

NEWS

& information

IAH - THE WORLD-WIDE GROUNDWATER ORGANISATION

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

MAY 2018

Also in this issue:

Member news and initiatives
Commissions & Networks
Meeting reports
Media Focus
Chapter updates
Focus on China
Conference listing

and the usual IAH
announcements and news



The theme for World Water Day 2018 was 'Nature for Water' and how we can reduce floods, droughts and water pollution by using the solutions we already find in nature nature-based solutions. All too often, damaged ecosystems affect the quantity and quality of water available for people and wildlife. Still today, 2.1 billion people live without safe drinking water at home, which affects their health, education and livelihoods. IAH's Executive Manager Ian Davey provides a response and links. *Page 6*

Objectives	Target date
OBJECTIVE 1 – ENHANCE EDUCATION & ACADEMIC DEVELOPMENT	
Add education pages to IAH website	Sept 2018
Prepare an additional 100 papers, and prepare hard copies of meeting 100 papers for water dissemination, consider feasibility of translating 100 papers into other languages	Sept 2019
Facilitate, with partners, 100 webinars, including webinars related to the 100 papers and to Commission and Network activities	Sept 2019
OBJECTIVE 2 – ENHANCE INTERNAL DEVELOPMENT OF IAH	
Develop a series of modules for IAH, including greater contribution from congresses	End 2018
Establish new sponsorship scheme	Sept 2018
Increase overall membership by 20% (with 2018 as the baseline), including setting targets for regions	Sept 2020
Provide increased services to members using enhanced website, such as advertising jobs and educational opportunities	Sept 2020
Enhance effectiveness of meeting scheme and look to expand scheme	Sept 2018
OBJECTIVE 3 – INFORM AND INFLUENCE GLOBAL POLICY	
Highlight role of groundwater in meeting Sustainable Development Goals (SDGs), especially SDG6, including promoting groundwater in integrated water resources management (IWRM) and other basin management plans globally	Sept 2020
Target specific environmental organisations for raising awareness of groundwater issues	Sept 2020
Work towards establishing an international year of Groundwater or Aquifers	End 2020
Offer education and training to specific NGOs	End 2018
OBJECTIVE 4 – ENHANCE ALLIANCES WITH EXTERNAL AGENCIES	
Continue to expand links with relevant organisations	Ongoing
Build on relationships and outputs from the GEF Groundwater Governance project	Ongoing
OBJECTIVE 5 – ENHANCE THE DEVELOPMENT OF HYDROGEOLOGICAL SCIENCE	
Establish a panel to review frontiers in hydrogeology	Sept 2018
Review strategies for book publications and implications of open access for hydrogeology journal	Sept 2018
Seek additional ways to support the activities of commissions and networks	Sept 2019
Review congress strategy, including whether we should hold more targeted hydrogeological science meetings in some years rather than broad multi-theme congress every year	Sept 2019



FORWARD LOOK - PROGRESS AND PLANS AHEAD

Further to IAH's Forward Look process in 2010, we've reviewed IAH's progress and priorities for the Association for the next few years... *Page 10*

REGISTRATION OPEN FOR 45TH CONGRESS, KOREA

Looking ahead to the knowledge sharing, networking and cultural experiences this year's location will provide... *Updates throughout*



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MAY 2018



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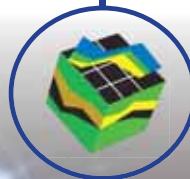
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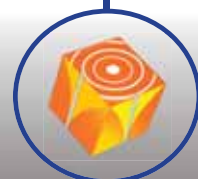
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Hydro GeoAnalyst
Environmental Data
Management & Visualization



AquiferTest
Pumping & Slug Test
Analysis





International Association
of Hydrogeologists (IAH/AIH)



45th IAH CONGRESS

Groundwater and Life

September 9-14, 2018 | Daejeon, Korea

www.iah2018.org



KIGAM



A belated welcome to 2018...

Already we are more than a quarter of the way through! Hopefully you have been able to smoothly carry out your plans so far - and that some may be even be satisfactorily complete.

One major event that is now behind us is the World Water Forum, where participants celebrated how much has been done to protect and manage water resources and environment, but where the focus was renewed once again on the ongoing targets to be achieved. The event saw the publication of the 2018 edition of the World Water Development Report, which highlighted the importance of groundwater in sustaining river flows and ecosystem services, and its value for human development and economies. World Water Day was marked by the launch of 'Making the invisible visible', produced by our colleagues at the International Groundwater Resources Assessment Centre (IGRAC), which shows how the groundwater community together has the capability to achieve these objectives.

An activity that is ongoing is the distribution of books by the Burdon Groundwater Network for International Development (BGID) to IAH members in Sub-Saharan Africa. Around 150 books are now on their way to members who responded to the offer from BGID.

We already have listed on the IAH website, many IAH-supported events that will take place this year after lengthy planning. No doubt there are many others in the pipeline. Let us know at <https://iah.org/submit-an-event> if you have an event you would like us to publicise.

Following years of planning, the 45th IAH Congress will take place in September in Daejeon, Korea. Take advantage of the early bird registration fees and book your place before 15 June! In a first for an IAH congress, the Hydrogeology Journal will be running a session that ties in with its August special issue on Chinese hydrogeology, with many of the featured authors planning to be present.

It has been said that, 'plans are useless, but planning is essential'. I hope that you find some value in making your plans for 2018!

IAN DAVEY

 idavey@iah.org

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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 supporters of the International Association of Hydrogeologists – around 8000 people – and can also be freely downloaded by individuals worldwide for personal/not for profit use. We are happy to consider possible news articles from our members and others in groundwater-related professions.

We also accept commercial advertisements. 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.

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

Email knicholson@iah.org for further details.

WORLD WATER DAY



The theme for World Water Day 2018 was 'Nature for Water' and how we can reduce floods, droughts and water pollution by using the solutions we already find in nature nature-based solutions.

All too often, damaged ecosystems affect the quantity and quality of water available for people and wildlife. Still today, 2.1 billion people live without safe drinking water at home, which affects their health, education and livelihoods.

The 2018 edition of the World Water Development Report (WWDR 2018), launched at the 8th World Water Forum in Brasilia, Brazil, on March 19, states that nature-based solutions (NBS) are *"inspired and supported by nature and use, or mimic, natural processes to contribute to the improved management of water. An NBS can involve conserving or rehabilitating natural ecosystems and/or the enhancement or creation of natural processes in modified or artificial ecosystems."*

The Report notes that *"Groundwater has an important environmental role of sustaining river flows and ecosystem services. Groundwater is also becoming an increasingly important resource for human development and economies. Groundwater is more accessible for poor communities than river flow..."*

It recognises the importance of groundwater in *"alleviating adverse impacts of both floods and droughts... and impacts of progressive climate change overall."*

Nature-based solutions are seen as particularly relevant to Sustainable Development Goal (SDG) 6, which commits the world to ensuring that everyone has access to safe water by 2030 and includes targets on protecting the natural environment and reducing pollution. It promotes conjunctive uses of groundwater and surface water, enhanced groundwater recharge through improved land management, urban green infrastructure e.g. permeable pavements, sustainable urban drainage systems. SDG 6.6 emphasises the need for protecting and restoring water-related ecosystems, including the role of aquifers.

Managed aquifer recharge (MAR), as championed by the IAH's MAR Commission, is considered to have the potential to serve several purposes, including maximizing water storage, replenishing depleting aquifers, improving water quality, improving soil quality and providing ecological benefits such as groundwater-dependent plant communities or enhanced downstream river flows.

As noted in our own paper on "Ecosystem Conservation and Groundwater" (part of our Strategic Overview Series), 'groundwater dependent ecosystems' and groundwater supported wetlands are fundamental to the conservation of biodiversity – many being vital for survival of a wide variety of species and figuring prominently in sites covered by the RAMSAR Convention. Moreover,

groundwater dependent ecosystems can be of significance as a renewable source of human nutrition and as key features in the local landscape such as springs and lagoons.

Further to this, our SOS paper on the UN-SDGs for 2030 emphasises how aquifers naturally provide the functions of water-supply filtration, storage, distribution and protection. Moreover, groundwater storage represents a natural buffer against unpredictable water demands arising from accelerated global warming. It is thus essential that groundwater is considered properly in achieving UN SDG-6 Targets.

Groundwater – at the heart of nature-based solutions and integrated water resources management!

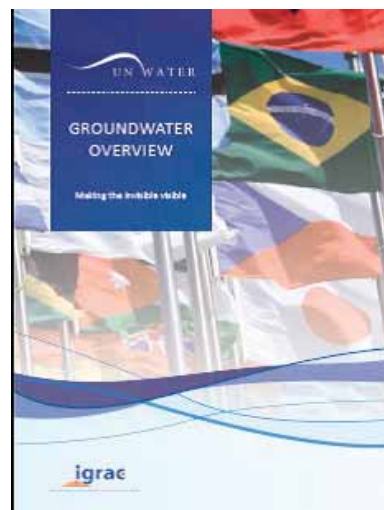
IAN DAVEY



- <http://www.worldwaterday.org/>
- <http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/2018-nature-based-solutions/>
- <https://recharge.iah.org/>
- https://iah.org/knowledge/strategic_overview_series

'Groundwater Overview: Making the invisible visible'

Groundwater is often overlooked in the planning processes for the management and provision of water for people and the environment. 'Groundwater Overview', produced by IGRAC (International Groundwater Resources Assessment Centre), in cooperation with UNESCO-IHP, IAH, IWMI and with contributions of many UN Water Members and Partners, aims to raise awareness about this most important hidden resource. It showcases the United Nations agencies and programmes, and the roles of their international partners, such as the International Association of Hydrogeologists, in protecting and managing groundwater. It sets out 'who is doing what' on crucial issues involving groundwater, from wetlands to food production, from sanitation to climate change – and who can be contacted about opportunities for further collaboration.



- <http://www.unwater.org/groundwater-making-the-invisible-visible/>

Ask a Member...

A feature for IAH members to share thoughts, experiences and suggestions...

We are delighted that Dr Judith Flügge has kindly agreed to answer questions this issue. Many IAH members will know Judith, as she was one of those instrumental in helping set up our Early Career Hydrogeologists' Network (ECHN) - something IAH is ever grateful for! Since then she has continued to give time to IAH, is currently involved in the German National Chapter's committee and often seen speaking and helping out at Congresses and meetings...



Tell us a little about yourself....

I am a hydrogeologist and groundwater modeller. I grew up in Berlin, where I studied Geological Engineering and Applied Geosciences at the Technical University. In 2005 I moved to Braunschweig for a postgraduate position at the Braunschweig University of Technology. As a research associate at the Institute for Environmental Geology, I was mainly responsible for teaching, eg GIS and geological mapping, but I also was involved in some of the institute's research projects. My favourite project was dealing with the restitution/recultivation of artisanal tantalum mining wasteland in Rwanda, central Africa. At the same time, I was working on my doctoral thesis in collaboration with the Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH. GRS carries out research and analysis in the fields of reactor safety, radioactive waste management as well as radiation and environmental protection. My doctoral thesis was about the impacts of extreme climate states on the radionuclide transport in the overburden of a salt dome. At the time of finishing my doctorate in 2009, I started working full time for GRS. My colleagues and I are performing long-term safety analyses for nuclear waste repositories. I am involved in several fundamental research projects, dealing with different host rock formations. My specific task is to model the (density-driven) groundwater flow and pollutant transport in large, heterogeneous, complex model areas over very long periods of time. Besides my modelling duties, I am also involved in lab work, eg I managed a laboratory project on diffusion through compacted crushed salt. In the context of the German-Russian scientific-technical cooperation, I am

responsible for GRS contributions to research on radioactive waste disposal in crystalline formations. Since 2017, I am the German representative and vice-chair of the OECD/NEA Expert Group on Geological Repositories in Crystalline Formations (Crystalline Club – CRC). Since the beginning of 2018, I am the head of department for site selection at GRS, a challenging and exciting new task.

Why did you join IAH?

To tell the truth, at the time I joined IAH in 2004, I had no idea about the benefits or advantages that IAH membership may offer. I graduated from university and was looking for a job. Going abroad was definitely an option for me, so why not join an international network of experts of my profession? Application form completed, IAH membership obtained... and filed away.

It was only in 2010, when I attended the IAH congress in Krakow, Poland, and joined the first early career hydrogeologists' meeting, that I became more involved in IAH issues. So, a better question for me would be: Why did I become involved in IAH matters?

This was a matter of being in the right spot at the right time. Based on the "Forward Look 2011 – 2020" initiative, IAH was looking on how to engage more of the younger or early career members in IAH issues and initiated this meeting. Of course, I had no idea about this background. I only attended the meeting and found that many early career hydrogeologists felt lost at the step from being a student to being an active part of the hydrogeology community. Following this meeting, a small group of early career hydrogeologists teamed up and established the



“We all need to be groundwater advocates for our utmost concern – the wise use of groundwater resources worldwide”

early career hydrogeologists’ network (ECHN).

Looking back almost ten years later, this was an important step in rejuvenating the IAH structures and involving more junior hydrogeologists. Those, who had the chance to take part in recent ECHN activities, such as the social meetings at IAH congresses, the ECHN Coolest Paper Award, or the thematic sessions on how to write a paper or present in 15 minutes (just to name a few), will confirm this network has put a new momentum to IAH activities. I feel honoured, that I had the chance to be part of this energetic new group. Now, being the secretary of the German Chapter of IAH, I am striving to continue to support IAH’s mission to further the understanding, wise use and protection of groundwater resources throughout the world.

What have been the biggest changes over your career?

I studied applied geosciences with the aim to travel the world and to contribute to making it a better place by drilling drinking water wells. Basically, field work was one of the reasons for me to become a hydrogeologist. I love being outside, doing hands-on field work, and expanding my horizon by getting into touch with the local population. Over the years, with increasing management responsibility, this practical aspect of work fades and becomes secondary. Sometimes I miss the good old days of field work, with pH meter in one and a sample bottle in the other hand.

What are your concerns now or for the future, relating to groundwater/hydrogeology?

Judging from the recent developments worldwide, stable societal and political structures are fragile and thus the science-based decision making process becomes more and more vulnerable. Over-exploitation of groundwater, disrespecting the principles of sustainability, increasing energy consumption, intensive agriculture and irrigation, and pollution of groundwater are threats to our most valuable resource. With increasing political instability, there is an increasing need for a strong and recognised groundwater voice. We all need to be groundwater advocates for our utmost concern – the wise use of groundwater resources worldwide.

What three tips might you give to someone just starting out on their study or career?

Network, network, network. This may sound like a selfish attitude, but there is more to it.

1. In the first place, a professional network will, of course, put you into touch with other experts in hydrogeology. You may grow your social media network and pimp your profile. You might get offered a job because you know the right people. Fair enough.
2. But let’s go beyond that: Talk to people. When you do field your work, talk to the local people and listen to what they can tell you. You might discover the essentials of your problem by “just” paying attention to their experiences and advice. When you are writing your thesis/a paper/a project proposal, give it to as many people as possible before submitting it. It can only gain from the different perceptions and reviews. Don’t be shy. Don’t sit in your office behind closed doors trying to finish your project on your own. It’s better to ask for advice and deal with criticism than to run a long way on the wrong track before realising it.
3. Reach out to the public in the name of hydrogeology! Let’s even try this: Grow your network beyond professional constraints. When politicians make their decisions, make sure it’s based on scientific facts. You think you have no influence, because you are only a junior hydrogeologist? When you grow your network now, it will be large enough to reach out to decision makers once you are a senior hydrogeologist.

What has being a member of IAH brought to you?

This might seem contrived, but it is the way it is: I have become a part of the IAH family. Attending an IAH congress is now like travelling to a family reunion. I have met so many interesting people, from renowned researchers to energetic juniors. The scientific exchange as well as the striving for a common goal unites hydrogeologists worldwide. And above all that - some of the professional relationships have turned into real friendships.

The Forward Look

Where are we now?

At the beginning of this decade IAH embarked on a Forward Look planning initiative, which started with a survey of members' views on how the association should develop, followed by a strategy meeting held in Reading, UK in 2010. This led to the Forward Look Action Plan that identified a series of actions for IAH for the next 10 years. The actions were grouped under 5 main themes:

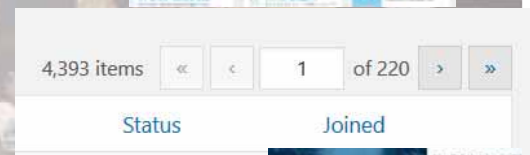
1. Education and academic development
2. Internal development of IAH
3. Informing and influencing global policy
4. Enhancing alliances with external agencies
5. Developing the science of hydrogeology



We are now less than 3 years from the end of this planning period and it is timely to review where we are, and to list priorities for the remaining period up to 2020 (which will also mark the end of the term of office for the current Council). Major achievements during the first 7 years of the Action Plan include:

- Establishing an Early Career Hydrogeologists Network
- Launching the mentoring scheme
- Preparing a series of Strategic Overview papers (7 papers to date)
- Increasing the size, quality and citation index of Hydrogeology Journal
- Developing the new IAH website
- Increasing membership to over 4,000, and increasing the number of National Chapters
- Restructuring of Commissions and Networks
- Updating the IAH rules to better reflect current practice

Despite these successes, some priority actions have not been carried out or were probably over-optimistic. For example, the aim was to increase membership to 5,000 by 2020. Whilst we have made some progress, and our membership is now more than 4,000, it is very unlikely the target of 5,000 can be achieved, at least by 2020.



The longer term actions in the Forward Look document are mainly concerned with enhancing alliances, influencing policy and developing groundwater science. Whilst progress has been made, this is less easy to measure. Achievements include participation in high level international water meetings such as the World Water Forum in South Korea in 2015 and the Budapest Water Summit in 2016; the establishment of MOUs with organisations such as the African Groundwater Network and IGRAC; collaboration with UNESCO, FAO and the UN Global Environmental Facility (GEF) in the project “Groundwater Governance – A Global Framework for Action”; and attending the UN World Water Forum in Brazil in March 2018. IAH was also a co-founder of the Groundwater Solution Initiative for Policy and Practice (GRIPP) and is a member of the GRIPP core group.

We have prepared a short leaflet summarising these achievements and listing the priority actions to 2020. You can view this here: <http://bit.ly/2FXimLY>. The priority actions are summarised in the table below:

Action/activity	Target date
OBJECTIVE 1 – ENHANCE EDUCATION & ACADEMIC DEVELOPMENT	
Add education pages to IAH website	Sept 2018
Prepare two additional strategic overview (SO) papers, and prepare hard copies of existing SO papers for wider dissemination; consider feasibility of translating SO papers into other languages	Sept 2019
Establish, with partners, IAH webinars, including webinars related to the SO papers and to Commission and Network activities	Sept 2019
OBJECTIVE 2 – CONTINUE INTERNAL DEVELOPMENT OF IAH	
Diversify sources of income for IAH, including greater contribution from congresses	End 2018
Introduce new sponsorship scheme	Sept 2018
Increase overall membership by 10% (with 2016 as the baseline), including setting targets for regions	Sept 2020
Provide increased services to members using enhanced website, such as advertising job and educational opportunities	Sept 2020
Evaluate effectiveness of mentoring scheme and look to expand scheme	Sept 2018
OBJECTIVE 3 – INFORM AND INFLUENCE GLOBAL POLICY	
Highlight role of groundwater in meeting Sustainable Development Goals (SDGs), especially SDG6, including promoting groundwater in integrated water resources management (IWRM) and river basin management plans globally.	Sept 2020
Target specific international organisations for raising awareness of groundwater issues	Sept 2020
Work towards establishing an international year of Groundwater or Aquifers	Post 2020
Offer education and training to specific NGOs	End 2019
OBJECTIVE 4 – ENHANCE ALLIANCES WITH EXTERNAL AGENCIES	
Continue to establish MOUs with relevant associations	Ongoing
Build on relationships and outputs from the GEF Groundwater Governance project	Ongoing
OBJECTIVE 5 – ENHANCE THE DEVELOPMENT OF HYDROGEOLOGICAL SCIENCE	
Establish a panel to review frontiers in hydrogeology	Sept 2018
Review strategy for book publication and implications of open access for Hydrogeology Journal	Sept 2018
Seek additional ways to support the activities of commissions and networks	Sept 2019
Review congress strategy, including whether we should hold more targeted hydrogeological science meetings in some years rather than broad multi-theme congresses every year.	Sept 2019

[continued over...]

MEMBER MATTERS

[...continued from previous]

[Forward Look update]

The identification of longer term actions will be the responsibility of the next Council (which will be elected in 2020), working closely with our Commissions, Networks and wider membership. Any new plan will, to some extent, depend on how successfully the priority actions listed above have been achieved. It will be especially important to make progress with those actions geared towards providing additional resources, through activities such as congresses, sponsorships and increased fee income from a larger membership.

To conclude, I would like to thank all our members across the globe whose hard work has helped our association grow over this period and achieve many of its aims. I would especially like to acknowledge the contribution of Shammy Puri, my predecessor as Secretary General, who put together the original Action Plan and oversaw its implementation.

BRUCE MISSTEAR, IAH SECRETARY GENERAL



https://iah.org/wp-content/uploads/2018/03/Forward-Look-Achievements-and-Priority-Actions_Dec17.pdf

MENTORING SCHEME NOW OPEN

In 2012 IAH took first steps to establish a mentoring scheme, undertaking an initial trial and producing guidance notes etc. under the advice of a mentoring/career development expert. Since then we made further calls for participation in 2015 and 2016; we are pleased to now be able to reopen the scheme to new participants in 2018. We aim that the scheme should bring support to its members in three important areas:

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



We know that we have such knowledge throughout our association and intend that our mentoring scheme provides the mechanism to share it. Could you benefit? Do you have knowledge and experiences to share?

The scheme is only open to IAH members – but if you are not yet a member you are welcome to join us now!

SECRETARIAT



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

<https://www.surveymonkey.co.uk/r/IAHmentor18> – mentor registration 2018 (giver of advice)

<https://www.surveymonkey.co.uk/r/IAHmentee2018> - mentee registration 2018 (receiver of advice)



In Memorium

We are sad to announce the deaths of John Moore, former IAH President and stalwart of many other professional societies, and Dr Borivoje (Boris) Mijatovic, distinguished hydrogeologist and karstologist. Both were long-standing IAH members and their loss will be sorely felt in the IAH community and beyond.

SECRETARIAT

John Moore, past president of the International Association of Hydrogeologists (IAH), passed away on January 6, 2018 in Denver, Colorado. John served as Chair of the US National Chapter (USNC) of IAH from 1980-84 and as President of IAH from 1993-1996.



John worked for the US Geological Survey (USGS) from 1960-1989 retiring as Deputy Assistant Chief Hydrogeologist. After retiring from the USGS he worked as a technical advisor to the US Environmental Protection Agency (EPA) and the US House of Representatives for three years. He remained active in IAH and in hydrogeology well into his 80s and was an honorary Life Member. Joe Rosenshein and John co-edited the History of Hydrogeology in the United States and John co-authored a paper on the history of the USNC.

The first time I met him (mid 90s) he was hosting a well known Russian hydrogeologist Dr. Igor Zektser on one of the early scientific exchange visits between US and former Soviet scientists. John brought Dr. Zektser to my office at EPA and I later met him in the field on the Estonia-Russia border.

Over the years I traveled with John to IAH Congresses in Slovenia, Poland and Mexico. I have fond memories of riding the train from Vienna to Ljubljana with John and his wife Dickie to attend an IAH Congress in Slovenia. For those who knew John – he will be remembered for his enthusiasm, his willingness to share his knowledge and experience with younger peers and his amazing network of friends and colleagues all around the world. We will miss his camaraderie and friendship.

MIKE WIREMAN, PAST PRESIDENT OF IAH USA CHAPTER

Boris was professor in geology at the University of Novi Sad, Serbia, Chair of the Department for Engineering Geology and Hydrogeology of the Geological Survey of Serbia, as well as a consultant of the UN. He conducted many projects across the former



Yugoslavia and several Mediterranean countries including Greece, Turkey, Lebanon, and Libya. Boris was also the first Chair of the National Committee of IAH for Serbia.

Boris was an eminent expert in karst aquifer regime evaluation and hydrodynamical modeling. His doctoral dissertation discusses hydrogeology of karst aquifer in coastal zones. He wrote more than 150 scientific papers and several publications among them "Karst – Hydrogeology of karstic water bearing rocks", and edited IAH's book "Hydrogeology of Dinaric Karst".

ZORAN STEVANOVIC, CO CHAIR OF IAH KARST COMMISSION

A sense of history



Without you, our members and supporters, IAH would be nothing. We are grateful for all the work and contributions you make - at your desks, out in the field, and for us, the worldwide groundwater family. For more than 60 years and counting - the past, present and future.

If you would like to find out more about IAH's past, do visit the history area of our website. You might also be interested to watch the collection of videos made by the Hydrogeologist Time Capsule Project.



<https://iah.org/about/history>
<https://timecapsule.iah.org/>

[continued over...]



New Members

A warm welcome to the following new members, who joined our Association in the period 12 October 2017 - 4 March 2018:

ALBANIA

Prof. Romeo EFTIMI

ALGERIA

Mr Ahmed Walid MOULAHOU

ARGENTINA

Melanie VITAL

Mr Brian Adrián Reale PORTELLI

AUSTRALIA

AGE CONSULTANTS (c)

Patrick CARROLL

Claire CLOTHIER

Indiana CROW

Kade HANCOCK

Kristie HUME

Adam OLSEN

Shane PAPWORTH

Stuart RICHARDSON

Joel VOS

Aditya JHA

Matthew KRONAST

Claire MILLER

Liam SPURR

Nicolaas UNLAND

Robin CONNOLLY

Brigid MORIARTY

Haylee THOMAS

Jerome ARUNAKUMAREN

Madelyn HARP

Wayne HICK

Toni PHILLIPS

Hanqing ZHAO

Merrin ALLEN

Cliff BENNISON

Tony JOHNSON

Tim JONES

Sebastien LAMONTAGNE

Mr Ri XU

Mr David HARRIS

Travis DRAPER

Andrew IZADYAR

Mr Rowland BOXALL

Prof Ian WHITE

Mr Jardine MACDONALD

BAHRAIN

Mrs Leane HOLLOWAY

BELGIUM

Thomas HERMANS

M. Youcef DEDJELL

BOLIVIA

Mr Josue Roberto Reyes AMAYA

CANADA

Dr Aaron CAHILL

Mr Duy Kevin NGO

Timothy BOC

Andrey FOMENKO

Mathieu KLEIN

Peter-James MAURO RWDI

Brayden MCNEILL

Dr Barret KURYLYK

Mr Abdullahi DINI

Michelle CHO

David HODGSON

Carole KEHOE

Rachael MARSHALL

Mr Paul MORTON

Tony TOMORY

Dr Derek FORD

CHILE

Denisse DE LA FUENTE

Manuel VALENZUELA

CHINA, PEOPLE'S REPUBLIC

Mr Fan YONG

Mr Yibing KE

Yanguang LIU

Dr Dunyu LYU

Xihua WANG

Jiankang ZHANG

Dr Jie CHEN

DENMARK

Mr Douglas N GRAHAM

ETHIOPIA

Kidist HAILU

Nafyad S KAWO

Ephrem TAGEGNE

FRANCE

Mr Rémy COTINET

Emna Bahri Ep HAMMAMI

Mr Thibaut GARIN

Michel LAFFORGUE

Gwendoline MOMBERTAND

Behzad NASRI

Mr Baptiste DESMARTIS

Dr Josephine DURAND

GERMANY

Claus HASLAUER

Dr Philipp WEIS

Felix BARQUERO

Mr Jaabir Duunya ALI

Mr Ralf JUNGHANN

Mr Maxwell BAWA

Dr Jamal OUARGHI

Dr Volker CLAUSNITZER

Ms Nina EICHLER

Mr Marcus VELTRI

GHANA

Mr Evans MANU

HUNGARY

Mr Péter FÁBIÁN

Kamilla MODROVITS

INDIA

Mr Biplob CHATTERJEE
 Mr David Anand AIND
 A.S MAJUMDAR
 Mr Ajit Kumar BEHERA
 Ms Runti CHOUDHURY
 Mr Mohan THIMMARAJU
 Dr Padmalal DAMODARAN
 Ms Dedeepya RACHAKONDA

INDONESIA

Mr Dewandra Bagus Eka PUTRA
 Dr Rachmat Fajar LUBIS
 Mr Ananta PURWOARMINTA

IRAN

Dr Mohammad ABBASI

IRAQ

Mrs Weam KADUM

IRELAND

Ms Lindsay Anne CONNOLLY
 Ms Samantha MARCHANT
 Mr Pat BARRETT
 Dr Aileen BRIGHT
 Mr Jim STEPHENSON
 Ms Fionnuala JOYCE
 Ms Joanna TOTTENHAM
 Mr Daniel HAYDEN
 Ms Sonja MASTERSON
 Ms Amy BURKE
 Mr Seán WHEELER

ITALY

Simone ORIOLI
 Dr Ashwani Kumar TIWARI
 Prof Massimo SALLEOLINI
 Gabriela AFRASINEI
 Cristina BUTTAU
 Marco PISTIS
 Matteo CAMPORESE
 Mrs Azzurra LENTINI

KOREA, REPUBLIC OF

Dr Yong Hwa OH

MEXICO

Gloria Isabel Salazar RAMIREZ

MONGOLIA

Mr Dashbyamba LKHAGVASUREN
 Mr Purevsuren UUGANBAYAR

MOROCCO

Mr Tarik LABKIRI

NETHERLANDS

Dr Wilko VERWEIJ
 Dr Hanneke VERWEIJ
 Claudia Ruz RUZ VARGAS

NEW ZEALAND

Hisham ZAROOUR
 Emilie EDDINGTON

NIGER

Dr ABDOU BABAYE Maman Sani

NIGERIA

Mr Bethel Ugochukwu UKAZU
 Ebenezer A KUDAMNYA

NORWAY

Ms Thea Karoline Mork AAMODT
 Mr Abdul JABBAR
 Ms Ingeborg Sævareid SOLVANG
 Dr Björn FRENGSTAD
 Ms Heidi Marstein BRØSTE
 Mr Rene Meringdal GULE

PAPUA NEW GUINEA

Dorcac FABILA

PERU

Miss Estefany TISZA

POLAND

Agnieszka KOWALCZYK

Marzena NOWAKOWSKA
 Mrs Ewa Kmiecik

QATAR

Prof Husam BAALOUSHA

RUSSIA

DR ANDREY OZERSKIY

SENEGAL

Mr Moustapha BAR

SERBIA

Ms Vladimir Šaraba

SLOVAKIA

Mr David KRCMAR

SLOVENIA

Janja VRZEL

SOUTH AFRICA

Mr N'tita Gustave ILUNGA
 Mr Tesfaye Tessema GINTAMO

SPAIN

Lorena ÁLVAREZ ÁLVAREZ
 Lucía OJEDA RODRÍGUEZ
 César RODRÍGUEZ PEREIRA
 Noemí ROMERO MARTÍN
 Mr Angel GONZALEZ-CARBALLO
 Jacobo BONO TRIGO
 Raquel MORALES GARCÍA
 Ana FERNÁNDEZ AYUSO
 Antonio Jesús GARCÍA GUERRERO
 Jose Daniel LISO MARTIN
 Dr Laura SCHEIBER PAGÉS

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

[continued over...]

MEMBER MATTERS

[...continued from previous]



More New Members

Continuing our warm welcome to the following new members, who joined our Association in the period 12 October 2017 - 4 March 2018:

SWEDEN

Mr Magnus SIDGREN

SWITZERLAND

Clément ROQUES

Dr Lorenz Wüthrich

Dr Jean CROISÉ

THAILAND

Rattana THIRATHITHAM

TIMOR-LESTE

Mr Marcal XIMENES

TUNISIA

Hakim GABTNI

TURKEY

Dr Burcu DURU

Mr Mertcan OZBAKIR

Prof Dr Veysel S. YAVUZ

Mr Mehmetcan ÖZKADIOĞLU

UNITED KINGDOM

Mr Jonathan SIMM

Mr Laurence Hanson DIAMOND

Miss Emma CREWDSON

Miss Elspeth EVANS

Ms Markella SIAKA

Mr Felix MULLIGAN

Mr Maris SUNAITIS

Mr Jack BRICKELL

Ms Josephine MCSHERRY

Mr Paul DAILY

Dr Sian LOVELESS

Md Izazul HAQ

Mr Iain STOREY

Mr Adam BENNETT

Mr Sean FEIST

Miss Eve SKEVINGTON

Mr Kiefer PATERSON

Mr Adam MURRAY

Dr Sarah-Louise MCMANUS

UNITED STATES OF AMERICA

Gare AMBROSE-IGHO

Joshua BARNA

Victoria BLUMENBERG

Caroline HACKETT

Mark HIGGINS

Zaina HUSSEIN MSEL

Rich PAULOO

Mrs Paula PERILLA-CASTILLO

Misty PORTER

Mr Marcus TROTTA

Mr Jake LONGENECKER

Inci DEMIRKANLI

Dr Mehdi GHASEMIZADE

Dr Tim HAZLETT

Dr Fred TILLMAN

Dr Changbing YANG

Ms Lakin BEAL

Dr Elizabeth KEATING

Ms Catherine QUINN

Mr Addison BELL

Luisa BURITICA

CHECK YOUR DETAILS

Are you receiving your regular IAH messages and alerts with HJ link and latest news digests and initiatives?

Ensuring that our members receive their IAH entitlements such as the Hydrogeology Journal is important to us. 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>

CHANGE OF IAH ADDRESS, PHONE AND FAX NUMBERS

Please note our new contact details:

PO Box 4130, Goring, Reading. RG8 6BJ. UK

Phone: +44 300 302 0043 Fax: +44 300 302 0053

(Our phone and fax numbers are kindly provided free of charge by Voipfone)

General enquiry email address remains the same: info@iah.org.

SECRETARIAT



GDPR

General Data Protection Regulation

The General Data Protection Regulation (GDPR) (EU) 2016/679 is a regulation in EU law on data protection and privacy for all individuals within the European Union. It applies to processing of personal data carried out by organisations operating within the EU and will be implemented on 25 May 2018. Personal data may be, for example, information relating to an individual, including private, professional or public life. It includes name, contact details, photos, bank details, or a computer's IP address".

IAH collects various data to help us understand the needs of our members, supporters and users, enabling us to provide our community with better services.

For IAH members, as you might expect, much of the data collected is so that we can manage your membership of the IAH and to receive member benefits. This is largely related to contact information, location, non-sensitive employment information, groundwater/hydrogeology related interests, IAH interests, photographs. IAH DOES NOT keep bank details. For those on the mentoring scheme, we hold additional non-sensitive information about professional experience and aspiration. You provide your data voluntarily – and clearly we can't manage without this, nor can we give you access to the membership benefits without this. In effect this forms a contract that we comply with, and which is in the mutual interests of members and the IAH administration to manage effectively.

We also hold names and email addresses for non-members, specifically only where they have requested that we keep them in touch with IAH news and information. This most commonly happens by opting in via our eNews form on the website.

The GDPR provides the various rights for individuals:

1. The right to be informed about how we collect and use your data
2. The right of access to personal information records and ensuring data we hold are correct (members can access and edit this on the IAH website in the members' area at <https://iah.org/members/your-membership>).
3. The right for records to be deleted
4. The right to object to or restrict processing of data
5. The right to data portability of data where we process data on the basis of your consent or for the performance of a contract

As has always been the case, we are committed to managing your data securely, including where this is held by national chapters, commissions and networks.

For more information, view our privacy policy at <https://iah.org/privacy-and-cookies-policy>. Questions or comments? Email info@iah.org.

SECRETARIAT



<https://iah.org/privacy-and-cookies-policy>

info@iah.org

<https://www.eugdpr.org/>



MEETING REPORTS

Groundwater and Global Change in the Western Mediterranean

The IAH International Conference on Groundwater and Global Change in the Western Mediterranean (GWM-Change) was held most appropriately in 'multicultural Granada' during 6-9 November 2017. The meeting was promoted by the IAH Spanish Chapter, in collaboration with the IAH French, Italian, Moroccan, Portuguese and Tunisian Chapters and with Algerian contacts, at the initiative of Prof Dr Bartolome Andreo (IAH Spanish Chapter President).

The conference was very efficiently organised by the University of Granada, under the chair of Prof Dr María-Luisa Calvache, with support from IGME (Spanish Geological Survey) – and also enjoyed sponsorship from various companies and patronage of local agencies. It was attended by over 150 delegates from Algeria, France, Italy, Morocco, Portugal, Spain and Tunisia, together with a few people from outside the geographical region.

This drought-prone region has one of the longest histories globally of groundwater exploitation, and its coastal plains and valleys have witnessed some very intensive anthropogenic modification. Some 100 contributions (oral communications and poster displays) and 6 keynote lectures addressing these issues were given over 3 days. The presentations included many case profiles and practical experiences on the modification of groundwater resources by processes of global climate and land-use change, especially on coastal aquifers, and on the construction of infrastructure and other measures to adapt to them. Additionally, the conference featured a well-deserved tribute to Prof Dr Antonio Pulido-Bosch (University of Almeria) for his selfless dedication to training and research in hydrogeological science throughout his long professional career.

The conference ended with a field excursion to see how the water-supply of ancient Granada was achieved, with visits to the aquifer that fed the principal spring (Fuente Grande) from which the water was delivered to the hilly Albaicín neighborhood by means of a system of conduits ('acequias'), where it was stored in the old tanks ('algibes'). The excursion culminated with a visit to the monumental Alhambra, where an ingenious system was used to raise water and supply the palace during the Muslim era.



The results of the congress will be disseminated in two publications:

- A digital book containing all submitted contributions, edited by IAH Spain and the Universidad de Granada Editorial, which is available downloaded via the following link <http://www.aih-ge.org/index.php/gwm-change-2017/>
- A book entitled Groundwater and Global Change in the Western Mediterranean, edited by Springer, that will disseminate internationally the results of the conference – it will contain a selection of 35 papers and when complete all conference participants will have free access to an electronic version.

STEPHEN FOSTER, MARÍA-LUISA CALVACHE AND BARTOLOMÉ ANDREO

 <http://www.aih-ge.org/index.php/gwm-change-2017/>

Groundwater-2017: Essentuki Russia



“Groundwater-2017” was held in Essentuki, Russia from 29 November - 1 December 2017. It assembled a wide range of leading scientists and practitioners in groundwater use and assessment of reserves.

The conference was organised by the Federal Subsoil Resources Management Agency, the State Commission on mineral reserves, the Geological Center of St. Petersburg University, Eurasian Union of Experts on Subsoil Use (ECOEN) and IAH. Representatives of state authorities of the Russian Federation and the Ministry of Natural Resources and Ecology of the Russian Federation welcomed the participants. The 186 participants represented the Russian Academy of Sciences, large commercial companies, scientific hydrogeological institutes, from Russia, Turkey and Kazakhstan. Discussion was very fruitful; many important improvements in the current legislation on groundwater use has been proposed and taken into account in the Resolution of the conference with recommendations for the state authorities.

Essentuki is a remarkable place, situated in the North Caucasus, a region famous for its unique mineral waters.

The post-conference fieldtrip to the town of Pyatigorsk was devoted to the history of the place and study of the local mineral waters. It also pricked the emotions of the Russian audience by visiting the location of the death of the great Russian poet Mikhail Lermontov, who was killed on a duel in Pyatigorsk in 1841.

IAH's Vice President for Eastern Europe and Central Asia Natalia Vinograd gave a presentation about IAH, highlighting its role in the development of world groundwater science, she was also session moderator. It was noted that more Russian members would enable greater influence of global trends in the development of hydrogeology. Natalia distributed forms and information, in expectation of encouraging more in the region to join.

NATALIA VINOGRAD, IAH VICE PRESIDENT FOR EASTERN EUROPE AND CENTRAL ASIA



[continued over...]

MEETING REPORTS

[...continued from previous]



8th World Water Forum: Sharing Water, **Brazil**

The 8th World Water Forum, organised by the World Water Council (WWC), was held in Brasília, Brazil, between 18 and 23 March 2018. António Chambel, IAH President, represented IAH at the event and was joined by several IAH members.

With more than 11,000 participants at the Forum itself and more than 100,000 visitors to both the Exposition, dedicated to countries and companies, and the Citizen Village and Fair with free and open entrance for all, it was one of the most successful fora ever organised.

Around 40 parallel sessions were scheduled during the week, which were organised under 3 processes: Thematic, Political and Regional.

The Thematic process was structured in 6 main topics and 3 cross-cutting ones. The main topics were Climate, People, Development, Urban, Ecosystems and Financing, and the cross-cutting ones were Sharing, Capacity and Governance.

The Regional process involved the following regions: Africa, Americas, Arab countries, Asia-Pacific, Europe and the Mediterranean. Several Inter-Regional meetings were also organised which crossing the dividing lines between the regions.

On 22 March, World Water Day was commemorated in a special session dedicated to “Nature for Water”, with the involvement of WWC, UN World Water, UNESCO-IHP (International Hydrological Programme) and IGRAC (International Groundwater Resources Assessment Centre), amongst others. Antonio Chambel was called to the stage by IGRAC during the launch of the Groundwater Report in recognition of the role that IAH plays.

The Ministerial Declaration of the 8th World Water Forum entitled “Urgent call for decisive action on the water” was approved. This was joined by official declarations of the Judges, the Brazilian Federal Public Ministry, Local and Regional Authorities, Parliamentarians from around the world, and on Sustainability. All these declarations can be found on the WWF2018 website (<http://www.worldwaterforum8.org/en/node/943/>).

During the Forum, the High-Level Panel on Water presented in several sessions the “Outcome Document - Making Every Drop Count: An Agenda for Water Action”. This had received strong support during the past year and longer by GRIPP (Groundwater Solutions Initiative for Policy and Practice) and IAH (document available at https://sustainabledevelopment.un.org/content/documents/17825HLPW_Outcome.pdf). The report emphasises a concept of groundwater and aquifers, and the actions needed, in a way that was not so clear in the past.

ANTÓNIO CHAMBEL



<http://www.worldwaterforum8.org/>



Contribute: info@iah.org



MEDIA FOCUS

A selection of groundwater features from around the world

UAE: GROUNDWATER STORAGE IMPROVES THE REGION'S WATER RESILIENCE: COULD IT BE A MODEL FOR THE MIDDLE EAST?

To minimise the vulnerabilities in its water supply network, Abu Dhabi, the largest of the UAE's seven emirates, recently completed the construction of an artificial groundwater recharge system under the Liwa Desert.

<http://www.futuredirections.org.au/publication/groundwater-storage-improves-uaes-water-resilience-model-middle-east/>

MALTA: LESS RELIANCE ON GROUNDWATER BY UPGRADING REVERSE OSMOSIS PLANTS

Malta's Water Services Corporation (WSC) will be upgrading its reverse osmosis plants to increase energy efficiency and production capacity, allowing it to rely less on ground water extraction in the future.

https://www.maltatoday.com.mt/news/national/84639/water_services_corporation_to_upgrade_reverse_osmosis_plants_rely_less_on_ground_water#.WtXOE5dryUk

USA: INADEQUATE STATE OIL AND GAS REGULATIONS THREATEN GROUNDWATER RESOURCES, STUDY FINDS

Inconsistent or vague definitions of 'protected groundwater' in 17 state oil and gas regulations leave the nation's water supply vulnerable to contamination from oil and gas development according to a recent study.

https://www.eurekalert.org/pub_releases/2018-03/phe-iso030518.php

STUDY: COAL PLANTS POSE GROUNDWATER THREAT, NEW DATA SHOWS

Mounting data suggests that pollution from coal-burning power plants may pose a threat to drinking water.

<https://www.wateronline.com/doc/coal-plants-pose-groundwater-threat-new-data-shows-0001>

ARGENTINA - WHEN NATURE SAYS ENOUGH!

A new watercourse is playing havoc with farmland and roads and even threatening a city – but also highlights the potential cost of the country's dependence on soya beans.

<https://www.theguardian.com/world/2018/apr/01/argentina-new-river-soya-beans>

'DAY ZERO' WATER CRISES: SPAIN, MOROCCO, INDIA AND IRAQ AT RISK AS RESERVOIRS SHRINK

Shrinking reservoirs in Morocco, India, Iraq and Spain could spark the next "day zero" water crisis, according to the developers of a satellite early warning system for the world's 500,000 dams. Report in Guardian News.

<https://www.theguardian.com/environment/2018/apr/11/day-zero-water-crises-spain-morocco-india-and-iraq-at-risk-as-dams-shrink?>

PAPER: KEYSTONE PIPELINE LEAK IN SOUTH DAKOTA ABOUT DOUBLE PREVIOUS ESTIMATE

The Keystone crude oil pipeline leak in November in rural South Dakota was nearly double the original estimate, making it one of the largest U.S. inland spills since 2010, states a report.

<https://www.reuters.com/article/us-transcanada-pipeline-leak/keystone-pipeline-leak-in-south-dakota-about-double-previous-estimate-paper-idUSKBN1HE0T7>

EXECUTIVE MEETS IN DORCHESTER, UK



The Executive met at the end of February in Dorchester on Thames, in the UK.

Discussion of finances was the main topic of the meeting. The provisional end of year statement for 2017 shows a surplus of €10,000 on a turnover of €316,000, which was undoubtedly reassuring in setting the budget for the 2018. This good financial performance was due in part to slightly increased income from Springer for the Hydrogeology Journal and lower than expected travel costs for council members, which were instead covered by their own institutions. On the other hand, some significant costs, such as the proposed HJ editors' meeting, were deferred. These costs will instead need to be accommodated within the 2018 budget so there is no room for complacency.

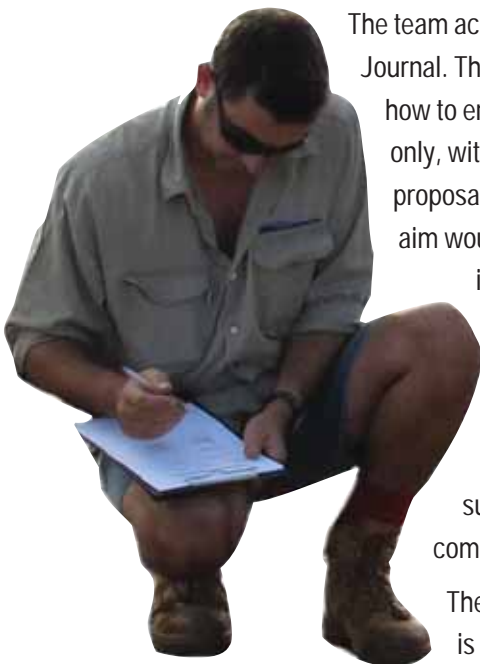
The Burdon book distribution, though planned for 2017, is being implemented now so the costs will also fall within 2018's list of expenditure.

The Executive considered the successes that have been achieved under the Forward Look Programme, such as the Early Careers Hydrogeologists' Network and reviewed the priorities identified for the period remaining until 2020 – enhancing alliances, influencing policy and developing groundwater science, and how best to structure the links – after which the next Council will take the lead on the longer term aims.

The team acknowledged the ever-increasing quality and Impact Factor of the Hydrogeology Journal. They noted that many HJ authors were not members and wanted to consider further how to encourage more to join. Around 53% of IAH members now receive online versions of HJ only, with those having both print and online having fallen to 47%. They considered further the proposal for "HJ Lite", which had been put forward at the Council meeting in Dubrovnik. The aim would be to have a slim publicity 'brochure' highlighting what HJ covers and potentially including example papers or abstracts for the relevant year of publication.

They reviewed the good progress now being made on developing the website to include more information on education and other resources for continual professional development, including jobs and courses. Development had initially been held back in 2017 pending clarification of the availability of funds. In addition, subsidiary websites for Chapters, Commissions and Networks were seen to be nearing completion.

The team reviewed the emerging proposals for future congresses across the world and it is expected that more news will be available on this in Daejeon, if not before. They were



keen, too, for our plans for working more closely with our corporate supporters to be put into operation. Success in this will help in developing more IAH benefits for members, national chapters, commissions and networks.

The Executive returned to the subject of the budget towards the end of the meeting. Discussion touched on membership fees and a suggestion that there could be a reduction to the fee for life membership for members over 60 was considered. There was also discussion on how many student members eventually take up full membership and whether a reduced initial fee (e.g. mid-way between student and full fee) might attract more full members. These items will be considered further during the year.

The Executive were supported in their consideration of the agenda items by Nick Robins, Editor on Chief, Books, and Robbie Dow, GB Chapter Member, as well as the Secretariat.

IAN DAVEY

 <https://iah.org/about/council>


BOOK SERIES

As reported in the last newsletter, we are proposing to close the Green Book Series (Selected Papers) as interest in producing and buying these has fallen off, although discussions are continuing about some final books before publication comes to an end. We will concentrate on the Blue Book Series (International Contributions to Hydrogeology) and have one book that will be scheduled for publication in the near future, with discussions taking place on further books.

Up until recently we have been able to offer members a very generous discount of 60% on our books, although uptake of this discount has been very limited, particularly as fewer books are sold. This discount has been possible because the current Books Editor has undertaken the copy editing. This is an unusual role for an editor and we have agreed that the publisher will take on this role. The publisher has been keen to ensure that IAH retains favourable terms and members will now benefit from a still substantial discount of 30%.

Also reported in the last newsletter was the opportunity for three new 'sub-editors' for books, each bringing at least one specialism to the table. It is anticipated that one of the three Sub-Editors would succeed the Editor in Chief. This looks to be an exceptional opportunity and if you would like further information on this please contact Nick Robins at books@iah.org.

SECRETARIAT

 <https://iah.org/iah-book-series>
books@iah.org



[continued over...]

MAY 2018

SUPPORT FROM CORPORATE MEMBERS AND SPONSORS

We continue to be very grateful to all of our corporate supporters, members and sponsors alike, and we are pleased to recognise this support on our website and at our stands at conferences across the world.

We are making progress with our revised scheme for corporate support, under the direction of Dave Kreamer, Vice President for Science and Programme, and Robbie Dow of the GB Chapter. Their aim is that our agreements with organisations and individuals should bring clear mutual benefits. At the same time they believe strongly that, as well as strengthening and diversifying income, IAH values must be upheld. They want to secure more benefits for members and gain additional support for the Association's charitable activities without simply relying on increases to membership fees over the years.

We intend to continue with corporate membership, which, with the various features on offer, provides very good value for organisations. It includes IAH membership for the organisation along with individual membership for several named members of the company. They gain from the usual individual membership benefits - reduced fees at conferences and the annual congress (itself normally worth a membership fee) and they receive the Hydrogeology Journal. Corporate benefits include discounts for advertising in the IAH newsletter and for exhibition stands at IAH congresses. Together these benefits can far outweigh the contribution made by the company.

The revised scheme aims to provide opportunities for more targeted support, depending on what they are looking for as a corporate sponsor. As well as the features offered to corporate members, sponsors will be able to benefit from further opportunities for publicity – which could include closer support for conferences, help on initiatives that Commissions and Networks have already flagged that they would like to carry out, support to IAH members in developing countries and for early career hydrogeologists.

Some IAH members may be concerned about the potential risks associated with trying to expand our corporate support scheme. It's certainly true that potential sponsors will want to consider the commercial arguments for their relationship with the IAH, as well as philanthropic aims, and we should be realistic about this.

Prospective sponsors should be able to show that their activities are compatible with and will not compromise our values or obligations. This could be demonstrated through their own written policies on matters such as corporate social responsibility and sustainable environmental management.

IAH is affiliated to the International Association of the Promotion of Geoethics (IAPG) and their "Cape Town Statement on Geoethics" is a useful reference too (see <http://www.geoethics.org/ctsg>). This notes that, "geoscientists investigate, seek to manage and intervene in various components of the Earth system to support human life and well-being, to defend people against geohazards and to ensure natural resources are managed and used sustainably. In doing so, geoscientists must embrace ethical values in order best to serve the public good".

Our current corporate sponsors recognise the value of being associated with the IAH, even before we have an improved scheme in place:

"Van Walt is pleased to support the International Association of Hydrogeologists in the work they do globally to promote the wise use of groundwater in all its forms, in order to protect this most precious of resources for future generations."
Vincent van Walt.

Waterloo Hydrogeologic is a proud Corporate Sponsor of IAH and we anticipate continuing our strong relationship for many years to come. Through our sponsorship plan we're able to be a part of the ground-breaking environmental science work that's being done locally and internationally. We look forward to the advantages of new sponsorship opportunities and wholeheartedly support these plans.
Jennifer Vandermolen



Many charities seem happy to work with a range of organisations. It's worth remembering too that the IAH itself seeks to represent the spectrum of members and their groundwater interests. We propose to initially seek to trial the new arrangements with companies with a 'water-interest', given that we are familiar with the industry and that, because of the mutual interests, it should be possible to set out a more compelling argument for their support through sponsorship.

Nonetheless, we still want to hear how IAH members feel about this issue. We will continue to look at ways of securing both our income and the future for IAH. This is not simple of course! Some charities spend around 25% of their income in marketing and income generation. If we can find ways of attracting and working with just a handful of corporate sponsors with like-minded ideals, but undeniably with a commercial imperative too, this would make a huge difference to the benefits we can provide for our members.

IAN DAVEY



CORPORATE SUPPORT - GIVE US YOUR VIEWS...

IAH wants to encourage more corporate members and sponsors to join us and we are reviewing the benefits and services we provide...

IAH has more than 60 years of history based on trust.

This is thanks to its 4000+ members, and its supporters and collaborators, who share a mission to further the understanding, wise use and protection of groundwater resources throughout the world. It is truly a global organisation.

We want to know what more we could do for companies, organisations and institutes, to establish "win-win" relationships. This might be through offering better advertising opportunities, membership benefits and branding, but we are seeking more innovative ideas such as providing training/event support too.

Talk to us. What do you think?



<http://bit.ly/IAHcorporatesurvey>
email: info@iah.org

COMMISSIONS & NETWORKS

Activities of IAH's commissions and networks include contributing to the science of groundwater and undertaking outreach, education and training. We encourage you to find out more and to make direct contact with them (you do not have to be an IAH member to participate). We also welcome suggestions for new topics or activities.

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<https://iah.org/groups/commissions-networks>

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

BURDON GROUNDWATER NETWORK FOR INTERNATIONAL DEVELOPMENT (BGID)

Free book scheme - update

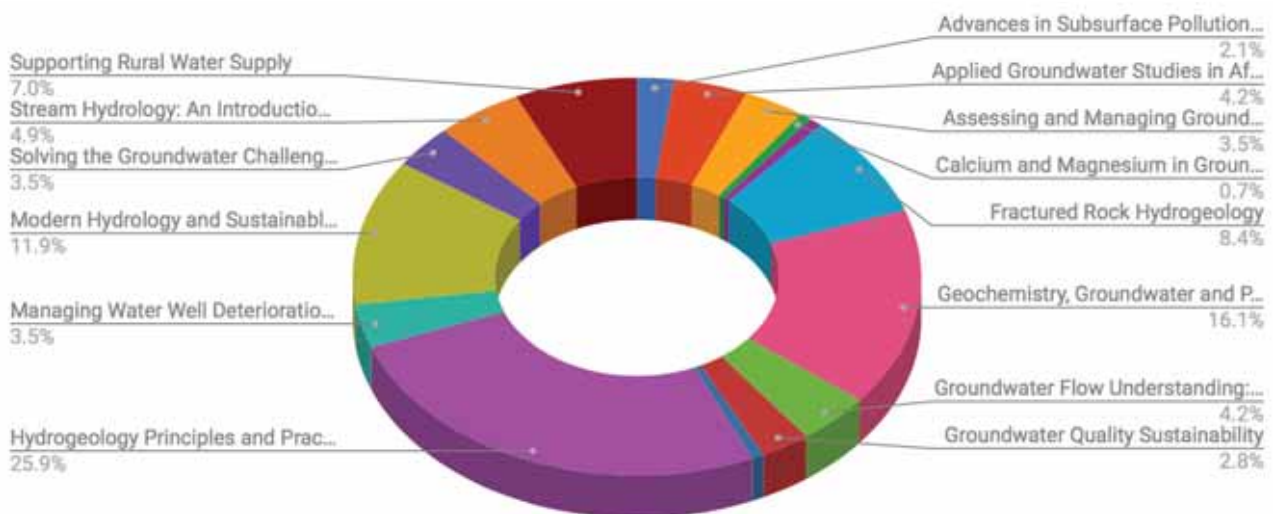
IAH-BGID is happy to inform all members who expressed their book choice that all books are in the process of being shipped! The IAH-BGID book scheme was launched in December 2017 and enabled IAH members from Sub-Saharan Africa to choose a free book from a shortlist of 17 that provided a wide range of topics and fitted within the IAH budget.

We received 147 requests, corresponding to almost 57% of all Sub-Saharan Africa members. The most requested book was "Hydrogeology: Principles and Practice" by Kevin M. Hiscock and Victor F. Bense (26%), followed by "Geochemistry, Groundwater and Pollution, Second Edition" by C.A.J. Appelo and Dieke Postma (16%) and "Modern Hydrology and Sustainable Water Development" by S. K. Gupta (12%).

IAH-BGID would like to thank Robert DiFilippo and Megan Breen for the support they provided to the realisation of the book scheme.

ALAN MACDONALD AND VIVIANA RE

Book selections, 2017/18



<https://burdon.iah.org/>

REGIONAL GROUNDWATER FLOW COMMISSION (RGFC)

Conference news and updates

IWFC-2018, held on 19-21 March 2018 in Hammamet, Tunisia, was the 6th of the ambitious bi-annual scientific international conferences focused on a joint understanding of water sources, groundwater functioning, water resources, as well as in water engineering approaches, management, and technology. The conference aimed to share updated information and methodologies to stimulate scientific discussion and an environmentally orientated communication among participants. It also encouraged the participation of students, experts, scholars as well as decision-makers in agreeable fields related to water, not only from the MENA region but, at an international level to partake in this endeavour. Research abstracts that were programmed to participate presented studies from Algeria, Benin, Canada, Congo, Côte d'Ivoire, Egypt, France, Germany, Hungary, Italy, Mexico, Morocco, Palestine, Tunisia, Turkey, and United States.

The total number of attendees was 278. The RGFC-IAH Special Session included 10 oral presentations on groundwater flow systems. The meeting had the participation of distinguished groundwater lectures Chair Judit



Mádl-Szőnyi, Co-Chair Joel Carrillo-Rivera and Secretary Ádám Tóth, Udo Weyer (Canada), and local participants as Belgacem Agoubi and Faten Telahigue (Higher Institute of Water Sciences and Techniques, Gabes University) and Fayrouz Slama (Higher Engineering School, University of Tunis Al Manar). Overall, the event was a very positive occasion for promoting the theory of groundwater flow.

As the Secretariat was completing this newsletter, the RGF Commission is busy co-organizing a session at the EGU General Assembly, 8–13 April 2018, Vienna, entitled HS8.2.4 Groundwater flow understanding in water management: Environmental problems and potential interactions with subsurface water ecosystems. (<http://meetingorganizer.copernicus.org/EGU2018/session/26645>)

In September RGFC is organising two sessions at the 45th IAH Congress in Korea: T2.6 Innovation in regional groundwater flow understanding and T7 Advances in Karst and Fractured-rock Hydrogeology. We hope to see you there!

Later in the year RGFC North American regional co-Chair John Molson, together with René Therrien of Université Laval, are co-chairing a proposed Special Session at the upcoming GSA, entitled Advances in the development and application of hydrogeological models. It will be co-sponsored by the GSA Karst Division.

Full information about RGFC's activities, as well as useful resources and links can be found on our website. Do get in touch if you are interested in participating.

JUDIT MÁDL-SZŐNYI



<https://regionalgwflow.iah.org/>

URBAN GROUNDWATER NETWORK (UGN)

New website and 2018 activities...

UGN has many activities lined up for 2018, with conference sessions and some more focused workshops planned in Korea, Japan, Norway and UK. You can find information on our redesigned website - the link is below.

Do get in touch if you are interested in participating in or collaborating with the network, or if you are organising any relevant future activities.

HELEN BONSER



<https://urbangw.iah.org/>

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MAY 2018

Commissions & Networks

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EARLY CAREER HYDROGEOLOGISTS NETWORK

ECHN has been working on its website content, with the aim to improve communication and encourage greater involvement of early career hydrogeologists. Planned updates include tips for career development (e.g. how to prepare a CV) as well as online educational material to share. If you have any suggestions or links, please do contact us.

We believe that the renewal of ECHN's National Branch Steering Committees is always a good sign that we have ongoing enthusiasm for the Association's activities. Between 2017 and 2018, several national branches have changed their leads, and involved new early career hydrogeologists: ECHN-Brazil (chaired by Bruna Soldera), ECHN-Canada (Olenka Forde), ECHN-Italy (Stefania Stevenazzi), ECHN-South Africa (Sabine Henry). Together with ECHN-Portugal (Luis Costa) and ECHN-USA (Adam Milewski), these branches are locally supporting early career hydrogeologists in their careers, keeping connected through social networks and organising events in meetings and congresses, often alongside IAH's main national chapters.

ECHN sends good wishes to all. As always, it remains available to support both existing and future national branches. Are you

considering creating a branch in your country? Have a look at the guidelines available on our website!

Last but not least, ECHN is looking forward to meeting everyone in Korea in September! As with previous congresses, we are working in close collaboration with the local organising committee. We are preparing a series of interesting activities for early career hydrogeologists, which are also open to all interested attendees.

All early career hydrogeologists attending congress are invited to include the ECHN logo (available for download from the congress website) in their poster and oral presentations - this will enable them to be eligible for the ECHN Best Poster and Presentation Awards.

Details will be announced soon - stay tuned!

STEFANIA STEVENAZZI AND ECHN STEERING COMMITTEE



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

INTERESTED IN KARST WATER RESOURCES?

Our Commission on Karst Hydrogeology has relaunched its website, which includes information regarding all its forthcoming activities as well as recent outputs and resources.

As with all our various groups, the commission has many activities already lined up for 2018, with conference sessions and focused workshops planned in EGU2018 Vienna, in Bosnia and Herzegovina, at EuroKarst 2018 Switzerland and at IAH's congress in Korea. Find out more by clicking the link below.

Do get in touch if Karst hydrogeology is your area of interest or in regard to collaborating with our commission.

ZORAN STEVANOVIC



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





APPLIED HYDROGEOLOGY AWARD: CALL FOR NOMINATIONS

Who's made an outstanding contribution to the application of hydrogeology, supporting international development efforts?

IAH will present the award to a groundwater professional who has made an outstanding contribution to the application of hydrogeology, preferably in developing countries or in support of international development efforts. Hydrogeological problems are often discussed from an academic point of view but solutions and applications in the field usually require pragmatic thinking and sometimes unconventional approaches. The panel will give particular emphasis in their evaluation to work which has contributed to an increase in living standards in developing countries. Who do you regard as being worthy of such an award?

Any IAH member may nominate a candidate, but self-nominations will not be accepted. Proposals should reach the IAH Secretariat by e-mail (info@iah.org) as a single pdf-file before July 1st 2018 and should include, where possible, information on the following:

- An explanatory statement by the person submitting the proposal;
- A letter of recommendation by any other supporter;
- A brief curriculum vitae of the candidate;
- A list of projects the candidate has carried out, including aims, region and period of time;
- A list of projects (planned or accepted), patents, publications or equivalent information.

The total submission should not exceed 5 pages of text in one coherent pdf-file. A panel of three appointed by Council will evaluate the proposals. We look forward to receiving your nominations for the award's continuing success.

SECRETARIAT



Submissions and queries to info@iah.org

<https://iah.org/about/awards>

FINAL CONFERENCE REPORT



The EU-funded KINDRA project worked on gathering and standardising groundwater knowledge and research across Europe. Work started with the EU-wide assessment of existing groundwater-related practical and scientific knowledge based on a new Hydrogeological Research Classification System (HRC-SYS), created by the project team. Its web service – the European Inventory of Groundwater Research (EIGR), acts as a knowledge repository and also a tool that helps identify relevant research topics, existing research trends and critical research challenges.

The project concluded with a final conference organised in Brussels on 27th February 2018. During the conference, the consortium presented the major outcomes of KINDRA and gathered feedback for its potential. Seventeen speakers presented their views and suggestions and several members of the European Commission, as well as EASME, IAH and many more stakeholders in science, research and industry were present and actively involved in chairing the sessions, and in the Q&A and debates. KINDRA was run for 3 years by a consortium of 9 partners, 20 linked third parties and 10 members of the Joint Panel of Experts, making a total of 20 EU-countries collaborating. The KINDRA team would like to publicly thank all those involved in the success of this project.



<http://kindraproject.eu/>

BRANCHING OUT...

We currently have over 40 national chapters – and in recent weeks we have received enquiries about adding to these, with interest in setting up new chapters in Namibia and Afghanistan. There has also been a major initiative by Glasgow's Strathclyde University and the Scottish Government to support groundwater specialists in Malawi – more on this exciting development in the next newsletter.

IAH national chapters can form the focus of the groundwater community in a country and provide great opportunities for meetings and networking. But it doesn't just have to be single countries that form chapters. Cross-border regional groupings can also be established to promote groundwater activities in your part of the world. If you would like to know more about how to set up a chapter, contact us at info@iah.org.

IAN DAVEY

 <https://iah.org/groups/national-chapters>



Iraq/Egypt

3rd international conference on buildings, construction and environmental engineering

In late October 2017, the 3rd international conference on buildings, construction and environmental engineering was held in Egypt as a joint venture between the University of Technology, Iraq, and Menoufia University, Egypt. The conference was supported by a variety of organisations and ministries, including IAH's Iraqi chapter.

AQEEL AI-ADILI



 aqeeladili@hotmail.com



Mongolia

World Water Day trek

Khundlun Uul, determined by Mongolian hydrogeologists in 1975, is the crossing point of three basins without external flow at an elevation of 1854m above the sea level in Erdene soum (administration unit) of Tuv aimag at about 60km southeast from the capital. On World Water Day 2017 and 2018, IAH Mongolia Chapter and Mongolian Association of Hydrogeologists organized a mountain trekking trip to the crossing point.

BUYANKHISHIG NEMER



 bbn@must.edu.mn



New Zealand

Technical meeting held

The New Zealand Chapter organised another very successful technical meeting in Christchurch, NZ. Networking drinks, an insightful presentation on the world's largest waterborne Campylobacteriosis Outbreak, an excellent turnout and a fantastic atmosphere made this evening a tremendous success.

Dr. Brent Gilpin from the Institute of Environmental Science and Research (ESR) and Mr. Tony Cussins from Tonkin and Taylor (T+T) presented on the methodologies used to detect and isolate the source of the campylobacter bacterium that resulted in the contamination of Havelock North's drinking water supply, caused gastrointestinal illness to more than 5,000 residents and is linked to at least three deaths. The presentation was followed by a comprehensive discussion of the outcomes and key recommendations from the Stage



2 Inquiry and how this outbreak will transform the drinking water industry in New Zealand.

The New Zealand Chapter also wishes to welcome all the new members and Sally Lochhead who joined the New Zealand National Committee late last year.

THEO SARRIS



theo.sarris@esr.cri.nz



Morocco

"GIRE3D" conference

In December 2017, IAH's Morocco national chapter organised the third edition of the international conference: Integrated Water Resource Management - Sustainable Development and Challenges "GIRE3D", focussing on arid regions. Held in Dakhla, the conference offered an opportunity for water researchers and stakeholders to exchange methodologies adapted to water management in such contexts. It also enabled consultation with water professionals in the three southern regions. As well as a mix of plenary lectures, posters and discussions, the conference also included an excursion on the last day, which included a visit to Dakhla's demineralization station.

HINDE CHERKAOUI DEKKAKI



<https://www.facebook.com/IAHMoroccanChapter/>



Japan

Bilingual website launch

IAH Japan branch (IAH Japan) has launched its branch website. In addition to news gathered from the IAH headquarters and national branches, we are planning to inform you about the information from the Japanese branch. If you are interested in the activities of the Association and are interested please feel free to contact the head office secretariat or Japan branch.

AKINOBU MIYAKOSHI



<https://japan.iah.org/>

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MAY 2018

CHAPTER NEWS

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Focus on China

Hydrogeology Journal special issue and a call to Chinese colleagues...

A Hydrogeology Journal special issue will be published later this year focusing on 'Groundwater sustainability in fast-developing China'. There will also be a special session on Chinese hydrogeology at the IAH Congress in Daejeon in September, with currently 15 of the special issue's authors proposing to participate in this.

Before 1985 there were only a few Chinese members of IAH. Interest has been slowly growing since then, aided by the establishment of the IAH National Chapter for China in 1987. We now have 65 members from China – and we are certainly looking forward to welcoming more Chinese hydrogeologists to IAH, reflecting the size of the professional community, the importance of groundwater in China, and the desire of hydrogeologists from other parts of the world to collaborate with Chinese colleagues.

There are more than 10 thousand groundwater sciences technical staff in China, particularly early careers hydrogeologists. We are keen to know what current Chinese members would like most from membership of the IAH – and also what they think might encourage their colleagues to become new members.

Certainly, the conferences organised by the National Chapter, often in collaboration with other organisations, are likely to be of great interest to the groundwater community in China. Conferences are organised most years and there have been two IAH congresses in China. The 21st IAH congress was held in Guilin in 1988 on the theme of Karst hydrogeology, which, with the backdrop of the spectacular local karst scenery, attracted more than 450 delegates from 32 countries, including 240 from China. More than 500 delegates from 55 countries (250 from China and 120 from other parts of Asia), attended the 34th IAH congress in Beijing in 2006. Two international symposia were held in 2013 – ISMAR (International Symposium on Management of Aquifer Recharge), supported by the IAH Commission on Managed Aquifer Recharge, and one with the IAH Regional Groundwater Flow Commission, each with contributions from leading international members of these groups. IAH members are entitled to a significant discount on registration fees, often more than the IAH membership fee itself.

There continues to be strong representation of Chinese IAH members in editorial roles for Hydrogeology Journal. Journal article abstracts are almost always translated into Chinese. Increasing numbers of authors are from China, with articles often concerning groundwater issues in China as well as high-level research generally. Not all authors are members of the IAH and we would like to encourage more to join. If authors need or want to publish their articles as open access in this prestigious journal, membership can save around 50% of the publisher's fee for this.

Clearly the China National Chapter, under President Shi Jiansheng and Secretary Han Zaisheng, has an important contribution to make on groundwater matters in China and has a big role to play in supporting the groundwater community. No doubt all current National Chapter members will be looking to encourage colleagues to join and to participate in the various IAH Commissions and Networks active in China. Hopefully this will include members of the Early Careers Hydrogeologists' Network, who represent the future of IAH worldwide.



Spring in Guohua, Guangxi, China (image copyright Zhang Cheng).

We would welcome ideas from IAH members in China on how the IAH family can support future growth. We would also like to hear from universities about their graduate and post-graduate courses in hydrogeology – we can add this information to our developing list, ready for inclusion on a new page on the IAH website in the near future. Email info@iah.org with your comments and suggestions.

SECRETARIAT



email: info@iah.org



IAH 通过会议、特殊兴趣分会和国家分会提供各种网络 and 知识分享机会。欢迎您参加。



Germany

FH-DGGV Conference

In good cooperation with FH-DGGV the German chapter of the International Association of Hydrogeologists (IAH-D) was active at the FH-DGGV conference from 21st to 24th of March 2018 at the Ruhr-Universität Bochum. On 23rd of March, IAH-D held its official general meeting with about 20 participants and guests. At this meeting various activities of IAH-D including participations at the 2016 IAH conference in Montpellier and at the 2017 IAH conference in Dubrovnik as well as at the PhD students meeting in Erlangen were reported. The IAH-D steering committee with Judith Flügge, Christoph Neukum and Johannes Barth was again voted into office for a period of two years.

On 24th of March, IAH-D, together with Steffen Bender from the Helmholtz Climate Service Center Germany (GERICS), organized a session on “groundwater and climate change”. The session was opened with a keynote lecture by Tibor Stigter, who currently leads the IAH Commission on Groundwater and Climate Change. It also offered several interesting talks and posters with topics ranging from groundwater level changes, artificial and natural alterations of groundwater recharge, changes in groundwater temperatures and groundwater salinisation. With about 80

participants on a Saturday morning the session was a full success.

IAH-D welcomes active contributions and constructive comments by members and non-members as well as future collaboration with FH-DGGV. A good example for such collaboration is the planned session on groundwater and climate change at the DGGV conference GeoBonn together with Traugott Scheytt between 2nd and 6th of September 2018 in Bonn.

JUDITH FLÜGGE



<https://germany.iah.org/>



Some of IAH-D members and guests present at the general meeting.

2018 - SELECTION

16-21 June – Vancouver, Canada

Resources for Future Generations 2018 (RFG 2018)

Led by the International Union of Geological Sciences (IUGS) with more than 30 partners, the conference will bring together academia, government and business to tackle the issue of the ever-increasing demand for resources, as well as the changes in the delivery of existing ones.

IAH's Canadian National Chapter will be providing technical support and features in two sessions.

<http://rfg2018.org>



17-22 June – Gdańsk, Poland

Salt Water Intrusion Meeting

In 2018 we are going to celebrate the 50th anniversary of the SWIM conference in Gdańsk - a city on the Polish Baltic coast, offering many cultural and historical attractions, as well as a variety of beautiful landscapes.

Organised by Gdańsk University of Technology, Poland. Representatives from IAH's Coastal Aquifer Dynamics and Coastal Zone Management (CAD-CZM) Network will be present.

<http://swim2018.syskonf.pl>



2-6 July– Besançon, France

EuroKarst 2018

European bi-annual conference on the Hydrogeology of Karst and Carbonate Reservoirs. Organized by the Universities of Neuchâtel (Switzerland), Besançon (France), and Malaga (Spain).

Along with the conference the Annual IAH Karst Commission meeting will be held.

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



9-11 July – Fort Worth, USA

AWRA summer conference 2018: Science, Management and Governance of Transboundary Groundwater

The program will stimulate conversations on innovative approaches for identifying transboundary groundwater resources and the methods to develop sustainable governance and management agreements. Organised by American Water Resources Association. Representatives from IAH's Commission on Transboundary Aquifers and US National Chapter will be present.

<http://www.awra.org/meetings/FortWorth2018/index.html>



22-28 July – Paipa, Colombia

VI Colombian Congress of Hydrogeology

Groundwater - source of sustainable economic development. IAH is supporting the VI Colombian Congress of Hydrogeology, which contains a mixture of 11 key topics as well as a number of short courses. Organised by Asociación Colombiana de Hidrogeólogos ACH and partners.

<http://asociacioncolombianadehidrogeologos.org/>



26-31 August – Stockholm, Sweden

World Water Week

Water, ecosystems and human development. World Water Week is the annual focal point for the globe's water issues. Organised by SIWI (Stockholm International Water Institute).

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



<http://iah.org/events>

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



www.facebook.com/iah.org



**45th
IAH CONGRESS**
The International Association
of Hydrogeologists

Update from Korea

Registration and sponsorship enquiries for the 45th IAH Congress to be held in Daejeon, Korea in September 2018 is open! As we write this newsletter, abstracts are still arriving. IAH Past President Ken Howard has been liaising with the organisers on behalf of the Association, receiving updates and providing advice.

Hosted by the IAH Korean National Chapter, Korea Institute of Geoscience and Mineral Resources (KIGAM) and Korean Society of Soil and Groundwater Environment (KoSSGE), the congress will focus on how groundwater science, technology and policy can help ensure all have equal rights for sufficient, safe and affordable water regardless of where they are born and live, or who they are.

With the overall theme “GROUNDWATER AND LIFE : Science and Technology into Action”, nine main topics have been defined:

- T1. Groundwater and Life: Progress towards the Solution of Critical Problems
- T2. Spotlight on Modeling, Emerging Technologies and Their Applications
- T3. Global/Regional Environmental Change and Groundwater Impacts
- T4. Strategies to Assure the Sustainability of Groundwater Resources
- T5. Groundwater Quality and Contamination
- T6. Groundwater and Surface Water: an Integrated View
- T7. Advances in the Study of Karst and Fractured-rock Aquifers
- T8. Coastal Zone Management and Water Resources
- T9. Groundwater and Energy

Mid-congress excursions are proposed to limestone caves, a national geopark, curative springs, a wetland conservation area and the national groundwater information centre. Pre- and post-congress training courses and excursions are being planned.

Daejeon is a modern administrative centre and science and technology hub, surrounded by mountains in the centre of Korea, with roots that go back to ancient times. It is a cultural centre, with its own orchestra and world-class sporting facilities.



Congress website - <http://iah2018.org/>

Watch video - <https://youtu.be/m3ARVOuoOfk>



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