

## INTERNATIONAL **ASSOCIATION OF**

**HYDROGEOLOGISTS** 

# NEWS & information

IAH - THE WORLD-WIDE GROUNDWATER ORGANISATION

Furthering the understanding, wise use and protection of groundwater resources throughout the world

## **WORLD WATER DAY**



IAH has again been active, as well as informative, in this year's celebration. Page 18

## CONGRESS DEVELOPMENT



Rome, September 2015 - updates on location, keynote speakers, technical and social programme and more. Early bird registration closes on 15 June; plan your trip now... Page 22

## MENTORING SCHEME



Trying to balance all the demands on our time and resources, we have been a bit slow to develop the mentoring scheme as we promised. However, we are back on to this again now. Latest, with call for mentors- page 6

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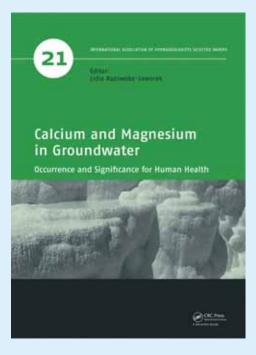
**MAY 2015** 

## New in the IAH Book Series

Selected Papers on Hydrogeology (IAH-SP)

Series editor Nick S. Robins, British Geological Survey, Wallingford, UK





## Calcium and Magnesium in Groundwater: Occurrence and Significance for Human Health

Edited by Lidia Razowska-Jaworek, Polish Geological Institute-NR, Sosnowiec, Poland

Calcium and magnesium are abundant in groundwater, but the role of groundwater as the essential source of these important nutrients is very often neglected. Hydrogeochemical studies have focused mainly on the distribution and behaviour of constituents that cause deterioration of water quality, such as: nitrate, nitrite or iron and manganese. Therefore, most recent books and papers concentrate mainly on these constituents and only a small number of papers describe the results of groundwater studies on other important water components such as calcium or magnesium. Calcium and magnesium are of great importance to human wellbeing and inadequate intake of either nutrient can impair health. The main objective of this book is to present a selection of studies on calcium and magnesium in groundwater and to highlight their importance for human health.

The chapters in this book are written by hydrogeologists and hydrochemists as well as medical doctors and include: methods of investigation of calcium and magnesium in groundwaters, distribution and behaviour of calcium and magnesium in different aquifers, calcium and magnesium in bottled mineral and spring waters, and the significance of calcium and magnesium in waters for human health.

June 2014: Hb: 236 pp: ISBN 978-1-138-00032-2: £82.00 / \$129.95 To order: www.taylorandfrancis.com/books/details/9781138000322/

## Also new in the IAH Book Series



Fractured Rock Hydrogeology Edited by John M. Sharp May 2014: Hb: 400 pp

ISBN 978-1-138-00159-6 £76.99 / \$119.95

Assessing and Managing Groundwater in Different Environments

Edited by Jude Cobbing, Shafick Adams, Ingrid Dennis and Kornelius Riemann

October 2013: Hb: 304 pp ISBN 978-1-138-00100-8 £76.99 / \$119.95

To order:

www.taylorandfrancis.com/books/details/9781138001596 www.taylorandfrancis.com/books/details/9781138001008/

## **About the IAH Book Series**

The International Association of Hydrogeologists serves scientists, engineers and other professionals working in the fields of groundwater resource planning, management and protection. Books published for IAH by CRC Press/Balkema – Taylor and Francis Group currently lie within two series titles: International Contributions to Hydrogeology (blue books), and Selected Papers on Hydrogeology (green books). IAH members receive a 60% discount: find out more at http://iah.org/members/book-discount.

CRC Press/Balkema, Taylor & Francis Group, Leiden, The Netherlands pub.nl@taylorandfrancis.com, Ph: +31 71 524 3080 www.crcpress.com





## Working to improve member benefits...

Now that the benefits of the new website and the applications which support it are well proven, we are undertaking some of the later-phase developments which we had always envisaged. As you will read in this newsletter, Germany has just created their IAH-hosted sub site using our easy system, and we are currently working with two IAH commissions on their sub sites, with more in the pipeline. Bruce Misstear also announces how we are already embarking on a series of adaptations to our main website to enable it to support activities recommended by our Education Working Group. Such changes will come to effect gradually in the forthcoming months. A number of members answered our earlier calls to support the Education Working Group, enabling tasks to be greater shared, and we are always open to further such offers. Other current activities, some of which are mentioned in this newsletter, include a new call for IAH mentors (call for mentees following later in the year), continuing support for the Hydrogeologist Time Capsule Project, and updating of the guidance to local organising committees for IAH congresses which will, ultimately, impact positively on congress partipants' experiences.

## ... puts increasing demands on our resources

Of course, our long-term commitment to improving member benefits also means increasing pressure on our financial resources. The recent meeting of the IAH Executive saw some tough discussions concerning our Association's commitments

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and aspirations. With our goals, we also need more resources. So, we are urging everyone in our Association to help make 2015 a good year for IAH, in terms of improvement, assistance, recruitment and income. If you are a member reading this, please encourage your colleagues to sign up or renew; if you are not a member, please join us now!

## JOHN CHILTON



http://iah.org/join-us http://iah.org/knowledge/education-plans

## ADVERTISING AND COPY INFORMATION

IAH News and Information is published 3 times a year. It is distributed as an insert in Hydrogeology Journal and is also published via IAH's website and email alerts.

It reaches all members and associated members of the International Association of Hydrogeologists, reaching more than 4000 people and can also be freely downloaded by individuals worldwide.

Advertising rates are €300 per full-page advert and €200 per half page. These rates apply for one issue. If you take an advert in two successive issues then the third is offered free of charge. Corporate sponsors and corporate members of IAH are entitled to 50% off the above rates. Why not contact us now?

All copy must be provided electronically - please contact knicholson@iah.org for acceptable formats.

Copy dates are 1 March, 1 June and 1 October.

Email knicholson@iah.org







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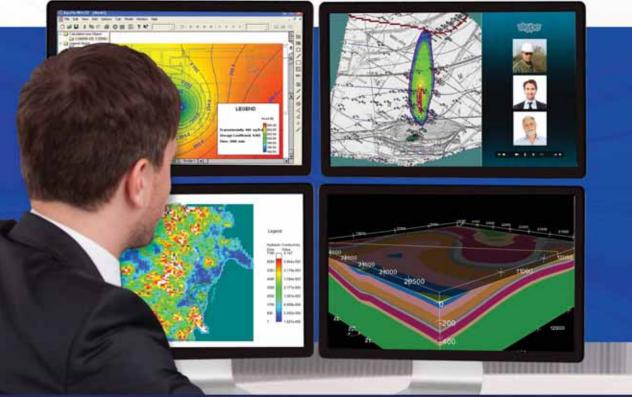
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# GEF GROUNDWATER GOVERNANCE PROJECT



## Review panel and project team meet in Paris

The project on groundwater governance in which IAH has been participating for the last three years is drawing to a close. Project partners FAO, UNESCO, World Bank and IAH held a high level panel discussion on 3-4 February hosted by UNESCO in Paris, with the objective of reviewing the main outputs from the project and pointing towards the next steps.

IAH was well represented on the invited panel by Regional Vice Presidents Callist Tindimugaya and Luiz Amore, former president of the Chinese chapter Han Zaisheng, Ralf Klingbeil from UNESCWA in Beirut and Ruben Chavez Guillen from Mexico. In addition, IAH inputs to the project have come from the case studies, thematic papers and regional consultations, of Past President Stephen Foster and 2014 Presidents' Award recipient Jac van der Gun in the small team who have drafted the Global Diagnostic, Vision and Framework for Action which are the principal outputs from the work. IAH Secretary General Shammy Puri, Executive Manager John Chilton and World Bank colleague Jake Burke are members of the steering committee.

The GEF project is convening a side event at the World Water Forum in Korea to launch the groundwater governance vision and framework. António Chambel will represent IAH at this and at the regional meeting being organised the previous week by the Korean Chapter on Jeju Island, and will report on these for the summer newsletter.

Improving the governance and management of aquifers and the groundwater they contain fully aligns with the association's mission. Amongst IAH's contributions to improved governance have been the national

seminar convened last year in India and sessions at and the declaration from the Marrakech congress. Further activities planned by the association include sessions on groundwater governance at the upcoming Rome congress, integrating improved governance of groundwater into the work of IAH's commissions and networks where appropriate, publications on groundwater governance and encouragement to our national chapters to take up the message.

All of the thematic papers and regional diagnostics are available from the project website, together with drafts of the synthesis report and global diagnostic. At the time of writing, special versions of the vision and framework are being prepared for the World Water Forum, and these will be available from the website.

## JOHN CHILTON AND SHAMMY PURI



For more information, including free resources: http://www.groundwatergovernance.org

# IAH MENTORING SCHEME

## Update and call for mentors

Trying to balance all the demands on our time and resources, we have been a bit slow to develop the mentoring scheme as we promised. We had held off on the next stage of development until the new website was safely up and running, but time has slipped rapidly by. We are pleased to report that we are back on to this again now.

In recent weeks the Secretariat has been in contact with those who expressed an interest in the first phase to ascertain who was still interested in providing or receiving mentoring. Naturally life has moved on for some, but we have received confirmation from a number of IAH colleagues of their continuing wish to be involved in the scheme.

## SCOPE AND MECHANISMS FOR MENTORING IN IAH

As a reminder, IAH could provide support to its members in three important areas:

- the scientific providing advice and technical knowledge on various topics;
- career options and pathways providing guidance on job types and locations, CVs, interviews, networking, courses and training openings;
- practical experience and local hydrogeological knowledge of specific regions or aquifer types, volunteering to undertake short assignments.

There are also several mechanisms by which mentoring could be provided. These could include web-based discussion fora of the type that the IAH LinkedIn group has already established; side meetings, sessions or discussions at IAH's international congresses or national meetings; establishment of teams or panels of potential mentors; direct one-to-one mentoring; provision via the website of articles and case studies; short assignments (perhaps in association with other organisations) to provide knowledge and experience in field situations. Some of

these are already being established, and the flexibility of the new website allows others to be set up more easily than before.

## **NEW CALL FOR MENTORS**

A revised and updated sign-up procedure for mentors has been set up via Survey Monkey; details are given below. This will be open to members until 31 July 2015. The sign up allows potential mentors to give their preference for which approaches to the provision of support they are most able or most interested in. Some simple guidance notes, including terms and conditions, have been prepared in collaboration with a mentoring professional and are available on the IAH website. These cover such issues as the personal rather than institutional nature of the advice, care with regard to endorsement of specific products or courses, maintaining confidentiality and not abusing trust.

## LOOKING FOR ADVICE AS A MENTEE?

Rest assured - we plan to put a call out later this year to IAH members hoping to receive advice. Look out for our announcements, which will feature in our next newsletter and online via our website and other communications.

#### **OUR SCHEME IS YOUR SCHEME**

We hope you will feel able to support this venture in the forthcoming years.

Perhaps still in doubt? We have some feedback from a successful mentoring partnership, namely Mike Jones and Geraint Burrows; both have kindly agreed that their comments can be passed on. See next page.

## **SECRETARIAT**



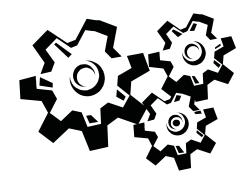
http://iah.org/knowledge/mentoring



https://www.surveymonkey.com/r/IAHmentor2015



# Feedback from Dr Mike Jones (Thames Water, The Mentor) and Geraint Burrows (Hydrogeologist without Borders UK, The Mentee)



We'd not met previously and following our first encounter we agreed to meet on a monthly basis, at a pub. We've been meeting for around 12 months and intend to carry on meeting.

We were provided with information from IAH, which we initially perused and discussed at our first meeting. It was helpful and did initially enable some objectives to be agreed, including the development of a business plan for Hydrogeologists without Borders UK. It soon became clear that a highly structured, formal approach was not required and our monthly meetings were more of an opportunity to meet, chat and sound off ideas with each other. A flexible approach to IAH mentoring has worked for us.

Geraint commented, "I am finding this scheme a great opportunity to sit down and discuss, informally, work related problems with a 'wise old owl'! Mike always offers me a different perspective, this has been extremely useful and I would recommend for any early career hydrogeologist to take advantage of this scheme."

Mike's perspective, "As someone who manages groundwater specialists every day, I am used to guiding people in their work, setting objectives and tracking performance. So why would I choose to be an IAH mentor in my spare time as well? It's proven to be a very different yet rewarding experience. We've worked well together, in a less structured way but still achieved important, meaningful goals. I'm also learning about the challenges of getting the value of groundwater knowledge recognised in delivering sustainable humanitarian outcomes. So, an opportunity to learn as well as offer some guidance"

## NEW TRAINING AREA ON IAH WEBSITE

I am pleased to announce a new training area on the IAH website, which is intended to list details of any upcoming hydrogeology training courses in a similar style to that of our conference/event listing. As well as short courses, field courses and webinars, we are also keen to include details of degree programmes in hydrogeology. Course details can be submitted using our online form (link below).

This new training page is one of the initiatives arising from the recommendations of the 2014 report of the Education Working Group, which was approved by Council last September. Over the coming months we will be adding further education and training pages to our website. These pages will provide links to educational materials, as well as giving more information on short courses, webinars and degree programmes. We will also be seeking volunteers who are willing to offer their expertise to assist with short courses organized and run by national chapters. The list of expertise and contact details will be made available on the IAH Education web pages, as a resource for the course organizers. We will issue the call for volunteers once the web pages have developed further.

BRUCE MISSTEAR, VICE PRESIDENT FINANCE & MEMBERSHIP



http://iah.org/knowledge/training http://iah.org/knowledge/submit-a-course http://iah.org/knowledge/education-plans



# NEW MEMBERS

## A welcome to the following new members who joined our Association in the period 1 November 2014 - 8 March 2015:

**ALGERIA** 

Abdel K AITOUALI

**AUSTRALIA** 

Mr Brian BARNETT Scott BURROWS Andrew CAMPBELL

Rebecca CASSEL Sean CASSIDY

Sharon CONNOR Mr Darryl DAY

Sean DAYKIN

Melisa EDWARDS

Mr David GARCES

Marie EGAN

Jennifer GLEESON Miss Catriona GRANT

Darryn HEDGER Ms Christine HUG

Kent INVERARITY Dylan IRVINE

Malinda KAY Sian KENNARE

Mr Stephen LEO Mr David LINEHAN

Patrick MASON

Dr James MCCALLUM Mr Sam MCGRATH Monishka NARAYAN

Mr Huseyin Hakan PAKER Janelle PASSIER

**Emily PICKEN** Lucy READING

Michael REYNOLDS

**Emily SLATTER** 

Mr Benjamin SNOWDON

Mr Gabruel STEEL

Ella TANG

Nicholas TAYLOR Mr Glenn TOOGOOD Jim UNDERSCHULTZ

Mr Joel VERNON

Mr Michael WARD

Eliza WELLS

Ms Lana WENHAM Carl ZIMMERMANN

**AUSTRIA** 

Dr Margot GEIGER-KAISER

**AZERBAIJAN** 

Mr Rais ABDULAZIM

**BANGLADESH** 

Ms Bhaswati MAZUMDER Dr Ashraf Ali SEDDIQUE

**BELGIUM** 

Caroline DUBOIS Matej GEDEON Mr Gert GHYSELS Pieter Jan HAEST **Bart ROGIERS** Mr Thibault WILLEMS

**BFNIN** 

Henri TOTIN

**BOLIVIA** 

Ms Paola MANCILLA Ms Fabiola ZAVALA

**BRAZIL** 

Mr Rodrigo Stutz SALGUEIRO

**BULGARIA** 

Dr Viktor IVANOV

**BURKINA FASO** 

Youssouf KOUSSOUBE

**CAMEROON** 

Huguette C EMVOUTOU

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Chelsea COWAN

Dr Stewart HAMILTON

Ms Leslie HARKER

Mr Marc W. HODDER Mr Md Alauddin HOSSAIN

Mr Daniel KENNEDY

Ms Nelly MONTCOUDIOL

Mr Matthew MUNN

Mr David REAL Dr Alfonso RIVERA

Jacek SCIBEK

Mr Sergiy TCHERNIKOV Mrs Randi THOMPSON

Mrs Ylenia TURCHIARO

Mr Damian Ferney Cordoba MELGAREJO

Adriana SANCHEZ

Mr Juan Pablo SCHUSTER

CHINA, PEOPLE'S REPUBLIC OF

Mr Li CHEN

Mr Yanpei CHENG Prof Xin SONG

Dr Dayong WANG

Dr Shasha ZHANG

**COLOMBIA** 

Mr Douglas QUINTERO

**CZECH REPUBLIC** 

Mr Kingsley EZEJI

**ETHIOPIA** 

Tsegaye ESSAYAS

**FRANCE** 

Mr Luc ARNAUD

Dr Tales Carvalho RESENDE

Ms Marion DARDARF

Mr Matthieu DELAUNAY

Dr Jean-Michel VOUILLAMOZ

Mr Robert WYNS

**GERMANY** 

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Dr Jens Fred FÜHRBÖTER

Mrs Sabine GITTER

Prof Thomas GRAF

Mr Philipp HÖHN

Dr Georg HOUBEN

Mr Michael NEUBAUER

Mr Christos POULIARIS

Mrs Jana RINGLEB

Mr Layth SAHIB

Ms Nadine VOGEL

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**HUNGARY** 

Mr Viktor ÁCS

Ms Petra BODOR

Ms Veronika IVÁN

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Dr William PALMUCCI
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Ms Tahoora Sheikhy NARANY

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## MOROCCO

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#### NETHERLANDS, THE

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#### **NEW ZEALAND**

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#### **NIGER**

Yahaya NAZOUMOU

#### NIGFRIA

Prof Philip Davis SHEKWOLO

#### **PERI**

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Achim CONSTANTIN
Mr Edwin ESCALANTE
Mr John Oviedo MARIN
Mr Miguel Angel Pineda VIVANCO
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Mr Levi FARRAND
Hans FRIDHOLM
Lisa SODERBERG
SWECO ENVIRONMENT AB (c)
Robert WILLANDER

#### **SWITZERLAND**

Mr Lucas j BURKHARD Dimitri PARATTE Víctor VILARRASA RIAÑO

#### TANZANIA

Prof Japhet J KASHAIGILI

#### **TUNISIA**

Fadoua HAMZAOUI Dr Trabelsi RIM

#### TURKEY

Mr. Süleyman Selim ÇALLI Mr Emrah DİRMİT Ms Nisa TALAY

### **UKRAINE**

Artem IATSENKO

## **UNITED KINGDOM**

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Mr Sandy ELSWORTH
Miss Deborah ELY
Mr James ENTWISTLE
Miss Helen GRAHAM
Jacob M KATUVA
Dr Michael MCDONALD
Mrs Marina RAYSON
Mr Rashaqat Ali SIDDIQUI
Miss Jade WARD
Miss Jennifer WHELAN

#### UNITED STATES OF AMERICA

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Prof Xunhong CHEN
Kelsey HARPHAM
Dr Liangping LI
Mr Benjamin MILLER
Mr Grady O'BRIEN
Mr Thad PLUMLEY
Dr Audrey SAWYER
Mr Stuart SMITH
Dr Randy STOTLER
Mr Jason TERRY
Taylor UPOLE
Mr Dalton WEINSTEIN

## ZAMBIA

Benard Tembo GOMO

NB: Those marked (c) are new IAH corporate members.

## Latest "Editors' Choice" articles



Did you know our publisher, Springer, offers a selection of Hydrogeology Journal (HJ) articles freely available to view and download for a limited period?

Known as Editors' Choice, the articles are chosen by the journal's editorial team for any of several good reasons including:

- outstanding science
- innovative approach
- potentially important conclusions
- interesting field area or phenomenon
- unusual topic
- political/social/historical/philosophical interest, etc.

This process takes place at the end of each publishing year, when up to five articles from among the year's crop of about 150 peer-reviewed published articles are selected and made available at no cost for two years. The selection for 2014 is listed below. Do feel free to pass this information on to colleagues.

Author(s)	Title	Vol/No, pages DOI
2014		
Alan L. Mayo, Scott A. Himes, David G. Tingey	Self-organizing thermal fluid flow in fractured crystalline rock: a geochemical and theoretical approach to evaluating fluid flow in the southern Idaho batholith, USA	22/1, 25-45 DOI 10.1007/s10040-013-1071-3
A. Vandenbohede, E. Vandevyvere	Potable water for a city: a historic perspective from Bruges, Belgium	22/7, 1669-1680 DOI 10.1007/s10040-014-1154-9
Jean-Christophe Comte, Jean- Lambert Join, Olivier Banton, Eric Nicolini	Modelling the response of fresh groundwater to climate and vegetation changes in coral islands	22/8, 1905-1920 DOI 10.1007/s10040-014-1160-y
Thomas M. Missimer, Christiane Hoppe-Jones, Khan Z. Jadoon, Dong Li, Samir K. Al-Mashharawi	Hydrogeology, water quality, and microbial assessment of a coastal alluvial aquifer in western Saudi Arabia: potential use of coastal wadi aquifers for desalination water supplies	22/8, 1921-1934 DOI 10.1007/s10040-014-1168-3
Teppo Arola, Kirsti Korkka- Niemi	The effect of urban heat islands on geothermal potential: examples from Quaternary aquifers in Finland	22/8, 1953-1967 DOI 10.1007/s10040-014-1174-5



http://www.springer.com/earth+sciences+and+geography/ hydrogeology/journal/10040?detailsPage=press

## New arrangements for abstract translation

Translation of article titles and abstracts into several languages has been an important innovation for the on-line access to our Hydrogeology Journal. The editorial team rely on volunteers from amongst the IAH membership, and it is quite a lot of hard work to provide the abstracts in a timely way.

Portuguese is one of these languages and the editorial team would like to thank António Chambel for his huge contribution to Hydrogeology Journal in first proposing and then managing managing title/abstract translations to Portuguese for several years. Executive Editor Cliff Voss reports that António has been completely reliable throughout. For my part, I don't know how he has managed to keep up with this on top of his full time job at the University of Evóra and working as a member of the IAH Executive.

The task of coordinating the Portuguese translations is being taken over by Rodrigo Manzione from Brazil who has put together a team of enthusiastic fellow Brazilians to undertake the work. António and his Portuguese colleague Manuel Abrunhosa will be available to provide guidance to ensure consistency of scientific terms between the Portuguese speaking countries. We welcome Rodrigo and his team and add our warm thanks to António for all his hard work to those of the journal team.

JOHN CHILTON

## **REMINDER: OPEN CHOICE**

Further to two reports in the newsletter last year, the Open Choice option for IAH's Hydrogeology Journal (HJ) was made available from 1 September. This means that authors, especially those whose research has been funded by agencies which require the results to be made freely available, will be able to submit their articles to HJ. Executive Editor Cliff Voss and the editorial team have been working closely with Springer to set up the details of the process, including a substantial reduction in publishing fees for IAH members. The Association is very grateful to Springer for their agreement to support the process in this way, and both publisher and editorial team will be monitoring the uptake. We have already seen the first few authors join IAH to take advantage of this offer.

## **SECRETARIAT**



http://www.springer.com/ earth+sciences+and+geography/ hydrogeology/journal/10040

## **RECEIVING YOUR ALERTS?**

Ensuring that our members receive their IAH entitlements such as the HJ is important to us; communication is key. Are you receiving your regular IAH messages and alerts with HJ link and latest news digests? Do you work for a large government/ commercial/educational organisation? Many such employers have firewalls in place. You may have to provide an alternative email address to receive your member mailings, or speak to your IT department.

IAH emails are always sent from an @iah.org address. Our online mail campaigns are handled by a highly reputable Australian company called Campaign Monitor (also used by many well-known global entities).

Please check/edit your details regularly - we'd hate you to miss out.

## **SECRETARIAT**



http://iah.org/members/edit-details



## MEDIA FOCUS

## A selection of groundwater features from around the world

## Alaska: Methane in Arctic lake traced to groundwater from seasonal thawing

Global warming may increase the flow of methane from groundwater into Arctic lakes, allowing more of this greenhouse gas to bubble into the atmosphere, according to a new study led by researchers at UC Santa Cruz. Adina Paytan of the University of California at Santa Cruz, led a team of researchers to study methane concentrations at Toolik Lake, Alaska. The research team tracked methane concentrations along with naturally occurring elements that serve as tracers for groundwater.

Their findings show that groundwater released from the seasonal thawing of the "active layer" of soil above the permafrost adds significantly to the overall concentration of methane in the lake and influences its emission to the atmosphere. "Methane transport from the active layer to Toolik Lake can account for a large fraction of methane emissions from this lake," Paytan said. "This is important because warming in the Arctic may expand the active layer and increase the discharge, leading to increased emissions from Arctic lakes and driving additional global warming."

http://phys.org/news/2015-03-methane-arctic-lake-groundwater-seasonal.html

## UAE: Groundwater at danger level?

A study by researchers at the college of agriculture of UAE University concludes that supplies of groundwater could run out by 2030 because of demand from agriculture. The study indicates that the water table in parts of the country has fallen by as much as 60 metres. Groundwater is the UAE's main conventional water resource and the agricultural sector is the largest water consumer, using about 34 per cent of the total. The domestic and industrial water sectors use 32 per cent, forestry 15 per cent and amenities 11 per cent, with losses accounting for 8 per cent. Groundwater supplies about 51 per cent of the country's needs, mostly for irrigation, with a limited quantity used for drinking in the Northern Emirates. Desalinated water supplies about 37 per cent, mainly for drinking, and for irrigation in some areas. Reclaimed water – or treated wastewater - accounts for 12 per cent and is mainly used for irrigating amenities, although with the concerns highlighted in the study interest is growing in using this valuable resource.

http://www.thenational.ae/uae/groundwater-at-danger-level-in-uae

## Global, WEF: water crisis seen as top threat

Pressure on fresh water resources may be the main global threat in the next decade, but the world is failing to mitigate the risk and avoid a crisis, according to a survey of leaders from business, government, universities, international organisations and NGOs carried by non-profit foundation the World Economic Forum (WEF). Published in its Global Risks 2015 report released ahead of the WEF's annual meeting in Davos, the survey reveals a belief that water crises pose the greatest risk in terms of global impact, placing it ahead of hazards such as the spread of infectious diseases, failure to adapt to climate change, and interstate conflict. However, the WEF study provides a fairly broad and generous definition of water crises "as a significant decline in freshwater quality and quantity, resulting in damage to human health or economic activity or both", and some would say these are tough but achievable groundwater management challenges rather than crises.

http://www.scidev.net/global/water/news/water-crises-top-threat-next-decade.html



## India: Widespread concern expressed over groundwater situation

Heavy abstraction of groundwater appears to be continuing unabated in Uttar Pradesh (UP). As reported by the Indian Express, the most recently released figures compiled by the UP Ground Water Department for 2011 indicate that the number of over-exploited blocks has risen from 76 in 2009 to 111 in 2011 and the number of "critical" blocks from 32 to 68 over the same period. "As other water sources decline, dependence on groundwater is constantly increasing," said P R Chaurasia, director of the UP Ground Water Department, with 46% of irrigation in the state now being provided from groundwater.

The Hindu reports from Tamil Nadu that while rainfall for much of the State has been at or slightly above average for the three months October to December, concerns remain over the groundwater situation in some districts where the rainfall was below average.

Meanwhile, the Deccan Chronicle reports that at Chennai the northeast monsoon season has ended without filling the city's surface water reservoirs but the normal rainfall received has provided sufficient groundwater recharge for water levels to recover by up to 6 metres in many of the Metropolitan Water Supply and Sewerage Board observation wells. http://indianexpress.com/article/cities/lucknow/we-are-sucking-up-groundwater-fast/http://www.thehindu.com/news/national/tamil-nadu/good-rain-but-groundwater-table-down/article6761372.ece http://www.deccanchronicle.com/150108/nation-current-affairs/article/groundwater-level-inches

## New York, New England: Man-made pollutants from septic tank systems detected in groundwater

A recent study in New York and New England undertaken by the US Geological Survey has confirmed that pharmaceuticals, hormones and personal care products associated with everyday household activities are finding their way into groundwater through septic systems. Such systems are common in areas lacking connection to piped sewerage and have previously been identified as the source of a variety of micropollutants in groundwater.

High concentrations of nitrate in groundwater down gradient of septic systems in the two study areas prompted the researchers to investigate what other chemicals might be present. The study provides some of the first results from a new pharmaceutical analysis method developed by the USGS National Water Quality Laboratory which determines more than 100 pharmaceuticals, pharmaceutical degradates and related contaminants. The method is highly sensitive, with detection limits for many compounds in the low nanogram-per-litre range and could significantly advance the ability of researchers to assess the presence and concentrations of pharmaceuticals in the environment http://www.usgs.gov/newsroom/article.asp?ID=4121#.VOTjIE2zWzk

## EARLY CAREER HYDROGEOLOGISTS' NETWORK

## "Coolest Paper" Award

ECHN is once again organising the 'Coolest Paper of the Year' award. Run online with crowd-sourced nominations and voting, its aim is to raise the profile of hydrogeology papers considered new and interesting, encouraging discussion among up-and-coming scientists. The definition of 'cool' has been deliberately left to interpretation so as to encourage a wide range of nominations.

The process has been designed to be open and democratic. Anyone currently studying or holding a hydrogeology related degree completed in the last 10 years can participate in nominations and voting through the online forms. Nominators and voters do not need to be IAH or ECHN members. The only restrictions are:

- You may not nominate or vote for a paper on which you are an author;
- Each person can only nominate once and only vote once.

The award selection process consists of two stages, described below.

STAGE 1, NOMINATIONS: Early career hydrogeologists can nominate any hydrogeology paper published (online or in volume) during 2014 in any peer-reviewed journal. Nominations will close on May 31st, 2015.

STAGE 2, VOTING: An online poll in which early career hydrogeologists can vote for the published article that they consider 'the coolest' of the nominations. Voting will begin on June 1st 2015.

The winner will be the nominated article receiving the most votes. The winning article will be announced at the 2015 IAH congress in Rome, September, where the primary author (or representative) will be presented with the prize of a one-year IAH membership. Additional



prizes will be awarded to one participant in each of the two stages of the selection process (i.e. one nominator, and one voter) through a random prize draw. These lucky winners will receive their choice of a book from the IAH book series.

Do participate now!



http://echn.iah.org/2014-coolest-paper - full details, terms and conditions, nominations and voting

## Database for potential employers

ECHN is also happy to share news of an initiative launched by one of its Steering Committee members, Ross Clark. Ross (pictured) has designed a simple database of companies who might recruit

hydrogeologists and shared it on ECHN Linkedin. Many ECHN members are already contributing basic information concerning potential employers worldwide, providing a good source for ECHs looking for a job.



As seeking employment is such an important issue for all ECHs worldwide, we would like to invite all IAH members to join our Linkedin group and to contribute to this work in progress!

MATTHEW CURRELL AND VIVIANA RE



https://www.linkedin.com/ groups?home=&gid=3717583

# KINDRA: NEW EU PROJECT INITIATED



Practical and scientific knowledge related to hydrogeological research and innovation is widely scattered throughout Europe. The KINDRA project – Knowledge Inventory for hydrogeology research\* – aims to take stock of this knowledge with the help of an inventory of research results, activities, projects and programmes and use the inventory to identify critical research challenges and gaps, with a view to avoiding overlaps.

This approach takes into account the implementation of the Water Framework Directive and new innovation areas within integrated water resources management, enabling at EU scale the future sound management of and policy development for groundwater. The project started in January 2015, with a kick-off meeting held in La Palma. Activities will last for 36 months and comprise the following five work packages:

WP1 – Methodology framework development

WP2 - Data collection & processing

WP3 – Research gaps & recommendations

WP4 - Dissemination & communication

WP5 - Project management

### **PARTNERSHIP**

Project Coordinator: Università Degli Studi di Roma la Sapienza, Italy; Federation Europeenne Des Geologues, Belgium; Agencia de Medio Ambiente y Agua de Andalucia, Spain; La Palma Research Centre for Future Studies, Spain; Miskolci Egyetem, Hungary; GEUS – Geological Survey of Denmark and Greenland

## PROJECT COORDINATOR

Marco Petitta, Associate Professor of Hydrogeology Dipartimento di Scienze della Terra, Università La Sapienza di Roma

Email: coordinator@kindraproject.eu MARCO PETITTA (IAH ITALY)

\* KINDRA has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 642047.



### **FOLLOW PROJECT ACTIVITIES AT:**

Web: www.kindraproject.eu

Facebook: KINDRA Project Linkedin: KINDRA Project

Twitter: @kindraproject

## EDITOR'S NOTE:

We are happy to receive project summaries, whether they be regional/country based or more global. Email jchilton@iah.org with a brief description of the project(s) aims.

## **EXECUTIVE MEETS IN PARIS**

## 2014 financial figures better than budgeted

This year's February IAH Executive meeting was hosted in a rather cold and rainy Paris by our colleagues in UNESCO IHP. Secretariat staff John Chilton and Kellie Nicholson joined Ken Howard, Shammy Puri, António Chambel and Bruce Misstear for two full days of intensive discussions of a challengingly long agenda.

Review of the previous year provides the basis for any discussion of future plans and proposals. We are pleased to report that the provisional financial statement for 2014 shows a small operating deficit, but much lower than anticipated by the year's budget, although some tidying up of figures and currency conversions will alter the final outcome slightly. Membership at the end of 2014 was up, but not quite back to our highest mark achieved in 2012. In consideration of the overall success of the Perth congress the Australian chapter committee agreed to contribute €6500 to central funds, which is greatly appreciated. The contribution will be put to good use in 2015 to help in our commitments to educational activities. On the expenditure side, substantial contributions to travel from employers and other sources have helped to keep down the cost of the Council meetings and Executive attendance at several conferences and events.

Currency fluctuations again provide an uncertain background to financial discussions. The steep fall in value of the euro against the pound and the US dollar in the second half of 2014 add complexity to comparisons of budget and outcome. Some of our financial transactions have passed through at least one currency exchange at the time they occurred during the year, and a different one is applied when accounting at the end of the year. Similarly, budgeting for 2015 is tricky when much of our income is in euros and much of our routine expenditure is in sterling. The target is a balanced budget for 2015.

Turning to the tasks in hand, work on the revision of our Rules continues. As reported previously, those related to Commissions and Networks and to National Chapters need the most attention. For the former, this is needed to account for our recent overhaul of the way IAH's Commissions and Networks are set up and operate and for the latter to keep pace with changes in the ways we manage relationships with our chapters. While there is nothing which is likely to cause disagreement or dispute in the changes which are being

drafted, the work needs to be undertaken carefully as we don't want to have to do this very often. The last time the Rules were modified was in Lisbon in 2007. The Executive and Secretariat will endeavour to complete this work during 2015.

Other important agenda items included a discussion with Marco Petitta and Daniela Ducci of the Italian National Chapter (who were passing through Paris from Brussels) about preparations for the Rome congress. An update for preparations on Rome is given on page 22. The Executive also reviewed a report from the Education Working Group. Some of the enhancements to the IAH website that we are working on are directed towards facilitating the recommendations of the Working Group approved by Council in Marrakech, and members will see



Left to right: Ken Howard (IAH President, Canada); Antonio Chambel (Vice President - Programme and Science Coordination, Portugal); Bruce Misstear (Vice President - Finance and Membership, Ireland); Marco Petitta (Italian National Chapter/congress organising committee); Daniela Ducci (Italian National Chapter/congress organising committee); John Chilton (IAH Executive Manager, UK); Shammy Puri (IAH Secretary General, UK).

these come to fruition in stages over the forthcoming months. The Executive also took the opportunity to meet with colleagues from the French National Chapter of IAH and to discuss further collaboration between IAH and UNESCO in the activities of the current phase of the International Hydrological Programme (IHP).

JOHN CHILTON, SECRETARIAT

## TIME CAPSULE FLOURISHES

The Hydrogeologist Time Capsule is a collection of interviews of eminent hydrogeologists who have made a material difference to our profession. We are often aware of their work but rarely do we have insight into the human context and background of the advances they created. The recorded reflections in the videos provide an opportunity to understand their personal motivations, aspirations and philosophies by hearing their thoughts on their work, contributions, impact and the future directly from them. Many of the videos are complemented by a biographical note published in the Profile series of Hydrogeology Journal.

During 2014 four videos were finalized and published, all from two of our most eminent French colleagues. Three separate conversations with Ghislain de Marsily covered his work on inverse problems, stochastic hydrogeology and a wide ranging discussion "from quantitative hydrogeology to the future of our civilization". The fourth, a conversation between Jean Margat and a group of his French colleagues covered his career from the birth of hydrogeological mapping in the Maghreb to its later

evolution in France. We hope you find these interviews

informative, valuable and ultimately inspirational.

Plans for 2015 include the editing of the already taped interview with Warren Wood and preparations are in hand for the taping of three new interviews with colleagues from Canada, United States of America and Switzerland.

These recordings constitute a valuable historical record for future generations. We are very grateful for the hard work of Philippe Renard and Craig Simmons on this project over many years, but they would welcome new volunteers to help with interviews and assist with the project. Future generations of hydrogeologists will benefit from and will further contribute to these records and reflections. National Chapters and individual IAH members are invited to make suggestions for future interviews. The project could, of course, always benefit from additional donations to continue at a faster pace!

JOHN CHILTON, SECRETARIAT





## Report by John Chilton

# WORLD WATER DAY



IAH has again been active for World Water Day which was celebrated this year on 22 March. The 2015 theme was water security and IAH produced a guide indicating the importance of groundwater for each of these themes which was included in the materials made available from the main World Water Day website and from our own website.

Our Early Career Hydrologists' Network (ECHN) entered into the spirit of the event by inviting its members to participate in the day and suggesting ways in which they could play an active role in improving water management as a driving force for sustainable development. The ECHN website also featured a call for "water" photographs to mark the day.

The main public launch event this year was in New Delhi. Dr Chadha, president of our Indian National Chapter, formally represented IAH at the launch event as a partner in UNWater and his report follows.

## **SECRETARIAT**



ECHs at work for water quality monitoring in Santa Cruz Island (Galápagos, Ecuador). Photo by Andrea Vera Lor



Young girl washing her hands and face in a tube draining water that seeps from the left bank of Faveta Dam. Faveta, Santiago Island, Cape Vert. Photo by Raguel



Water is life. Sent by Tirza Contreras from Costa Rica.

## Report by Dr D.K.Chadha, President, India National Chapter

## **NEW DELHI CELEBRATIONS**

UN World Water Day was celebrated on 20 March 2014 in New Delhi by UNDP on behalf of UN Water. The event was attended by Senior Representatives of UNDP, UNESCO and UN Water besides eminent experts from the water resources sector in India and abroad.



Overall, I found the event very educative and meaningful.

I found opportunity to distribute IAH's publication "Embracing Groundwater" (as mentioned in John Chilton's report, previous), including to Madam Flavia Schlegel, Assistant DG for Natural Sciences, UNESCO and to Mr. B. N. Navalawala, Chief Adviser, Ministry of Water Resources, and Government of India.

During the event, the UN World Water Development Report 2016 was also released. The key note address was given by the Honorable Minister of State for Water Resources, Government of India. There was also a presentation by Sh. B.N. Navalawala, on Reflections on Global and Indian Water Issues. The program was concluded by the announcement of the Stockholm Water Prize 2015, which was awarded to my close associate, Sh. Rajender Singh, pictured.





Stockholm Water Prize winner 2015 winner Sh. Rajender Singh (Middle) with Dr. D.K. Chadha, President, India National Chapter on the right and Dr. D. Saha, Secretary India National Chapter



The German Chapter of IAH has found a new virtual home! On our new website you will find plenty of chapter information and news, including a conference listing of IAH events in the region where you have the possibility to meet colleagues. Of particular interest to many will be the "jobs" tab. Are you looking for a hydrogeologist to support your team? Please send us your job advertisement and

we will publish it on the website. Do you want to share IAH or groundwater related news or interesting links? Contact judith.fluegge@grs.de.

If you want to become involved in IAH issues or to be part of the German Committee and help provide a platform for hydrogeologists working in Germany, please feel free to contact us. We look forward to receiving your feedback and contributions.

## JOHANNES BARTH, CHRISTOPH NEUKUM AND JUDITH FLÜGGE



IAH Germany: http://germany.iah.org/



## Greece

The tenth International Hydrogeological Congress of Greece was held successfully on 8-10 October 2014 in Thessaloniki. It was co-organized by the Hellenic Committee of Hydrogeology and Cyprus Geologists and Mining Engineers and provided a great opportunity to disseminate new knowledge in the fields of hydrogeology and other water sciences. In addition to Greek authors, colleagues from 18 countries participated and more than a quarter of the participants were Master and PhD students. These statistics indicate the increasing international and educative character of the conference.

A total number of 101 papers with 277 authors was published in the Proceedings of the Conference (two volumes with more than 1000 pages) by the Hellenic Committee of Hydrogeology. Issues such as groundwater management, coastal aquifers, karstic aquifers, hydrochemistry, application of new technologies (remote sensing, isotope analysis) in hydrogeology, vulnerability assessment, impacts of climate change on water resources, modeling and geothermal energy were presented in the Proceedings. The Conference focused particularly on groundwater and dependent ecosystems.

In the opening ceremony Emeritus Professors Ramon Llamas, Michael Galabov, Peter Udluft, Hans Zojer, Boris Mijatovic, and George Stournaras were honoured by the Hellenic Committee of Hydrogeology. The next congress will be held at the Agricultural University of Athens in 2017.

## **GEORGIOS STAMATIS**



Hellenic Committee of Hydrogeology (IAH Greece): http://iah-hellas.gr/index.php/en/



Three of our chapters have reported committee changes in recent months...



## Australia

The Australian Chapter of IAH held elections for a new committee at its AGM in late November. The new president is Chris McAuley, vice president Lange Jorstad, secretary Kyle Horner and treasurer Ron Colman. We would like to thank outgoing president Rick Evans and his committee for all their hard work and look forward to working with the new committee.



IAH Australia: http://www.iah.org.au/



## South Africa

Following elections towards the end of 2014, the new chair of the South African IAH Chapter is Matthys Dippenaar of the University of Pretoria, the new secretary is Terry Harck of Solution H+ and treasurer David Love of Golders. The Secretariat looks forward to working with the new committee and thanks outgoing chair Jude Cobbing for all his efforts over the last three years.



IAH South Africa: matthys.dippenaar@up.ac.za



## Norway

Meanwhile the Norwegian Chapter of IAH has a new chair, Kevin Tuttle of Norconsult. We thank secretary Arnt-Olav Håøya for this news, wish him well in his new post and thank outgoing chair Kim Rudolph-Lund of Sweco Norge AS for all his hard work on behalf of IAH.



IAH Norway: IAHNorge@gmail.com

... If your national chapter holds elections or changes committee members, please let us know so that we can update the relevant information on the chapter page of the IAH website and so that we can be sure of communicating with the right people. Please also keep us informed about activities and events that you have undertaken – members like to read about them and they may provide inspiration and ideas to other chapters.

## **SECRETARIAT**

## YOUR FLAG HERE!

## No chapter for your country or region?

IAH is always keen to establish more chapters and it may be that we have other interested individuals in your country or region hoping to establish one. IAH provides full information and support to help guide you in the process. Chapters retain 10% of the IAH membership fee to help support their own activities, which include technical meetings, field visits and social events, and many even collect fees in local currency for the convenience of their members. National chapter committees are run on a voluntary basis by members and we are very grateful for their efforts.

## **SECRETARIAT**



Questions or comments? Email info@iah.org

# IAH CONGRESS, 2015



## Update from Italy - Change of venue required

As mentioned on page 16, the IAH Executive was able to discuss plans for the 42nd IAH Congress at their meeting in Paris in February and Executive member Bruce Misstear visited the organising committee in Rome at the end of March. Based on these discussions, we are able to bring you the following updates on congress preparations.



## Location

The Rome congress was planned be held at the Angelicum, a theological university in the city centre dating back to the 16th century. However, it had become clear by February that continuing substantial roof renovation work (which was not scheduled at the time when the organising committee made the original booking) would probably not be finished by September. This would reduce the space available in the traditional cloistered interior for exhibitors and catering, and could have safety considerations for congress participants. After detailed discussions, the committee, with the support of the Executive, have decided to transfer the congress to the main campus of La Sapienza, Rome's largest university. Although not as centrally located as the Angelicum, the campus is within the ancient city walls, about 10 minutes' walk from the main Termini railway station. The university has excellent facilities, including a main hall (Aula Magna) with seating for 900 participants, suitable for the opening ceremony and plenary sessions, and smaller lecture rooms within the nearby Department of Earth Sciences for the parallel sessions.



## **Keynote Speakers**

Following the successful pattern established at recent congresses, there will be several keynote speakers spread throughout the week, covering the main eight topics. These are: Ramon Aravena (University of Waterloo), Alice Aureli (UNESCO-IHP), Ghislain de Marsily (University of Paris), Nico Goldscheider (Karlsruhe Institute of Technology), Rainer Helmig (University of Stuttgart; Henry Darcy Distinguished Lecture), Beth Parker (University of Guelph), Cliff Voss (USGS; GSA Birdsall Dreiss Distinguished Lecture) and Chunmiao Zheng (Peking University).



## Theme and Topics

The congress will offer an opportunity to build synergies between the worlds of research, international and local business, government institutions and international agencies involved in groundwater. The spirit of the congress is summarised in the AQUA2015 theme of "Hydrogeology: back to the future", combining previous experience with future tools and needs, with a special focus on the global need to balance groundwater demand for food production with sustainable development.

Under this overall theme, eight topics and issues will be covered:

- groundwater, food and health
- sustainable use of groundwater
- groundwater flow system behaviour
- urban and contaminant hydrogeology
- · groundwater/surface water: an integrated view
- groundwater governance and policy
- groundwater management in coastal areas
- new tools and new frontiers.

## **Technical Programme**

The technical programme is shaping up nicely. IAH's Commissions and Networks are participating by convening sessions and provision will be made for them to hold business meetings during the congress week. As the programme develops, it will be updated on the congress website. There are also a number of interesting pre-congress courses, including courses on contaminant behaviour; model calibration, uncertainty and decision-making; FREEWAT (open source software); aguitard hydrogeology; solute and reactive transport modelling.

## **Excursions and Field Visits**

There are a large number of options for the mid-week excursions, including visits to ancient hydraulic structures, karst aquifers, major springs and volcanic aquifers. There is also the option of an audience with the Pope. Post-congress tour options take in Tuscany, the Apennines, the Venetian lagoon, the western Italian Alps, the volcanic area around Naples and the karst aquifers of Puglia in the heal of Italy.

## Further Information and Key Dates

An updated circular for the congress is available via the congress website, together with further details of topics, programme, key dates, registration fees and much more. At the time of writing abstract submission remains open but will have closed in mid-April. Authors will be hearing in May whether their abstracts have been accepted. Registration is open with the early bird deadline of 15 June. You should put 13th to 18th September 2015 in your diaries now. If you pre-register via the congress website, you will receive regular email updates and newsletters. The organising committee very much looks forward to welcoming you to Rome.



## 2015



## 25-29 May: Ustron, Poland

International conference on groundwater vulnerability

Organised by University of Silesia and the Polish Chapter of the International Association of Hydrogeologists.

Website: http://khgi.wnoz.us.edu.pl/vulnerability.html



#### 8-9 June: Perth, Western Australia

Water Management for Shale and Tight Gas Resources

Organised by IAH Western Australia, Society of Petroleum Engineers WA, and Australian Society of Exploration Geophysicsts.

Website: http://www.iah.org.au/events/watershale2015/



### 11-13 June: La Roche-sur-Yon, Vendee, France

Hard Rock Aquifers: Up to date concepts and practical applications

Organised by The French Chapter of IAH and BRGM. Website: http://www.cfh-aih.fr/soclevendee2015



## 15-17 June: Belchatow, Poland

VI International Workshop for Young Hydrogeologists

Organised by Faculty of Earth Sciences, University of Silesia, IAH and the Association of Polish Hydrogeologists.

Website: http://www.hydroworkshop.us.edu.pl/

### 15-19 June: Provence, France

River Restoration; Fluvial-Geomorphic & Ecological Tools

Organised by Institut Beaumont.

Website: http://institutbeaumont.wordpress.com



#### 20-26 June: Birmingham, United Kingdom

International Conference on Groundwater in Karst

Organised by University of Birmingham, the IAH Karst Commission and the UIS Commission of Karst Hydrogeology.

Website: http://www.birmingham.ac.uk/generic/kgatb/index.aspx

#### 22-26 June: Yakutsk, Russia

XXI Conference on Groundwater in Siberia and Far East Website: http://mpi.ysn.ru/index.php/en/xxi-gw-2015.html

## 22 June - 2 July: Prague, Czech Republic

26th IUGG General Assembly

Earth and Environmental Science for Future Generations. Organised by International Union of Geodesy and Geophysics

(iugg) and partners.

Website: http://www.iugg2015prague.com/

## 23-28 August – Stockholm, Sweden

Stockholm Water Week, organised by Stockholm International Water Institute (SIWI).

Website: http://www.worldwaterweek.org/



## 13-18 September – Rome, Italy

42nd IAH International Congress, "Back to the future!"

Organised by IAH Italian Chapter. Website: http://www.iah2015.org



## http://iah.org/events

For a fuller list of conferences, events and meetings and to submit an event

