this year's conference is the sustainable development of groundwater resources in this context.

What is meant by sustainable development of groundwater and how can such resources be effectively developed at the basin scale as well as at the local level? Groundwater may also be regarded as a renewable energy resource: how can this energy be effectively exploited? There are also risks and pressures affecting the development of a groundwater resource and some of these will be discussed. Risks to quality in terms of public health, pressures from intense agricultural practice and industries such as quarrying need to be considered in the context of protecting and managing the groundwater resource.

A number of national and international speakers have been invited to address the questions raised above, and to provide a wide spectrum of experience in groundwater resource development, especially in the light of current pressures on water resources.

### WHO SHOULD ATTEND?

It is expected that these topical issues will be of great interest to local authority engineers, consultants, planning officials, environmental scientists, public health officials, architects, and hydrogeologists.

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### SESSION II - Tools of Management – County Scale

### PROGRAMME DAY 2 - WEDNESDAY, 25th APRIL

#### SESSION IV - Energy Potential of Groundwater

#### PROGRAMME DAY I - TUESDAY, 24th APRIL

- 10:00 Registration  
Tea, Coffee, & Exhibits
- 11:00 Welcome and Introduction  
Paul Johnston – President, Irish Group of the IAH

- 14:00 ***Understanding and Exploitation of Groundwater Flow Systems for Local Water Supplies in Ireland***  
David Ball, Hydrogeologist, Ireland
- 14:35 ***Groundwater Resource Assessment for Public Water Supply Schemes in the Midlands of Ireland***  
Richard Church, Entec UK Limited, Scotland
- 14:55 ***East Meath, South Louth And Drogheda Water Improvement Scheme: Investigation Of Groundwater Potential***  
Mark Conroy, TOBIN Consulting Engineers, Ireland
- 15:15 Panel Discussion  
15:30 Tea, Coffee & Exhibits

- 09.15 ***Geothermal Resources in Ireland – applications for hydrogeology***  
Roisin Goodman, Geothermal Association of Ireland & CSA, Ireland
- 09.40 ***Thermogeological assessment of open loop well doublet schemes – an analytical approach***  
David Banks, University of Newcastle, UK
- 10:05 ***Underground Thermal Energy Storage in the Netherlands***  
Loeki Vos, Fugro Ingenieursbureau B.V., Netherlands
- 10:30 Panel Discussion  
10.45 Coffee, Tea and Exhibits

#### SESSION I - Resource Evaluation – Regional Basis

#### SESSION III - Environmental Risk Evaluation Tools

#### SESSION V - Current Pressures

- 11:15 ***Resource Evaluation – Lessons Learned, UK***  
Steve Fletcher, Environment Agency, UK
- 11:45 ***Recharge estimation at local and regional scales - examples from Minnesota, USA.***  
G. Delin, United States Geological Survey, USA
- 12.15 ***The Water Abstraction and Impoundment (Licensing) Regulations (Northern Ireland) 2006***  
Peter Close, Environment and Heritage Services, Northern Ireland
- 12:35 Panel Discussion
- 12.50 Buffet Lunch & Exhibits

- 16:00 ***Cryptosporidium Risk Assessment – Square Pegs and Round Holes***  
Karen Lee Ibbotson, White Young Green, Ireland
- 16:25 ***Microbial Contamination of Aquifers in Ireland: Identification of vulnerability factors and development of detection protocols for key pathogens***  
Vincent O Flaherty, NUIG, Ireland
- 16:50 ***Quantitative Risk Assessment, the importance of understanding your site.***  
Rob Glavin, RPS Group
- 17:15 Panel Discussion. (Close at 17:40)

*The panel discussion will be followed by a **wine reception** in the Tullamore Court Hotel sponsored by ALControl Geochem*

- 11:15 ***Mineral workings – consideration of the impact on the water environment***  
Peter McConvey, Geological Survey of Northern Ireland
- 11:40 ***Agricultural Pressure – farm and national scale case studies & risk assessment***  
Monica Lee & Pamela Bartley, GSI & BHL, Ireland
- 12:05 ***A national assessment of groundwater abstraction pressures***  
Henning Moe & Donal Daly, CDM & EPA, Ireland
- 12:30 Panel Discussion
- 12:45 Closing Address: Pamela Bartley, Conference Secretary
- 12:50 Buffet Lunch
- 14:30 ***Sponsored Golf Outing***