

NEWS

& information

IAH - THE WORLD-WIDE GROUNDWATER ORGANISATION

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

DECEMBER 2015

Also in this issue:

From our President
Commissions & Networks
IAH'S 60th anniversary
Meeting reports
New members
Conference listing

and the usual IAH
announcements and news



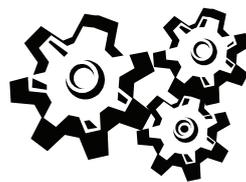
**INTERNATIONAL
ASSOCIATION OF
HYDROGEOLOGISTS**

BURSTING...



As we come to the end of the year, we have another bumper edition of the newsletter. In addition to several reports about activities at the excellent 42nd Congress in Rome, we also have the results of our latest survey, more chapter news from around the world, and information about new resources.

MENTORING SCHEME CALL



Latest news regarding our mentoring scheme, including calls for participation from both mentors and mentees.

Page 23

IAH COUNCIL ELECTION



The term of our present Council ends during Congress in September 2016. Can you help run our Association? Our first call for nominations.

Full details on Page 2

FIND OUT MORE

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DECEMBER 2015

IAH COUNCIL ELECTION

Help run our Association - call for nominations



IAH is run by a Council of 13 members who are elected every four years. IAH is a charitable, incorporated organisation and therefore the members of Council are the trustees of the charity and the directors of the company. The term of the present Council ends with the General Meeting of the Association to be held in Montpellier next September.

The Association continues to grow. Many of the improvements in member benefits and services envisaged in the Forward Look have been completed or initiated. Our new website is up and running, with innovations and new developments continuing and subsites being set up for commissions and chapters. The new commission and network structure is well established and our Early Career Network flourishing. Membership is rising, congresses are well attended and we are making extra efforts to encourage students to join us.

Council has a key role to play in taking these initiatives forward, and we encourage you to consider serving as a member. We are particularly looking for energetic and committed Regional Vice Presidents who can promote IAH within their regions, liaise with and encourage existing national chapters and help establish new ones and help build up IAH membership throughout their region. Further details of the various posts on Council can be obtained from the appointed election officer, our Executive Manager John Chilton, and we will ensure these are available on the IAH website. Nominations are particularly welcome from our national chapters, and we are keen to encourage a broader age and gender balance on Council.

All of the posts on the present Council are up for election. In line with the Articles and Rules of the Association, the following are not eligible for re-election in their current posts. President Ken Howard has served the one term permitted and he will succeed Willi Struckmeier on Council as Past President. Vice Presidents Igor Zektser (Eastern Europe), Luiz Amore (Latin America and the Caribbean) and Mohamed Aboufirass (Middle East and North Africa) have served two terms in their present posts.

The election timetable envisages that nominations will open from 1 January 2016 and close on 31 March. Nominations will be published on 31 May and election papers will be distributed by email and mail on 1 July. Postal voting will close on 1 September and electronic voting will be open until just before the Annual General Meeting, whose precise timing during the 43rd Congress (25 to 29 September) will be advised in due course. Electronic voting will follow the same system used in previous years, details of which will be advised in a later newsletter and with the voting forms.

Nominations should be sent to IAH Secretary General Shammy Puri by 31 March 2016 at ShammyPuri@aol.com or to The Brook House, Drayton Rd, Dorchester on Thames, Oxon, OX10 7PJ and copied to the IAH Secretariat at jchilton@iah.org. A nomination should contain a biography of the candidate and a letter from the candidate confirming his or her willingness to stand for election. Candidates will be required to formally acknowledge the guidelines of conduct before being accepted on to the voting list.

JOHN CHILTON ELECTION RETURNING OFFICER

Further info: jchilton@iah.org; <http://www.iah.org>

Nominations to: IAH Secretary General Shammy Puri by 31 March 2016 at ShammyPuri@aol.com or to The Brook House, Drayton Rd, Dorchester on Thames, Oxon, OX10 7PJ and copied to the IAH Secretariat at jchilton@iah.org



Another issue bursting with news...

As the year draws to a close, we can again reflect on some excellent events and activities for our Association. Many of them reported in this newsletter were connected to our excellent 42nd Congress in Rome – the congress itself, the commission and network meetings, the journal editors meeting, our awards, the work of Council and the continuing excellent efforts of our Early Career Hydrogeologists.

This makes for another bumper edition of the newsletter and more work for the Secretariat, but we are happy to see and report on growing activity in all areas of IAH. Moreover, total membership at the end of 2015 is higher than it has ever been before. Thank you!

Not everything happens at congress, however, and we can report on national chapter activities from around the world. We also need to look forward and prepare ourselves for a busy year in 2016, when we will be holding elections to establish the Council which will serve IAH from 2016 to 2020. The coming year will also see the 60th anniversary of the founding of IAH and we will be working hard to ensure that this is truly well recognised and celebrated.

JOHN CHILTON



John Chilton and Bruce Misstear at the IAH desk

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Season's Greetings

John, Kellie, Sharon and Sue would like to wish you all a happy Festive Season over Christmas and a peaceful and successful New Year. Thank you for all your support throughout the year.



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



'Tis the Season...

'Tis the season for reflection. It's the time many of us look back and think about how far we've come in our lifetime and where we may be headed to next. We think of family and friends, but we also think about our jobs and businesses and the important role our careers play in our everyday lives. Our chosen profession not only tends to define us, but puts food on the table every day of the year.

'Tis also the season for giving. When it comes to our profession, it is also a time when many of us give thought to how we can "give something back", even if it's just a little. For members of IAH, we have many opportunities to give back and indeed, many do so very generously. Some choose to do this when they renew their membership, marking a box that allows them to pay the membership fee for one or more hydrogeologists from less prosperous countries, often half the world away! 267 IAH members in 65 countries are now supported in this way, and we know this is truly appreciated by the recipients. Others prefer to make a donation that supports the work of the Burdon Groundwater Network for International Development, the charitable arm of IAH which has done so much valuable work over many years in Africa and elsewhere. Or maybe they prefer to provide financial support to our Early Career Hydrogeologists Network, an eager, energetic, yet caring group of younger members who have many benevolent aspirations but limited funds to implement them. Your support for these and similar philanthropic initiatives within IAH is always greatly appreciated.

Giving, of course, does not always need to deplete the pocket. Many of our members give back by volunteering their valuable time to mentor Early Career Hydrogeologists, or run our National Chapters, Networks and Commissions. Others choose to organise meetings or conferences at the local, national and international levels, challenging tasks that ultimately bring considerable scientific and social benefits to IAH members. 2015 has been exceptional in this regard with a wide offering of well organised, highly professional conferences. In particular, September's Rome Congress, expertly staged by Marco Petitta and his Italian National Chapter colleagues will be remembered as one of the best in IAH's history.

Finally, 'tis the season for ringing in the New Year and anticipating the good things that lie ahead. 2016 will be a very special year for IAH. Throughout the year we will be celebrating the Association's 60th Anniversary, and I encourage all of you to take part in the various events which will recognise and celebrate this. 2016 is also election year, and an opportunity for you to "give back" to the Association by serving on IAH Council. Twelve Council seats will be contested during the election including the position of President. All IAH members are eligible to stand for Council and all IAH members will be able to vote for the candidate they prefer for each and every available seat. The first election notice and the timetable is given on page 2; further information will be provided on the IAH website in due course.

'Tis time to say goodbye to 2015, an excellent year for IAH, and welcome to 2016 which promises to be memorable in many ways. Please have a very enjoyable Anniversary Year and, when the time comes, please exercise your democratic right to vote!

KEN HOWARD, IAH PRESIDENT

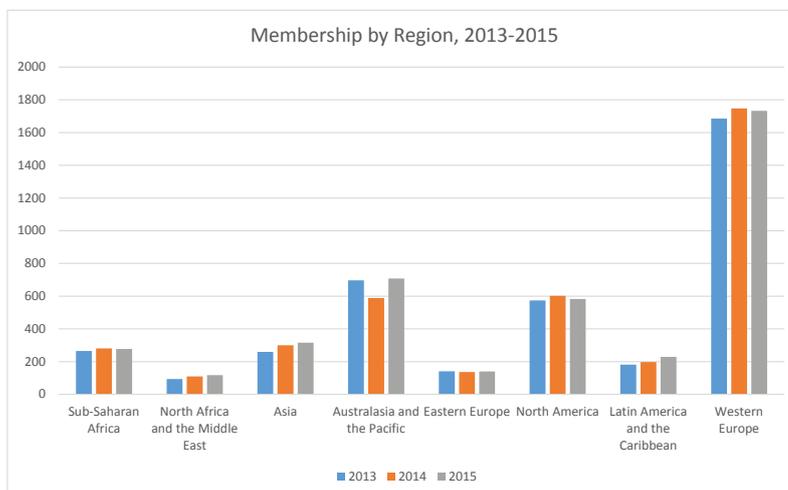
A YEAR IN NUMBERS



4103 - IAH membership (November 2015)

Membership Secretary Sharon Warden reports this is the highest ever and we are happy with this news!

The regional membership figures are to the right... well done to those in the locations steadily growing, and to Australia for pulling out the stops in 2015. Of course, we should try to build on this number next year... the more members, the greater our universal voice...



38% - the total increase in student membership for the year (November 2015)

This is a pleasing development which probably reflects the fee reductions for students in 2015. We will be continuing to promote student membership in 2016, and would urge *all* our established members who work in universities to encourage their own students to join IAH.

3705 - the average number of subscribers to our journal alert

Our improved communications allow us to monitor the effectiveness of our reaching members. We are also able to improve our more targeted communications, for example to national chapters and to our commissions and networks. We will continue to explore ideas in 2016.

1399 - Facebook "Likes", up from 539

In the last couple of years IAH has begun to reach out to the world using social media. Please help us spread news, information and resources globally.

<https://www.facebook.com/iah.org/>

<https://www.linkedin.com/groups/3213735>

@IAHgroundwater

268 - the number of sponsored members

(November 2015)

We know that IAH's sponsored membership scheme is much valued. Thank you for your continuing support.

€1400 - total of year's small donations

Members who renewed online in 2015 may recall the new menu for additional donations towards the work of IAH. The total is above. A proportion will be used, with further IAH funds, to support the latest Burdon Network book distribution to African members. Some was given to ECHN for the production of flyers and posters for their annual meeting, social event and book exchange at the Rome Congress and to provide partial support for ECHN committee member Raquel Sousa to attend. Donations will also be used by the Time Capsule Project in their ongoing efforts. While these amounts are modest in relation to our overall income and expenditure, they are useful and we are very grateful to members who felt able to donate with their renewals. Please continue to support us in 2016!



MEDIA FOCUS

A selection of groundwater features from around the world

USA: RECHARGING CALIFORNIA'S GROUNDWATER

Growers, researchers, policymakers and others can now pinpoint California's most promising parcels of farmland to help replenish the state's dwindling groundwater supplies, thanks to a new interactive map developed by the California Soil Resource Laboratory at the University of California, Davis. The Soil Agricultural Groundwater Banking Index provides site-specific information on millions of acres of California farmland, based on previous research led by Toby O'Geen, a UC Cooperative Extension specialist. O'Geen and his team identified about 3.6 million acres of farmland with good potential for groundwater banking, based on how likely the land could accommodate deep percolation with little risk of crop damage or groundwater contamination.

<http://universityofcalifornia.edu/news/map-ids-farmland-greatest-potential-replenishing-groundwater>

INDIA: MIXED GROUNDWATER RESPONSES TO RECENT RAINFALL

We have previously reported on the declining groundwater levels in various parts of India in response to heavy groundwater abstraction and lack of rainfall. The recent spate of moderate to heavy rains is reported to have had mixed impacts in different areas of the country.

In Hyderabad the rains may have boosted groundwater levels by at least half a metre, but a new report reveals that the water being recharged is contaminated with fluoride, nitrate and large quantities of iron. A report on the state's groundwater by the Central Groundwater Board (CGWB) says harmful chemicals are present in the water above permissible limits. "The source of nitrate is from sewerage which seeps from improperly built septic tanks," IAH member Dr Shakeel Ahmed, Chief Scientist at the National Geophysical Research Institute (NGRI), told the Times of India. Meanwhile, in New Delhi groundwater levels have only marginally improved after this year's rains and in some areas levels have continued to fall, according to data from the Central Ground Water Authority (CGWA) for May (pre-monsoon) and August (post-monsoon).

<http://timesofindia.indiatimes.com/home/environment/pollution/Groundwater-turning-toxic-with-sewage/articleshow/49020804.cms>

<http://timesofindia.indiatimes.com/city/delhi/Rains-fail-to-recharge-groundwater-levels-in-city/articleshow/49029011.cms>

JAPAN: PUMPED DRAINAGE OPERATIONS BEGINNING AT FUKUSHIMA

TEPCO reports that subdrain and groundwater drain operations at the Fukushima Daiichi Nuclear Power Station are set to operate from the beginning of September. Water will be pumped out, treated, tested and discharged with the strictest water quality standards. After a long period of preparation, the subdrain and groundwater drain systems will be activated to intercept groundwater flowing towards the reactor buildings and the port area and as a result further protect the ocean. In a manner similar to the existing groundwater bypass which intercepts water on the land side of the reactor buildings, the water will be temporarily stored to check its quality and then discharged into the port area, with thorough treatment processes. The water from the subdrain and groundwater drain will be treated to meet more stringent quality standards than for groundwater bypass and will also be monitored more frequently.

http://www.tepco.co.jp/en/press/corp-com/release/2015/1259088_6844.html



Transforming our world: The 2030 Agenda for Sustainable Development

For the past fifteen years, the Millennium Development Goals provided an important framework for development and significant progress was made in a number of areas. Many IAH members have contributed through their daily work. But progress was uneven, particularly in Africa and, despite substantial effort, some of the MDGs remained off-track, including those related to water and sanitation. The new Agenda builds on the MDGs and seeks to complete what these did not achieve, particularly in reaching the most vulnerable.

This Agenda is a plan of action for people, planet and prosperity. The 17 Sustainable Development Goals and 169 targets which were announced by the UN at the end of September demonstrate the scale and ambition of this new universal Agenda. The new Goals are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental.

The Goals and targets will stimulate action over the next fifteen years in areas of critical importance for humanity and the planet. Following all the meetings and discussions during 2015, some of which IAH was involved in through its membership of UN Water, there is a specific Goal 6 for water containing highly ambitious targets. Taking account of our mission and objectives, IAH will need to think carefully about how it can contribute by itself and through its regular partnerships. One immediate response, as reported on page 16, will be to strengthen our Burdon Network. We will also be making strenuous efforts to promote and disseminate the outputs from the GEF groundwater governance project and to develop the next steps. We would welcome suggestions and news of members' own activities.

JOHN CHILTON

 <https://sustainabledevelopment.un.org/post2015/transformingourworld>



MEDIA FOCUS

PENNSYLVANIA: NEW STUDY OF HYDRAULIC FRACTURING IMPACT ON MARCELLUS GROUNDWATER

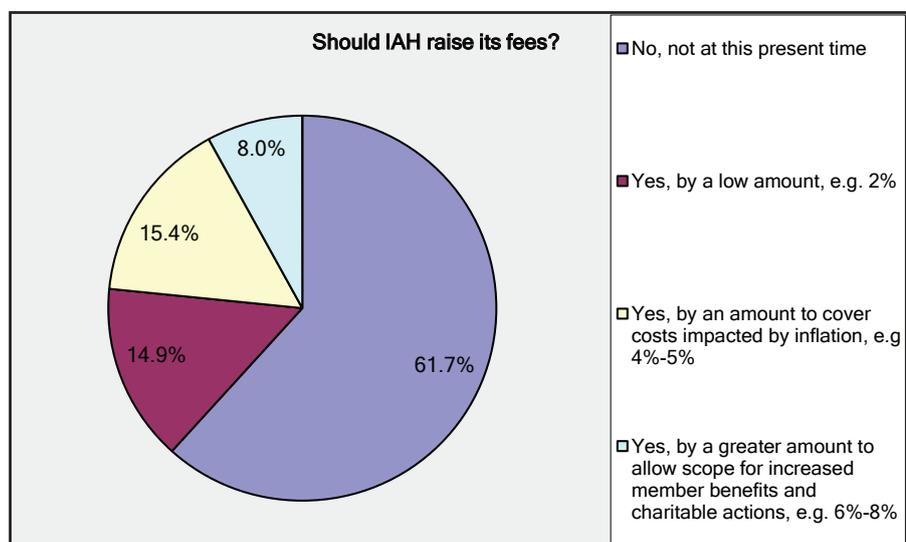
US natural gas production increased by 42% between 2005 and 2014, largely due to recent advances in horizontal drilling and high volume hydraulic fracturing. One of the largest natural gas reservoirs in the US, the Marcellus Shale, underlies much of the state of Pennsylvania, and there is concern that chemicals used in association with gas extraction could end up in local drinking water supplies. Elevated levels of diesel range organic compounds in groundwater near Marcellus Shale gas operations could reflect natural geologic transport processes or contamination from anthropogenic activities, including enhanced natural gas production. Using analyses of organic compounds coupled with inorganic geochemical fingerprinting, estimates of groundwater residence time, and geospatial analyses of shale gas wells and disclosed safety violations, a new study has determined that the dominant source of organic compounds in shallow aquifers was consistent with surface spills of disclosed chemical additives. There was no evidence of association with deeper brines or long-range migration of these compounds to the shallow aquifers. Encouragingly, drinking water sources affected by disclosed surface spills could be targeted for treatment and monitoring to protect public health.

<http://theconversation.com/hydraulic-fracturing-components-in-marcellus-groundwater-likely-from-surface-operations-not-wells-48873>

2015 SURVEY RESULTS

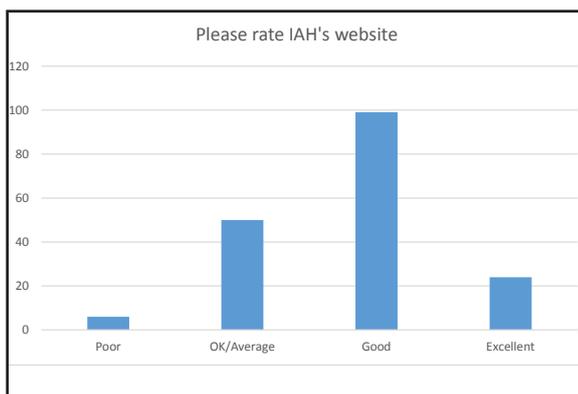
Earlier in 2015 we undertook a survey to seek opinions, feedback and ideas for new benefits and services which IAH might provide to its members and supporters. Overall a total of 180 replies were received from around the world – an increase of almost 75% from the previous survey in 2012. Respondents represent a good span of ages, with a fifth being female.

The main results are given here. We are currently digesting the information which will feedback into IAH's future plans and priorities. This is particularly helpful now as we come to the halfway review of IAH's Forward Look programme up to 2020.

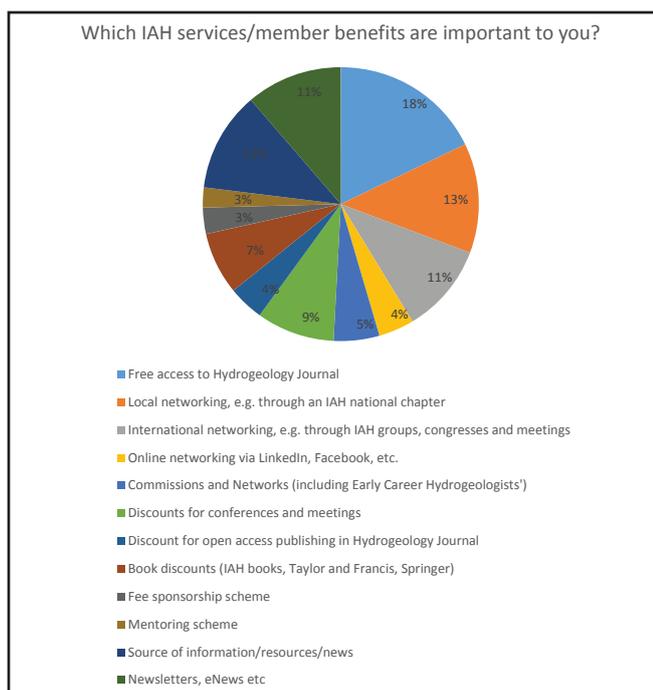


80% - the number of respondents who feel IAH gives good value for money
83% - believe that IAH fees are reasonable/the right price
82% - would recommend IAH to colleagues

While these overall percentages are high and encouraging for IAH, we should not rest on our laurels but continue to make as many improvements to member benefits as our modest budgets will allow. For your part, if 82% of respondents would recommend IAH to their colleagues, perhaps you should be making more efforts to encourage colleagues to join! The more members we have, the more income, the better we are able to build the type of benefits mentioned in the survey and the stronger is our voice in advocating for groundwater.

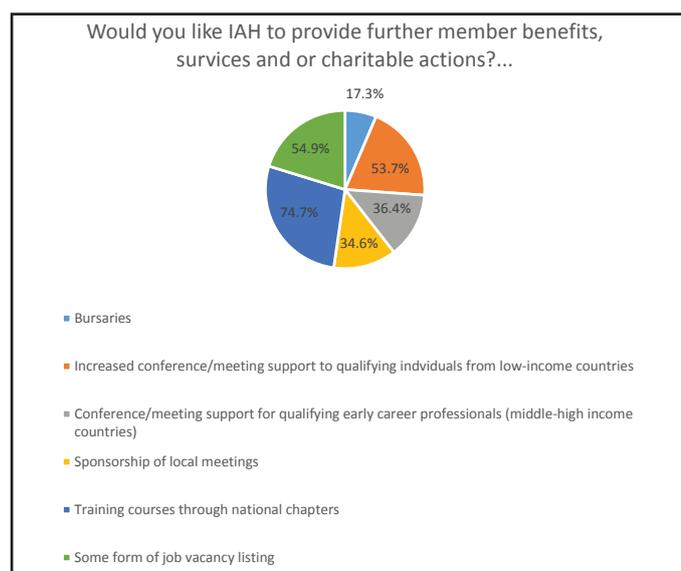


The website can never be static and developments can always be made. We are currently working on the education and resource pages, chapter and commission subsites, improved site navigation and joining pages and better arrangements for donations.



Changes in responses to this question since 2012 include the journal being slightly (5%) down and local networking up by 16%, suggesting that greater efforts by our national chapters are beginning to pay off. Mentoring is down by 10%, perhaps reflecting the slow start we have made to this or perhaps it is not a major priority for members.

This time we have included online networking through social media which 19% of respondents value so we need to build our activities in this respect. We also directly asked about commissions and networks in this survey, which scored 25%.



Comparing 2012 and 2015, bursaries, the ECHN and local meeting support are stable and definitely up is support for colleagues in low income countries. A facility for announcing job vacancies is still requested by over 50% and the possibility of holding training courses locally stands at almost 75%, both of which illustrate a clear and continuing demand to which we need to respond.

We are grateful to all those who completed the survey which has provided us with plenty of food for thought; we should always be seeking the views of members. Throughout the survey we encouraged respondents to provide additional comments and suggestions and we received lots of helpful ideas for which we thank you!

Report by John Chilton

IAH 42ND CONGRESS

For 2015 our Congress returned to Europe to the beautiful, bustling, historical city of Rome, to the campus of its La Sapienza University close to the city centre. Unseasonally heavy rain fell on the Sunday evening, affecting the travel of some of the participants arriving at that time, but the generous food and drink at the welcome reception got congress off to an excellent if slightly damp start. The highlight of the opening ceremony the following morning was the dramatic opera singing. Although it is unusual for professional opera singers to take on engagements so early in the day, they could clearly appreciate the warm applause and final standing ovation received from the packed main auditorium. This was a smart move by the organisers to get us into the Italian way.

The week's schedule continued with a hectic mix of invited keynote plenary speakers, seven parallel sessions of technical presentations and IAH meetings. As in recent congresses, the strong attendances at the ECHN events, the IAH General Assembly and meeting of national chapters reflect the growing interest of our members in the Association's activities. A particular achievement for the organisers was to ensure that over 500 of the participants were able to board the correct buses and (mostly) beat the Rome traffic to get out to and back from the excellent selection of mid-week field visits into the surrounding region. Many positive comments were received, particularly about the quality of the field trip booklets and the very knowledgeable guides.

What of the two main innovations for the Rome congress? The tablets were well received by participants, and many were seen in use during the sessions and around the campus, although I personally was still happy to have the excellent pocket-sized printed programme to hand.



[View congress photos](https://www.aqua2015.com/photos.php)

<https://www.aqua2015.com/photos.php>

<https://iah.org/members/congress-photos-rome-2015>



While many participants had clearly responded well to the challenge of preparing electronic posters, the practicalities did not completely work out. The corridor location selected was too small and very warm and the screens were consequently too close together and the small space was too noisy for poster presenters to be heard. Having the screens around the edge of a large room in which the coffee was being served might be a way forward. We always need to be reviewing and improving the congress experience for our members and the large number of feedback forms with many constructive comments will help us to do that.

The 42nd congress was a great success and participants will have left at the end of the week with warm memories of old friends met and new friends made. I personally was very happy to meet friends and former research colleagues from several countries, some of whom I had not seen for many years. An advantage of being in Europe again was that Secretariat staff were able to come for part of the congress week, contributing to the IAH presence and meeting in person colleagues with whom they had been corresponding by email for years! We are very grateful to Marco Petitta and all our colleagues on the Italian Chapter organising committee for their hard work over the last two years, which resulted in a truly splendid congress. The large numbers of people still in the auditorium for the lively closing ceremony confirm the high quality of the congress experience throughout the week.

Congress in numbers...

832 total registered congress participants, including...

155 students

17 invited speakers

24 workshop speakers

39 accompanying persons

...and an additional 52 sponsors and day visitors for the national workshop on the Friday



COMMISSIONS & NETWORKS

Many of the IAH Commissions and Networks held business meetings during the Rome Congress, as well as convening technical sessions. The following short reports summarise recent activities and plans for the future.

JOHN CHILTON



Questions, ideas or comments? email info@iah.org

MANAGING AQUIFER RECHARGE

Adriana Palma Nava and the organizing committee, together with the IAH Commission on Managing Aquifer Recharge, have issued a warm welcome to Mexico City to attend ISMAR9 in June 2016. This will be a joint



symposium with BSMAR15 (California and Arizona) and will have simultaneous English/Spanish translation, proudly supported by Conagua. This promises to be a brilliant symposium; the best ISMAR ever held.

National MAR networks are also becoming more active. The Chinese MAR Network held a workshop in September 2015 at Beijing University on forming MAR Guidelines for China. The meeting unanimously agreed to offer to the most appropriate Ministry to form a technical group of members of the Chinese MAR Network to develop the guidelines. This work is being led by Yan Zheng and Weiping Wang. At a meeting in Piacenza in October, the Italian Network on MAR (INMAR) for interdisciplinary professionals involved in MAR projects in Italy was formed. Rudy Rosetto is coordinating the network through a LinkedIn professional group, with the aim of exchanging information on MAR practices and activities and of spreading best practices to promote the use of MAR techniques in Italy.

The international inventory of MAR activities and research is continuing to grow. Catalin Stefan of the Technical University, Dresden is using the same file structure as that developed by Christoph Sprenger in the DEMEAU project which covered 220 MAR projects in Europe. She has now expanded this to 57 countries with 1200 sites from readily

available literature (in 5 languages). It was agreed that Catalin, working in association with IGRAC would convene a working group within the MAR Commission to advance this work to further develop an international inventory on MAR, with several objectives that would help to facilitate appropriate confidence and investment in MAR.

PETER DILLON



<http://recharge.iah.org/recharge/>

<http://www.ismar9.org>

KARST

The Karst Commission held its annual meeting in Birmingham in June, as reported in the last News and Information, but in Rome organized a session on karst hydrogeology with 12 oral presentations and 16 posters. Chair Nico Goldscheider was among the invited keynote lecturers at the Rome Congress. In his lecture, he presented novel experimental and modelling approaches in karst hydrogeology and also presented progress of the "World Karst Aquifer Mapping Project" (WOKAM) of the Karst Commission which is financially supported by IAH and by UNESCO.

NICO GOLDSCHIEDER



<http://karst.iah.org/>

<https://www.agw.kit.edu/english/wokam.php>



<http://www.linkedin.com/groups/4957376>



COASTAL AQUIFER DYNAMICS AND COASTAL ZONE MANAGEMENT (CAD-CZM)

A meeting of the IAH Network on Coastal Aquifer Dynamics and Coastal Zone Management (CAD-CZM) was held in Rome with the participation of 14 members. The Director Giovanni Barrocu reported on the activities carried out since the last meeting at the Marrakech Congress. The network tries to take up the recommendations of UNESCO and IAEA for studying coastal areas within a framework of joint programmes in cooperation with other international agencies.

The network website has been organized to collect and make available scientific and technical information on coastal aquifers for the general benefit of water resources researchers, managers, and stakeholders. Hydrogeologists and experts on coastal aquifers were invited to take part in the IAH CAD-CZM Network and complete a questionnaire on the network website. The invitation was accepted by 114 participants and, thanks to their collaboration, questionnaires with data on 39 coastal aquifers have been uploaded on the website. The aquifers are georeferenced in Google Maps: 5 are located in North America, 3 in Central and South America, 5 in Asia, 20 in Europe, and 6 in Africa. Checked and validated data can be seen and downloaded by clicking on Google Maps bookmarks.

The network is open to non-member specialists to contribute knowledge about coastal water resources management, and who might thereby be encouraged to join IAH. The website was presented during the poster sessions in Rome and attracted the interest of many congress participants.

GIOVANNI BARROCU



<http://www.iah-cad-czm.net/>



REGIONAL GROUNDWATER FLOW

The Regional Groundwater Flow Commission (RGFC) had an excellent and fruitful General Meeting in Rome, report Judit Mádl-Szőnyi and Ádám Tóth, Chair and Secretary of RGFC respectively. During the meeting, a new officer was proposed for the RGFC Board to lead the task of research and development in the commission, into which Okke Batelaan of Flinders University in Australia was elected. The General Meeting also promoted the idea of having a secretary in the board, who would assist organization and management issues. Ádám Tóth of Eötvös Loránd University in Budapest was elected for this position.

It was decided to initiate the preparation of the so called CRC “blue” book on the topic of “Theoretical and practical developments in regional groundwater flow”. The Editor of Hydrogeology Journal, Cliff Voss offered the possibility of a half-issue of Hydrogeology Journal in 2019 for papers dealing with regional groundwater flow. Joel Carrillo invited the audience to the upcoming Second National Colloquium on Groundwater in Mexico, to be held in November in Mexico City with the co-organization of RGFC. The meeting decided to organize a session at the EGU General Assembly in 2016 about “Groundwater circulation: the subsurface part of the hydrologic cycle” in cooperation with the IAH Commission on Transboundary Aquifers.

IAH encourages cooperation between Commissions and Networks, and a highlight of the Rome Congress was Richard Taylor's (Co-Chair of the Commission of Groundwater and Climate Change) invited presentation during the RGFC Session. His topic was “Assessing the resilience of groundwater use at low latitudes: interrogating evidence from groundwater discharge observations”.

The RGFC with the support of the IAH Executive and the ECHN initiated a competition in Rome on regional groundwater flow. The Commission received 18 applications

[continued over...]

After the success of previous ‘ECHN lunchtime sessions’ in Perth and Marrakech to provide publication tips for early career delegates, this year, Cliff Voss, Hydrogeology Journal (HJ) editor and members of the HJ editorial team hosted a session to enlighten ECHs how to write “knock-out papers”. More than 100 congress delegates attended the session.

During the IAH AGM, we had an opportunity to award the winner of our ‘Coolest Paper of 2014 Award’, promoted to energize the early career hydrogeologist community, encourage the discussion of new papers and share the most recent achievements in groundwater knowledge through original, creative and thorough papers. The winner was Dr. Antonio Hernández-Espriú from the Universidad Nacional Autónoma de México (UNAM), with his paper “The DRASTIC-Sg model: an extension to the DRASTIC approach for mapping groundwater vulnerability in aquifers subject to differential land subsidence, with application to Mexico City”.



Dr. Antonio Hernández-Espriú, winner of the “Coolest Paper of 2014” presenting his research during congress.

Antonio received free IAH membership for one year and a free book from the IAH book series and was invited to present the winning paper during the congress. In addition, the special support of UNESCO-IHP covered his travelling expenses and the congress organisers were kind enough to waive the registration fee, for both of which we are very grateful. The IAH-ECHN ‘Coolest Paper of 2015 Award’ will be announced soon, so please check our website and social media for further information.

The congress book exchange was again held at the IAH booth as a joint activity between the Secretariat and the ECHN. We thank all IAH members who made the book



exchange possible by bringing their hydrogeology-related books, and especially our colleagues in the British Geological Survey who again sent a large box of books to Rome. We hope this activity can continue for upcoming IAH congresses and become a tradition.

The ECHN would like to express thanks for constant support of the IAH Executive and Secretariat, as well as the organizing committee of the Rome Congress for the continued interest shown in promoting early career hydrogeologists and their involvement in IAH activities and congresses.

As we prepare next year’s work agenda, full of promising events, initiatives and discussions, we encourage all IAH members to have a look at the ECHN’s website to find out more about our activities and how to join ECHN and be involved. Additionally, we welcome ideas and suggestions for new activities for early career members of IAH.

VIVIANA RE, RAQUEL SOUSA, SEBNEM ARSLAN AND CARLOS MALDANER



<http://echn.iah.org/>



<https://www.linkedin.com/groups/3717583>

[continued over...]

COMMISSIONS & NETWORKS

[...continued from previous]

BURDON GROUNDWATER NETWORK FOR INTERNATIONAL DEVELOPMENT

The Burdon Network and Fund has for long been the focus of IAH's efforts to meet our charitable objectives. Its roots go back many years to the establishment of the Fund by the Irish National Chapter in memory of David Burdon, an eminent hydrogeologist who devoted much of his career to the developing world. The associated IAH Network was established to enable the Fund to be used effectively, and this has been largely devoted to supporting hydrogeologists in Sub-Saharan Africa in their efforts to sustainably develop groundwater for poverty reduction. We have endeavoured to do this by making existing and new knowledge more widely available, facilitating opportunities for networking and training and increasing the profile of African hydrogeologists. These efforts have been greatly appreciated over many years by those colleagues who have benefited.

It has been recognised, however, that the simple name - Burdon Network - does not properly convey its objectives

and activities. Many younger members of IAH, both those who could contribute to and benefit from the work of the Network, are not aware of its origins. Following discussions by members of the Network and its supporters during the Rome Congress, the new name above is proposed, making it quite clear that the focus is on support for groundwater and groundwater professionals in the international development sector. We hope this will encourage greater support and involvement from the IAH membership.

JOHN CHILTON AND ALAN MACDONALD



If you are interested in contributing, please contact Alan MacDonald at amm@bgs.ac.uk

Photo: Alan Macdonald, left, with Richard Taylor (Groundwater and Climate Change Commission) and Ahmed Kana



GROUNDWATER AND CLIMATE CHANGE

At its meeting in Rome, Co-Chair Richard Taylor reported that Council had approved the commission's renewal and briefly reviewed its aims, objectives and activities over the last four years. He noted that despite some good successes – mobilising the community to contribute to the Nature Climate Change review article which was cited widely in IPCC AR5 - there was nevertheless disappointment that the commission had not been able to engage more effectively with the wider IAH membership. He felt that central to this failure had been the inactivity of the IAH-CGCC website.

Commission members present urged that communication be improved by shorter and more regular emails, perhaps using a listserv mechanism, google groups or setting up a LinkedIn group. There was also a suggestion that students be encouraged to become involved in maintaining

a web presence. Since returning from Rome, Richard reports that a doctoral student working on groundwater and climate change at his university has agreed to help maintain and update the IAH-CGCC website, so there is positive expectation of developments on this front soon. The commission will continue to work closely with the UNESCO-IHP GRAPHIC programme.

JOHN CHILTON



<http://www.gwclim.org>

<http://www.graphicnetwork.net>

<http://www.un-igrac.org/publications/544>



ACCESS THOUSANDS OF DOCUMENTS ABOUT AFRICAN GROUNDWATER

The successful, sustainable development of groundwater resources in Africa is critical to the continent's future economic and social improvement and food security. This depends, however, on reliable information about groundwater and hydrogeology, which in Africa is notoriously hard to find and access. The Africa Groundwater Literature Archive is tackling this, helping to make vital information more available to everyone.

The British Geological Survey, in collaboration with the IAH Burdon Groundwater Network for International Development, has developed a searchable online database of published and unpublished literature about groundwater in Africa, including reports, journal articles, conference papers, book sections and maps. The Archive indexes nearly 7000 references, including thousands of reports – often previously hard to access – with priceless information from groundwater exploration, research and development projects carried out by a wide range of organisations over many decades; thousands of published journal articles; and hundreds of books or book sections, conference papers and university research theses. As many as possible are freely available to download, so long as a digital copy exists and copyright restrictions allow. Where restrictions don't allow full text downloads – such as for non-open access journals – the Archive tries to provide URLs for the abstracts.

Every reference is attributed with supporting information. At a minimum, this includes the country or countries to which it relates, and thematic keywords describing the document content. Additionally, more than 1500 of the references are georeferenced, and can be searched on a map.

The Archive is only a beginning. There are thousands more documents about groundwater in Africa, including valuable reports and articles that only exist in paper form. We would like to see even more essential information on African groundwater made accessible and available. If you know of relevant documents, especially if they are, or can be made, available digitally, please get in touch, and help us improve access to the kind of information that can make lives better.

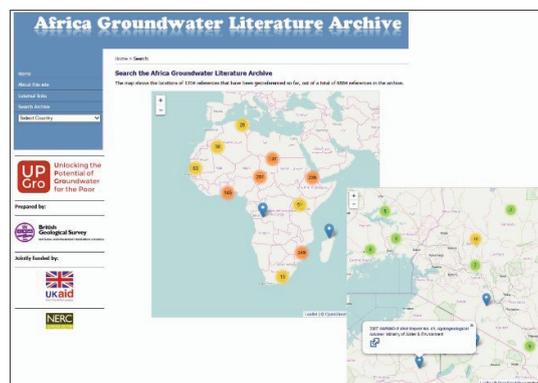
The project was funded through the UPGro programme – Unlocking the Potential of Groundwater for the Poor, which is funded by UK Aid, the UK Natural Environment Research Council (NERC) and the UK Economic and Social Research Council (ESRC).

BRIGHID Ó DOCHARTAIGH (UK)



beod@bgs.ac.uk

<http://www.bgs.ac.uk/africagroundwateratlas/index.cfm>



IAH AWARDS PRESENTED IN ROME

In a new departure for IAH, the Presidents' Award was given jointly to Secretary General Shammy Puri and Alice Aureli in recognition of their contribution to the long and fruitful collaboration between IAH and UNESCO's International Hydrological Programme. Since joining UNESCO-IHP in 1992, Alice has worked consistently to promote better understanding and appreciation of groundwater resources in the international arena and Shammy has regularly contributed to the development of successive phases of the IHP.



Shammy Puri and Alice Aureli

The partnership which the award particularly recognises dates from 2001 with joint activities between the International Shared Aquifer Resources Management (ISARM) programme within UNESCO-IHP and IAH's Commission on Transboundary Aquifers. A feature of this partnership was the support to the UN Law Commission on the Draft Articles on the Law of Transboundary Aquifers, whose work has been recognised previously by IAH with the award of Distinguished Associate to Ambassador Yamada. More recently, Shammy and Alice have played an important part in bringing the GEF project on groundwater governance to a successful conclusion. Because Alice could only be in Rome for the early part of the week, the presentation by President Ken Howard was made immediately after her keynote on the opening day. In their responses, both warmly thanked IAH for the award and pledged to ensure continuing close collaboration between IAH and UNESCO.

IAH gives the title of Honorary Member to those who have given exceptional services to the Association over a long period. On behalf of Council, President Ken Howard proposed that the 2015 award be made to Professor Giovanni Baroccu, and this was approved by the General Assembly.



Professor Giovanni Baroccu, left, in discussion with Professor Ghislain de Marsily

Giovanni was Professor of Engineering Geology at the University of Cagliari from 1980 until his retirement in 2010, but still teaches his engineering geology course. His broad research interests include the hydrogeology of hard rock aquifers, integrated water resources management and coastal zone aquifers and since 2003 Giovanni has been chair of IAH's commission (now network) for coastal aquifer dynamics and coastal zone management. He was also president of the IAH Italian National Chapter from 1997 to 2011. Giovanni well deserves this award for his long term contribution to the work of the Association and he was warmly congratulated by colleagues in the congress arena.

Our Distinguished Associate Award is presented to someone who, while not being a groundwater professional, has made an outstanding contribution to the understanding, development, management and protection of groundwater resources internationally. The 2015 recipient was Dr Pasquale Steduto of FAO. Pasquale has a background in soil-water relationships and has worked for more than 25 years on agricultural water use efficiency

and water productivity, with a focus on crop water requirements under conditions of water scarcity.



Dr Pasquale Steduto

His contributions in the international water arena began when he joined FAO in 2003 as Chief of the Water Resources, Development and Management Service. Whilst at FAO, Pasquale promoted AQUASTAT, FAO's global information system on water and agriculture, with particular attention to groundwater as one of the most uncertain variables in large scale water accounting. He was Chair of UN-Water from 2007 to 2009, and has served the Global Economic Forum, the Advisory Committee for Stockholm Water Week and the Board of Governors of the World Water Council. As Chair of UN-Water, he strongly supported the establishment of the GEF Project on groundwater governance, which has recently been successfully concluded by FAO, UNESCO-IHP, IAH and the World Bank. In his current role as FAO Deputy Regional Representative based in Egypt, he has contributed significantly

to the establishment of a Regional Collaborative Platform within which the sustainable management of groundwater resources is one of the major focus areas. IAH is pleased to acknowledge Pasquale's personal contribution to the global recognition of the importance of groundwater resources, their wise use and sound management. The presentation was made by President Ken Howard during the closing ceremony of the congress.

JOHN CHILTON

APPLIED HYDROGEOLOGY AWARD

New Award Approved by Council

Following a proposal from the German National Chapter of IAH, Council has approved the establishment of a new "Applied Hydrogeology Award of IAH". This will be presented to a groundwater professional who has made an outstanding contribution to the application of hydrogeology, preferentially in developing countries or in support of international development efforts. Hydrogeological problems are often discussed from an academic point of view but hydrogeological solutions and applications in the field often require pragmatic thinking and sometimes unconventional approaches. Particular emphasis will be given to work which has contributed to an increase in living standards in developing countries.

It is planned that the first award will be made in 2016, our sixtieth anniversary year. Calls for submissions, deadlines and detailed criteria will be published through our regular news and social media channels.

Any IAH member may nominate a candidate, but self-nominations will not be accepted. A panel appointed by Council will evaluate the proposals and it is anticipated that the first award will be presented at the Association's General Assembly in Montpellier. Please look out for further announcements and start to think about possible candidates from among your colleagues.

SECRETARIAT

COUNCIL DECISIONS IN ROME

As always, IAH's Council had a lengthy meeting agenda and a long day of deliberations in Rome. We were fortunate to have a full attendance of Council members, and are grateful that everyone made the journey and participated in our discussions. Some of the most important outcomes of the meeting are summarised here.

COMMISSIONS AND NETWORKS REVIEWED

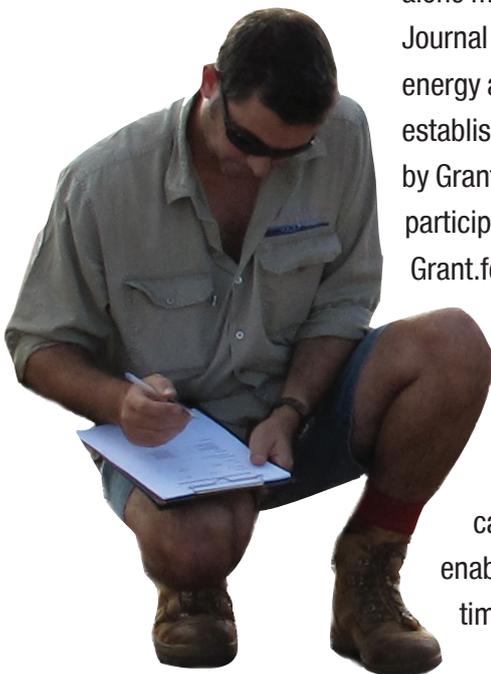
An important feature of the overhaul of IAH's Commissions and Networks in 2010-2011 was the establishment of a formal review and renewal process to help ensure that obligations were being met and that promised activities were being carried out and reported. At the Rome Council meeting, Vice President for Science and Programme Coordination António Chambel reported on the first period of operation of those of the new Commissions and Networks due for renewal. Following extensive and detailed discussion, all of the requests for renewal were approved by Council, but with shortening of licence periods and closer monitoring of outputs requested for some. Council also recommended that the Burdon Network, as our main charitable focus, should make more effort to report its activities and might make its objectives clearer by a change in name (see page 16). Short reports of Commission and Network activities at Rome feature earlier in this newsletter.

NEW COMMISSION APPROVED

António also tabled a proposal for a new commission on groundwater and energy, an area of work in which IAH has been keen to establish a group for some time. The proposal envisages convening sessions at IAH congresses, at GSA and holding stand-alone meetings and training workshops; preparing a special edition of Hydrogeology Journal and an IAH book. The new commission intends to work with international energy agencies and other important stakeholders. Council readily approved the establishment of this new commission. The new commission will be co-chaired by Grant Ferguson, Bridget Scanlon and Rob Ward. Readers who are interested in participating in the work of this new commission should contact Grant Ferguson at Grant.ferguson@usask.ca

APPROVAL GIVEN TO NEW IAH RULES

After a lengthy review process led by Vice President for Finance and Membership Bruce Misstear and already reported in previous newsletters, a revised set of IAH Rules has now been approved by Council. We hope this careful work by Council, Executive and Secretariat will stand the test of time and enable the Association to adapt its operations in a rapidly changing world. By the time you read this, the new Rules will be available on the IAH website.



2018 CONGRESS

Council always reviews progress with planned congresses and receives proposal for future congresses. Our colleagues from Korea had a strong presence in Rome and made to Council a detailed and well formulated proposal to host the 45th IAH Congress in 2018. The proposal from the Korean Chapter and the Korea Institute of Geoscience and Mineral Resources envisages the Congress being held at Daejeon, an important purpose-built national and regional research and technology hub. Council were very impressed by the commitment of the proposers and the thought which had gone into what promises to be the sound basis for an excellent all round congress, and accepted this proposal. So, put this in your long-term plans and look out for further details!



Ahead of Korean presentation...

SECRETARIAT

JOURNAL TEAM MEET IN ROME

The journal editorial team has two new members and therefore decided to meet at the Rome Congress. From mid-2015, Martin Appold and Jean-Michel Lemieux have replaced Vincent Post and Jimmy Jiao. The team were able to enjoy and participate in the congress technical programme and field visits and the IAH events, and joined with the ECHN in the lunchtime meeting on writing good scientific papers and met for two full days of discussions over the weekend immediately following the congress. Carlo Schneider, who had been in Rome with the Springer book stand was also able to attend the first day and to bring the team up to date with the company's marketing, impact measurement and other activities.

A key objective of the meeting, especially when there are new editors, is to ensure reasonable consistency of interpretation of the scope of the journal – which submitted manuscripts are in or out of scope - and to discuss any specific review and editorial questions. In common with many other journals, it is becoming harder for the editorial team to find reviewers. If you are asked by an Associate Editor of Hydrogeology Journal to review a submitted manuscript, please try to find time to do this as the scientific publication system cannot continue to

flourish without it. These processes work both ways; at another time you may be the author hoping that prompt peer review will see your research published in a timely way.

The inclusion of open choice articles, reported in previous newsletters, is proceeding well. Coming towards the end of the first year, a small number of authors have elected for open access, and of these an even smaller number have joined IAH to obtain the substantial discount offered by Springer for members. Our journal continues to flourish and we are lucky to have such an effective editorial team for which we remain very grateful.

JOHN CHILTON, SECRETARIAT



Cliff Voss, Maria Schafmeister, Jean-Michel Lemieux, Vincent Post, Sue Duncan, Susanne Schemann and Martin Appold

[continued over...]

IAH 60TH ANNIVERSARY

Update

As reported in the last newsletter, the Association will reach its 60th birthday in 2016 and we are planning to celebrate this in several ways. To provide a timely reflection over the past 60 years of IAH, Past President Willi Struckmeier is compiling a detailed history of the Association from its origins in 1956. Much of the factual information for this comes from our extensive archives of newsletters and annual reports from which he has been able to construct the overall time sequence and major events during this period. Willi reported to Council in Rome that much of the work for the first 30 years has been completed, and the Secretariat is currently helping to check and fill in some of the gaps in more recent years. Some of the carefully tabulated information about our congresses, commissions, chapters and councils make fascinating reading.

However, for the history of our expanding family of colleagues and friends to come to life we need personal stories as well. Willi has been able to talk to some of our very senior members, but we would also appreciate contributions in the form of anecdotes, tales from field trips or visits to faraway places in the early days and also photographs taken on any of these trips. We have already received some of these, but if you are able to dig something out from your own personal archive, then please contact Willi at the email given opposite. The history will be completed as an important contribution to our anniversary celebrations and we are discussing in what format it should be produced.



Marking the Anniversary

Important anniversaries are not only a time to reflect, but also an opportunity to look forward as well. This will be part of the focus of our main international celebrations at the 43rd IAH Congress to be held in Montpellier in September (see page 30). We would like to encourage IAH's Commissions, Networks and National Chapters to celebrate the anniversary in their own way by a meeting, field visit or social event. Please consider this, and let us know what you are planning so we can highlight your activities in our news coverage during 2016.

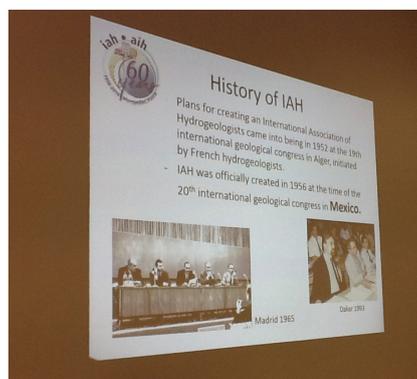
SECRETARIAT

Your stories and photos wanted

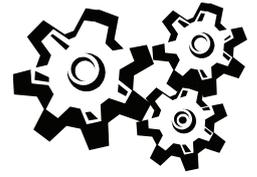
IAH's past, present and future is thanks to the amazing activities and support of its members. Please pass on your stories, memories and photos - however old and more recent. All contributions will be gratefully received.



email: 60years@iah.org



IAH MENTORING SCHEME



As previously reported, IAH put out a fresh call for mentors earlier this year. Responses have been modest but we still feel it is worthwhile to now make a call for mentees. We would like to thank those who have continued to support our mentoring scheme - both mentors and mentees.

NEW MENTORS

It is still possible to become a mentor, so should you wish to act as a mentor and have not already registered, please do so as soon as possible. Details are given at the end of this article. The sign up allows potential mentors to give their preference for which approaches to the provision of support they are 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?

If you would like to receive mentoring under the scheme, now is the time to sign up.

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. Read their story here: <https://iah.org/wp-content/uploads/2012/11/mentoringfeedback.pdf>.

SECRETARIAT

 <http://iah.org/knowledge/mentoring>

NEW MENTORS/GIVERS OF ADVICE

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

NEW MENTEES/RECEIVERS OF ADVICE

 <https://www.surveymonkey.com/r/IAH2015menteerec>

IAH STRATEGIC OVERVIEW SERIES

We are pleased to announce that the first two in a series of Strategic Overview Papers have been completed and are available to download. These deal with Food Security and Groundwater and Energy Generation and Groundwater. Production of the papers has been led by Past President Stephen Foster and Gill Tyson, with contributions from IAH members from around the world. Work on an overview paper on cities and groundwater is underway and further papers in the series will be prepared during 2016.

The need for IAH to have well prepared and authoritative papers on specific topical issues in groundwater has been under discussion for some time. As previously reported, it was amongst the recommendations of the IAH Working Group on Education to Council at its meeting in Marrakech. The papers will focus on interfaces between groundwater resources and hydrogeological science and other key sectors – dealing with potential impacts and policy implications in both directions. The series is designed both to inform professionals in other sectors of key interactions with groundwater resources and hydrogeological sciences and to guide IAH members in their efforts to promote improved understanding, wise use and protection of groundwater resources to related sectors.

The papers will be a summary for each topic drawing on the collective international experience of IAH, and will also be styled as a contribution to the celebration of the 60th anniversary of our Association.

BRUCE MISSTEAR AND JOHN CHILTON



IAH REPORTS...

2ND CENTRAL EUROPEAN GROUNDWATER CONFERENCE

The second IAH Central European Groundwater Conference on “Groundwater Risk Assessment in Urban Areas (GRAUA)” was organized in Constanta, Romania in mid October. Held on the Black Sea coast, the meeting attracted 65 participants from 10 countries, with two keynote lectures and 28 oral presentations, together with 5 posters. The Conference topics included: the importance of groundwater in urban areas; their use for water supply; irrigation of green areas; heating buildings using groundwater as a heat source; groundwater problems caused in geotechnical works (e.g. tunnels and deep foundations); problems of quantity (both excess and scarcity) and quality. Pollution of the underlying groundwater is a common topic in many urban areas of the world and was one of the main issues discussed in Constanta.

A technical visit was organised to the Constanta North Wastewater Treatment Plant at the end of one of the working days of the conference and a full one day field trip was organized to an ancient Greek/Roman city beside the Black Sea, a monastery in a karstic area and to the Water Supply Company of Constanta.

IAH Vice-Presidents for Programme and Science Coordination, António Chambel, and for Western Europe, Teodóra Szócs attended the conference. We thank the organising committee and the IAH Chapter of Romania for their hard work. The next such meeting is planned as a strand to be organised during the 2017 Congress in Dubrovnik, Croatia.

[ANTÓNIO CHAMBEL AND TEÓDORA SZÓCS](#)

IV INTERNATIONAL CONGRESS OF THE SUBTERRANEAN ENVIRONMENT (CIMAS)

António also visited Brazil in October, where ABAS, the Groundwater Association of Brazil, organized the IV International Congress of Subterranean Environment (CIMAS) in Sao Paulo. The congress drew 223 participants from 5 countries and 80 additional visitors to the commercial exhibition related to the environment and water quality by 66 separate exhibitors. The Congress was based around 10 invited oral speakers and 93 posters.

The topics included increasing and uncontrolled exploitation of natural and mineral resources of the planet, which remain a major threat to sustainable development. To make progress towards sustainability, the impact of humans needs to be balanced with the carrying capacity of the environment. Levels of consumption, lifestyles, resource utilization and assimilation of waste need to be compatible with the ecological conditions, so that natural resources are not consumed indiscriminately and can be recovered.

Taking care of the underground space is also critical. Lack of management of the subterranean world allows the irregular disposal of waste and the recent growth of urban areas exacerbates the problem. The IV CIMAS participants addressed complex issues to present and discuss the best ways to avoid the risk of contamination of soil and groundwater. Another topic was Brazilian legislation which has particular gaps in integration between the various controls at federal, state and city level.

By invitation of ABAS, António and Vice President for Latin America and the Caribbean, Luiz Amore represented IAH to report on the outcomes of the GEF groundwater governance project and present the Global Framework for Action. The possibility of setting up an IAH National Chapter in Brazil was discussed with ABAS during the conference. We would like to congratulate our Brazilian colleagues for the excellent organization of this important conference in the region.

[ANTÓNIO CHAMBEL AND LUIZ AMORE](#)

REGIONAL COURSE ON GROUNDWATER MANAGEMENT



Image source: <http://www.cap-net.org/>

Following three successful courses supported by the IAH Burdon Fund in Lusaka, Bamako and Porto Novo, water professionals in the Niger River Basin identified a critical need for a course on groundwater within a river basin water management framework. The Burdon Fund was again used, to the value of \$5000 US, to help ensure this regional course could be held in 2015 in Ouagadougou.

The course was held on 24-28 August 2015, again resulting from collaboration between the Coordination Régionale des Usagers/Usagères des ressources naturelles du Bassin du fleuve Niger (CRU-BN) and the African Groundwater Network (AGW-Net), with the support of Cap-Net/UNDP and IAH through our Burdon Network and Fund. It was delivered in French to 18 participants from 6 West African countries (Benin, Burkina Faso, Cote d'Ivoire, Guinea, Niger, and Togo), of whom 11 were women.

The course aims were to:

- promote sustainable groundwater resources management within the framework of IWRM;
- raise awareness of the importance of groundwater resources in Africa and the need for improved management;
- build capacity for improved groundwater management;
- enhance the sharing of information;
- provide basic understanding of GW processes and their interaction in river basin context.

The course targeted mainly water professionals with a focus on Niger Basin water users who are members of CRU-BN. At the same time the organisers attracted other water sector professionals working in national and private institutions based in countries which are members of the Niger Basin Agency, and who are interested in river basin issues. The principal outcomes of this course were:

- participants made aware of the key issues of integrated groundwater management in the context of river basins;
- awareness of participants raised on the specificity of groundwater resources and the impacts of agricultural activities on the resources;
- participants shared IWRM good practices developed in other regions of Africa, and from their own experience.

MOUSTAPHA DIENE (SENEGAL)



NEW MEMBERS

A welcome to the following new members who joined our Association in the period 23 June - 19 October 2015:

ALGERIA

Mrs Fatima ZOHRA BOUCHAREB
- HAOUCHINE
Mr Abdelhamid HAOUCHINE

AUSTRALIA

Mr Daniel BROWNSDON
Mr Ben ROSE
Mr Peter DUNN
Mr Edward BULLER
Mr Lachlan COOPS
Mr Mike MAIDMENT
Mr Matthew THOMPSON
Mr Duncan COGSWELL
Mr Enda MUNNELLY
Dr Geraldine CUSACK
Mr Timothy BRUTON
Dr Catherine HUGHES
Mr Adam REED
Jasmin ROTHERY
Mr Adam SKORULIS
Mr Greg HOXLEY
Laura MCLEAN
Mr Rajesh MOTTEY
Mr Oscar GARRATT
Danielle GRIFFANI
Dr Rebecca NELSON
Mr Christiaan RAATH
Mr Callum GILLIGAN
Mr Greg BRERETON
Finnigan JOHNSON
Warrick TUNMER
Miss Serena YEUNG

AUSTRIA

Mr. Robert BRÜNJES

BRAZIL

Dr Guillaume BERTRAND

BULGARIA

Mrs Mariya MARINOVA

CANADA

Ms Carla ROSE
Mr Keenan LAMB
Dr Orfan SHOUAKAR-STASH
Ms Erin KEMPIN
Dr Elizabeth JOHNSON
ing Jean-Francois GARCEAU
Dr John CHERRY
Ms Lauren HARRISON
WATERLOO HYDROGEOLOGIC (c)
Mr Kevin RONNESETH
Dr Gilles WENDLING
Monica GAERTNER
Mr Anick GHOSHASTIDAR
Mr Wayne HESCH
Jennifer HURLEY
Mr John CZECHOWSKI
Mr Terry CARTER
Kathryn DOMPIERRE
Mr Michael DUCHENE
Olenka FORDE
Ertiana RROKAJ
Mr Eric SOULIS
Ms Katherine TIXIER
Mr Andrew WICKE

CHILE

Cecilia BRAEM
Joaquin CACERES
Gustavo CALLE VASQUEZ
Alejandra CANALES QUEZADA
Amparo EDWARDS
Antonela FUENTES
Ainhoa GOYENECHÉ ARAMBURU
Mr Jorge GUARDA
Paola IBAÑEZ ZAMORANO
Andres LOPEZ NOGALES
Christian MONTORO PAREDES
Julio MORAGA STER
Manuel MUÑOZ CORDERO
Pablo ORTEGA TONG
Paula RAMIREZ MUÑOZ

Ivan ROMERO CAMPUSANO

Sian RUDALL

Guillermo SERRA CREIXELL

Sonia VALDIVIELSO MIJANGOS

Jose YAÑEZ LOPEZ

Mr Philippe PRIGNEAU

CHINA, PEOPLE'S REPUBLIC OF

Dr Jing LI

Weiping WANG

COLOMBIA

Mr Gonzalo CIFUENTES OSPINA

COTE D'IVOIRE

Mr Kouakou Valentin KOFFI

DOMINICAN REPUBLIC

Mrs Aude ARCHAMBAULT

ETHIOPIA

Mr Bewuket Bekele TEFERA

FRANCE

Dr Vivien HAKOUN

Carole BAIERER

Laura BECHELEN

Alexandre CHEVALIER

Nolwenn CROISSET

David LEBON

Marine BOLLARD

Bruno MARSAUD

Mr Sébastien SANTONI

Mr Guillaume ATTARD

GERMANY

Dr Janek GRESKOWIAK

Dr Thomas Georg DEMMEL

Dr Hans Hermann RICHNOW

Mr Ambe Emmanuel CHEO

Mr David HOFFMANN

Dipl.-Geol. Carlo SCHNEIDER

Dr Christian WITSCHEL

Mr Sebastian PAUFLER



New member Dr Faten Jarraya-Horriche, Tunisia, with John Chilton in Rome.

INDIA

Abhijit RAY

Prof Pradip Kumar SIKDAR

K B BISWAS

Mr Paritosh SINGH CHAUHAN

INDONESIA

Mr Rahmad Dwi PUTRA

IRAN

Ms Arsalan Behzadi POUR

IRAQ

Mrs Lanja RAUF

IRELAND

Mr Ahmed Thamer AHMED

Mr James BUCKLEY

Ms Aine O'SHEA

Ms Natalie DUNCAN

Ms Anca TURCU

Dr Sophie O'CONNOR

Mr Christopher FENNELL

Mr Damien MOONEY

Mr Jason McCANN

Ms Èlia Cantoni i GOMEZ

Ms Doireann BASHFORD

Mr Damien DOHERTY

Malcolm DOAK



ITALY

Dr Marco CANTONATI
Dr Elena BERTONI
Dr Marianna BONFANTI
Dr Francesco TACCONI
Dr Silvio CODA
Mr Paolo BENELLI

KOREA, REPUBLIC OF

Dr Kyung Seok KO
Dr Jung-Wook PARK
Dr Chul-Min CHON
Dr Hang Bok LEE
Dr. Jeong-Won LIM
Dr Gitak CHAE
Dr Kue-Young KIM
Dr Yoon Yeol YOON
Sooyung CHO
Junghae CHOI
Seho HWANG
Sung Pil HYUN
Byeongju JUNG
Dong-Hun KIM
Dr Yongje KIM
Bong-Joo LEE
Kil Yong LEE
Soo-Hyung LEE
Jehyun SHIN

LESOTHO

Mr Tlhriso MORIENYANE

MEXICO

Mr Marco GARCIA

NAMIBIA

Mr Christoph LOHE

NETHERLANDS

Mr Frans SCHAARS
Mr Mathieu LASSUS

NEW CALEDONIA

Mr David RAMEL

NEW ZEALAND

Mr Sajeewa B H RANMADUGALA
Mr Greg SHEPPARD
Dr Edda Kalbus

NIGERIA

Mr Olaniji A OJO
Mr Mike OKPANACHI

NORWAY

Guri SOGNNÆS
Kjetil OMARSTRAND

POLAND

Mr Michał MICHALAK
Mr Fryderyk GÓRSKI

SOUTH AFRICA

Mr Travis WHITE
Mr Christiaan DELPORT
Dr Gaathier MAHED

SPAIN

Natalia FERNANDEZ DE VERA
Ms Marta RICA

SWEDEN

Dr. Mattias VON BRÖMSSÉN
Mr Erik ALSTERYD

SWITZERLAND

Mr Didier BLETRY

TUNISIA

Dr. Faten JARRAYA-HORRICHE

TURKEY

Dr Huseyin KARAKUS

UNITED KINGDOM

Ms Rachel BELL
Dr Marco BIANCHI
Dr Vernon PHOENIX
Mr Piotr PAWLIKOWSKI
Mr David SEDDON
Mr Rowan MCKITTRICK
Dr Forough JAFARY
Mr John CHAPMAN
Mr Brendon MCFADDEN
Miss Izabella OTALEGA
Miss Aimee FRASER
Dr Nicholas WOODMAN
Dr Antoine LAFARE
Dr Blathnaid MCPOLIN

UNITED STATES OF AMERICA

Dr Timothy Foster
Kelly Warner
Sophia Sigstedt
Mr Daniel Bright
Mr Paul Morin
Mr Brian Conway
Mr Drew Clemens

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

CHECK YOUR IAH DETAILS

Ensuring that our members receive their IAH entitlements such as the Hydrogeology Journal is important to us. 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. Please check/edit your details regularly - we'd hate you to miss out.

SECRETARIAT



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

NATIONAL CHAPTERS MEET IN ROME

A meeting of national chapter representatives is now a regular congress feature. In Rome IAH President Ken Howard welcomed representatives of twenty three chapters. Members of the IAH Executive and Secretariat provided updates on the review of our Rules as they apply to chapters, summarised the continuing work to provide IAH's groups with a website presence and provided information on membership and our sponsored membership scheme. Chapters were urged to provide further support for the sponsorship scheme if they were able, and to redouble their efforts to encourage members to renew.

At previous meetings there had been discussion of the idea of setting up a standing committee of national chapter representatives. Although there had been general agreement that it was a good idea, no one took up the initiative. There was discussion of the role of this committee; if it could be established from the "bottom up", then it could itself organise the meetings at congresses and set the agenda, etc. As a first step, it was agreed to establish a chapters' LinkedIn group.

SECRETARIAT



Canada (IAH-CNC)

The IAH Canadian National Chapter, led by Tammy Middleton, Stephen Di Biase, Christopher Neville, and Richard Jackson, organized the successful IAH-CNC 2015 Conference in Waterloo in October. Around 350 hydrogeologists participated, of which 60 were students. Several activities for young professionals were led by early career hydrogeologist (ECH) Caitlin Hillier. The success of ECHN motivated members attending to create a Canadian national branch and around 25 ECHs enthusiastically signed up to join.

A collaboration of the IAH-ECHN Canada will be with Hydrogeologists Without Borders who are organizing the 'Groundwater 2.0' text project. This initiative aims to update and publish online a second edition of the foundational textbook on hydrogeology: 'Groundwater' by Freeze and Cherry (1979). We are excited for the future of ECHN Canada - look out for further announcements.

**CARLOS MALDANER, JONATHAN MUNN,
OLENKA FORDE AND LAUREN HARRISON**



<http://www.iah.ca>
and <http://echn.iah.org/>



Netherlands

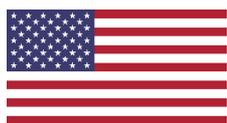
At the end of September, the IAH Netherlands Chapter, together with the Netherlands Hydrological Society (NHV), organised a symposium at which more than 100 participants heard presentations about the value of groundwater. Chapter committee member Michael van der Valk reports that the issues IAH has been working on with UNESCO, FAO and the World Bank in the GEF Groundwater Governance also resonate very clearly at the national level. He also mentions that Professor Theo Olsthoorn, chair of the Netherlands Chapter, has been awarded a Recognition for Special Merit by the Netherlands Hydrological Society for his work on groundwater hydrology in the Netherlands. This Recognition for Special Merit has been awarded only once before to Gijs Bruggeman for his book 'Analytical Geohydrological Solutions' (1999). We would like to warmly congratulate Theo, pictured, for this very special groundwater distinction.



MICHAEL VAN DER VALK

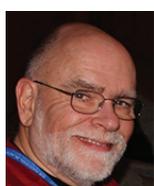


<http://www.hydrology.nl>



USA

The US National Chapter is pleased to announce that Michael Campana, Professor of Hydrology and Water Resources at Oregon State University, is the 2015 recipient of their International Service Award. The presentation took place during the 2015 Geological Society of America's Annual Meeting. The award recognizes the efforts of hydrogeologists based in the United States who have shown outstanding commitment to assisting the international community with groundwater-related needs. Michael was selected as this year's recipient because



of his scientific, humanitarian, and educational efforts and accomplishments related to international hydrogeology. Colleagues will join us in congratulating Michael on this award.

 <http://usa.iah.org/>



Chile

We are happy to be able to tell you that our IAH National Chapter in Chile is well and with new developments to report. A website has been established and from this the chapter is taking annual subscriptions, offering short courses, seminars and social activities. The chapter has also undertaken a survey of members to find out what type of things they would like to do. Further evidence of the rejuvenation of the chapter is shown by the number of new members on page 26. We are grateful to Nicolás Iturra Jáuregui and the new committee for their hard work, and to Past President Emilio Custodio for his encouragement to our colleagues in Chile during a visit in May.

JOHN CHILTON

 nicolas.iturra@matrazrh.cl



Great Britain

The British National Chapter's 2015 Ineson Lecture, convened with the Hydrogeological Group of the Geological Society of London, also included the 2015 Darcy Lecture. The meeting was attended by 123 delegates, providing an opportunity to learn about developments in groundwater sustainability and to catch up with colleagues.

Professor Rainer Helmig gave a very entertaining and educational Darcy Lecture, providing insights into the technologies and challenges of storing gas underground. Supporting talks were given by Ian Davey of the Environment Agency, on oil, gas and groundwater and Natalyn Ala of the Radioactive Waste Management group with an introduction to geological disposal and groundwater. The afternoon session saw the 2015 Ineson Lecture, presented by Professor David Lerner of the University of Sheffield. Professor Lerner reviewed his research career in an entertaining fashion, from observing leaky pipes and developing techniques for the accurate assessment of urban recharge; to diffuse urban groundwater pollution, including organic contaminants and nitrate, and novel ways of testing for urban contaminants. Supporting talks were given by Mike Rivett of the University of Birmingham; Adam Broadhead of Arup; and Bob Harris of the University of Sheffield.

During the meeting the 2015 John Day Bursary was presented by Martin Boland of the Chapter Committee to Helen Robinson of the University of Glasgow. The bursary is presented annually to support a student to undertake hydrogeology-related fieldwork outside Britain as part of their postgraduate studies. Helen presented a poster on her geothermal research at Menengai in Kenya.

BRIGHID Ó DOCHARTAIGH

 Meeting abstracts: http://www.iah-british.org/?page_id=272
John Day Bursary: http://www.iah-british.org/?page_id=126

FUTURE CONGRESSES



Groundwater and Society - 60 years of IAH Montpellier, France

We are pleased to announce that IAH will meet in Montpellier, France in 2016. Initially planned as a three day meeting to celebrate the 60th anniversary of IAH, Council has approved its designation as the 43rd congress of IAH. The congress will include a programme of invited presentations to reflect and celebrate the achievements of IAH and to look forward to the further development of IAH and hydrogeological science in the future. This will be combined with the submission of abstracts for a conventional technical programme of parallel sessions and poster presentations, and mid- and post-congress field visits to some very attractive locations in the surrounding French countryside, and the normal IAH meetings. This congress will also see the election of the next Council of IAH to serve from 2016 to 2020.

It's highly appropriate that our French colleagues, who were so instrumental in establishing the Association should host this anniversary meeting just as they did in in 2006 in Dijon. Moreover, at their invitation, the German National Chapter, who also played an essential role in setting IAH on its way will join the French Chapter in organising the meeting.

THEMES

Abstracts are invited on the following themes:

- What part can hydrogeologists play in civil society?
- Hydrogeologists in projects for developing countries
- Development of an ecosystem services approach for groundwater
- Groundwater and agriculture
- Groundwater and energy (storage, geothermal energy)
- Education and training: hydrogeologists for the future
- What part can hydrogeologists play in regulation?
- Evolution in tools and methods
- Development of new research areas

Further themes may be added and will be announced on the IAH and congress websites.

FIELD VISITS

A programme of field visits within the region is being prepared. These may include the history of the water, public gardens and anecdotes about the history of Montpellier's water supply during the past millennium; karstic plateaus and springs of Lez, Corbières and Larzac and the famous Millau viaduct, the Lozère granitic basement and the mineral springs of Salvetat and Avène; the Fontaine de Vaucluse spring; the Thau lagoon and its thermal springs and karst submarine spring, and the Pyrenees.

KEY DATES

The committees of both chapters are hard at work preparing an excellent congress. Abstract submission is open from 15 December 2015 and the deadline for early registration will be 30 June 2016. Further information will be provided on the IAH website and the congress website. We look forward to seeing you in Montpellier to celebrate our 60th birthday!

SECRETARIAT

 Congress website - <http://www.60iah2016.org>

Croatia, 2017 host

The Croatian National Chapter of IAH, together with Croatian Geological Survey (HGI-CGS) is preparing the 44th IAH Congress to be held in Dubrovnik from 25-29 September 2017 under the theme “Groundwater Heritage and Sustainability”.

The Old Town of Dubrovnik is the priceless jewel of the Dalmatian coast and a famous UNESCO World Heritage Site. George Bernard Shaw once wrote, “Those who seek paradise on Earth should come to Dubrovnik”, due to its profound beauty and historical magic. Dubrovnik is also, without doubt, currently one of Europe’s most fashionable conference destinations. The most popular sights are: the City walls - Dubrovnik’s most important feature and the most visually dominant symbol of the town; an impressive Middle Age construction where the corner towers of Min eta, Revelin, Bokar and Sveti Ivan create the city’s famous historical shield; the Rector’s Palace - “Obliti privatorum publica curate” or “Forget your private business, concern yourself with public affairs”. This remarkable inscription can be found above the entrance of the Palace, the most important public building in Dubrovnik and a site that was once the government headquarters and the Rector’s residence; Stradun (Placa) - is the main “artery” of the city, stretching between the two

town gates of Pile and Plo e and inviting you to walk it and feel its rhythm.

The congress will be held in the Hotel Dubrovnik Palace which offers comfortable and modern conference and meeting rooms, with a capacity up to 800 delegates. The hotel nestles on the scenic seafront between a pine forest and the turquoise coastal waters of the lush Lapad Peninsula and just a few minutes’ by car or bus from the medieval Dubrovnik Old Town.

The main theme of Congress “Groundwater Heritage and Sustainability” will allow delegates to present a wide variety of topical areas such as groundwater modelling, sustainable usage of groundwater, influence of climate change on management of groundwater, groundwater quality, geothermal systems and more. Attractive pre-congress short-courses and workshops, midweek field-trips and post-congress tours are being planned. On behalf of your hosts, IAH Croatia and HGI-CGS, we look forward to seeing you in Dubrovnik in September 2017!

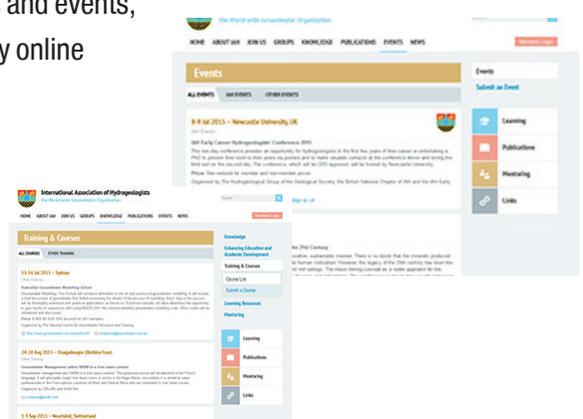
TAMARA MARKOVIĆ AND THE 2017 CONGRESS ORGANISING COMMITTEE

ORGANISING A MEETING OR COURSE?

IAH’s website holds two essential listings - one for upcoming meetings and events, the other for course and training information. Submitting information by online form is easy for organisers. Follow the links below.

SECRETARIAT

- <http://iah.org/knowledge/training>
- <http://iah.org/knowledge/submit-a-course>
- <https://iah.org/events>
- <https://iah.org/submit-an-event>



2016 - SELECTION

22 March, WORLDWIDE

World Water Day - Water and Jobs.

<http://www.unwater.org/campaigns/world-water-day/en/>

13-17 April, GERMANY

“Grundwasser, Mensch und Ökosysteme“ (groundwater, man and ecosystems): FH-DGG 2016. Organised by Fachsektion Hydrogeologie (FH-DGG) and the Karlsruher Institut für Technologie (KIT).

<https://www.bayceer.uni-bayreuth.de/fhdgg2016/?lang=en>

26-28 April, EGYPT

4th African Regional Conference on Irrigation and Drainage (ARCID) - Agricultural Land and Water Management for Sustainability under Climate Variability. Organised by The Egyptian National Committee for Irrigation and Drainage (ENCID).

<http://www.icid.org/>

20-24 June, MEXICO

 9th International Symposium on Managed Aquifer Recharge (ISMAR9) in conjunction with the Biennial Symposium on Managed Aquifer Recharge (BSMAR15).

Website: <http://www.ismar9.org/>

28-30 June, USA

Toward Sustainable Groundwater in Agriculture - An International Conference Linking Science and Policy Organised by University of California.

Website: <http://ag-groundwater.org/>

5-7 September, SWITZERLAND

 Eurokarst 2016

The European Karst Conference. The conference covers all topics related to Karst Hydrogeology and Carbonate Reservoirs. Organised by the Universities of Neuchatel, Franche-Comte and Malaga, The Swiss Institute of Speleology and Karstology and the IAH Karst Commission.

Website: <http://www.eurokarst.org/>

5-9 September, SPAIN

X International Geostatistics Congress - Geostatistics with specific sessions on groundwater applications
The International Geostatistics Congress takes place every four years to gather researchers and practitioners in all fields with an interest in geostatistics. Organised by Technical University of Valencia.

Website: <http://geostats2016.upv.es>



25-29 September, FRANCE

43rd IAH Congress

Groundwater and Society - IAH's 60th anniversary

Organised by The French and German National Chapters of IAH.

Website: <http://www.60iah2016.org>



<http://iah.org/events>

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

CONFERENCE LISTING

