



# Newsletter of the Australian Chapter of the *International Association of Hydrogeologists*

July to September 2018  
Volume 34, No. 3

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# International Association of Hydrogeologists Australian National Chapter

The International Association of Hydrogeologists is a professional association for those within disciplines related to groundwater, its occurrence, utilisation, testing and management. IAH is a scientific and educational organisation that is truly international, and was established to foster closer ties, cooperation and information exchange related to the study of groundwater. IAH is non-government and non-profit and has over 4000 members internationally from around 120 countries. The Association is affiliated with the International Union of Geological Sciences (IUGS), and was founded during the 20<sup>th</sup> International Geological Congress in 1956. By its statutes the IAH is an association of individuals and corporate members, and not a federation of national committees. National groups do, however, organise local meetings and other activities. A proportion of the national committee membership goes to the local organisation to support these activities, the remainder to the international body. The country of the international secretariat is changed every several years. The IAH publishes Hydrogeology Journal, various workshop and conference proceedings and an international newsletter.

The main objectives of the IAH are to promote international and national cooperation between involved scientists and engineers; sponsor international and national technical/management meetings and symposia on hydrogeology; publish hydrogeological reports, papers and maps; establish investigation commissions and working groups to report on special topics; encourage the international application of relevant approaches and techniques for the benefit of the hydrological and human environment.

Our national chapter was founded in 1983 and is one of the most active. Activities tend to be organised locally within each state and territory, but national activities also occur. Each state body has its own meetings, usually monthly. Conferences are held in Australia around every two to three years, and seminars on a more frequent basis.

Membership Requirements: IAH will accept as individual members anyone directly or indirectly engaged in study or research on, or management of water in its various forms related to hydrogeology, if sponsored by two members in good standing. Companies and research organisations can apply for corporate membership. The current membership categories and annual subscriptions for 2015 (see [www.iah.org.au](http://www.iah.org.au)) are:

§ Member	\$150
§ Online member	\$130
§ Student	\$55 (full time students)
§ Online Student Member	\$35
§ Corporate member	\$830
§ Partial sponsor	\$165
§ Full sponsor	\$200
§ Retired	\$75

<p>The membership rates reflect a minor increase for 2018, which applies to the print and online membership categories (including sponsor versions), and the Corporate member rate. The student and retired member rates remain unchanged in 2018.</p>
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Membership of this professional association is tax deductible in Australia, and individual members are entitled to use 'MIAH' (Member of the International Association of Hydrogeologists) after their name.

# From the President

## **The Only Thing that is Constant is Change**

I hope this finds everyone well (and busy!) as the end of year approaches. I'll keep the President's message short and sharp this quarter, and just briefly update you on some of the matters recently considered by the National Committee.

At the last National Committee meeting, the possibility of changing the format of this newsletter was discussed. While this newsletter has served the association well for many years, those of us who have edited it over the years know that it is a cumbersome beast to produce. To produce a reasonable version of the newsletter requires input from all of the state branches, national committee members and various event advertisements. And that's just the basics without any "special interest" stories included. Some people respond quickly, others don't – I have come to accept over the years that this is just the nature of a volunteer-run organisation where many people are very busy with their day jobs (and hydrogeologists tend to disappear to the field). However, it also means that information from the early responders is usually out of date before the final newsletter is published, which is not a good situation. There is a proposal, supported by the National Committee, to trial an email format (like the campaign monitor messages we occasionally send), where the cover text is briefer with hotlinks to the core content – which will largely reside on our website. This will allow for more frequent and timelier communication and puts the onus on state branches to keep their activity updates current on the website. We will be working on this in the background and may even be in a position to give it a test run for Q4.

In other news, Phil Commander has advised the committee that the Act under which our incorporated entity operates has changed, which has prompted us to review and consider some changes to our constitution. A key one (that was in our current rules) is that we are meant to be holding our National Committee AGM in the first four months following the end of our financial year. Since the IAH operates on a calendar year, this means we will be moving our AGM to the start of the year, rather than the traditional late November date we have used in recent years (piggybacking on the WA state branch AGM). A couple state branches run their AGMs early in the year, and we will endeavour to coordinate with one of those. More information will be forthcoming on this, including the usual announcement of Executive Committee elections prior to the AGM.

Finally, I would like to acknowledge the excellent progress that the AGC 2019 organising committee is making on preparations for the event next year. Lucy Reading (QLD Branch President) provided an update at the recent National Committee meeting and they are full steam ahead. They will soon be at a point where we will be asking for national assistance from the state branches with various tasks – I thank you in advance for your participation and support.

As this will be the last newsletter correspondence before the end of the year, I will take the opportunity to wish you all an early happy holidays. I hope you all get a chance to take a break and recharge the batteries after a busy year, and I look forward to catching up again in the New Year.

Lange Jorstad

President - Australian Chapter, IAH

# National Corporate Sponsors

We gratefully acknowledge the support of our national corporate sponsors.



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# IAH National Committee

<b>President</b>	Dr Lange Jorstad	ljorstad@geosyntec.com
<b>Vice-President</b>	Ian Brandes	ibrandes@rockwater.com.au
<b>Treasurer</b>	Ron Colman	Ron.Colman@royhill.com.au
<b>Secretary</b>	Vacant	
<b>Past President</b>	Chris McAuley	chris.mcAuley@delwp.vic.gov.au
<b>Membership Secretary and Website</b>	Fiona Adamson	secretariat@iah.org.au
<b>Newsletter Champion</b>	Ellen Kwantes	Ellen.Kwantes@wsp.com

# Finance Update

## International Association of Hydrogeologists - Australian National Committee

### Financial Statement to 30/09/2018

Term Deposits as of 30/09/2018	\$104,111.83
Cash Account as of 30/09/2018	\$64,956.20
Total Cash Balance as of 30/09/2018	<b>\$169,068.03</b>

#### Incomings (30/06-30/09/18):

- Membership payments via Stripe \$5,494.10

#### Outgoings during the quarter included:

- Public Liability Ins \$886.97
- Aust Geoscience Council fees \$895.70
- NCGRT Lecture Costs refund \$2,369.58

Signature:

Date: 09/10/2018



*Ron Colman, IAH National Treasurer*

# National Conferences and Events



The IAH Spanish Chapter (IAH-GE) and the Center of Hydrogeology of the University of Malaga (CEHIUMA) are honoured to host and invite you to the 46th IAH Congress in Malaga, Spain, 22nd - 27th September 2019.



The IAH / NCGRT **Australasian Groundwater Conference** is coming back in 2019!

**25 - 27 November 2019 | Brisbane, Queensland**

Hosted by the QLD Chapter of the IAH and the NCGRT; the AGC19 promises to be an exciting conference filled with informative presentations, entertaining networking events and stunning field trips exploring the sights and sounds of this sub-tropical dynamic region.

***Lock this date into your 2019 diary and stay tuned for more details!*** (Welcome reception and early registration Sunday 24 November)

#### Venue

**Brisbane Convention & Exhibition Centre**

Southbank

South Brisbane QLD



# From the Branches

## Australian Capital Territory

### IAH ACT BRANCH

#### 2018 Committee:

<b>Chair</b>	Lucy Lytton	Geoscience Australia
<b>Vice Chair/Secretary</b>	Scott Lawson	Office of Water Science
<b>Treasurer</b>	Tim Evans	Geoscience Australia
<b>Student Coordinator</b>	Sharon Gray	Research School of Earth Sciences, ANU
<b>Communications Champion</b>	Stephen Hostetler	Hostetler Hydrogeology
<b>Membership Champion</b>	Laura Gow	Geoscience Australia
<b>Events Coordinating Committee</b>	Tim Evans	Geoscience Australia
	Chris Harris-Pascal	Geoscience Australia
	Peter Hyde	Murray-Darling Basin Authority

***No update available this edition.***

# New South Wales

## IAH NEW SOUTH WALES BRANCH

### 2018 Committee:

<b>Chair</b>	Katarina David	UNSW
<b>Vice President</b>	Graham Hawkes	AECOM
<b>Presentations Secretary and External Communications</b>	Dr Richard Cresswell	Eco Logical Australia
<b>Treasurer</b>	Tingting Liu	HydroSimulations
<b>Secretary</b>	Lee Douglass	Arcadis
<b>Student and Young Professional Coordinator</b>	Sienna Xue	WSP
<b>Meeting Facilitator</b>	Aaron Wong	WSP
<b>Internal Communications</b>	Sean Daykin	Jacobs
<b>Newsletter Champion (NSW and National)</b>	Ellen Kwantes	WSP
<b>NSW Sponsorship Champion</b>	Richard Green	DPI Water
<b>Web Champion</b>	Serena Yeung	AECOM
<b>International Sponsorship Champion</b>	Dr Jay Punthakey	Ecoseal
<b>Membership Champion</b>	Angus McFarlane	AECOM
<b>National President</b>	Dr Lange Jorstad	Geosyntec
<b>International Vice President - Australasia</b>	Dr Wendy Timms	UNSW

### ***Local News***

Our regular branch meetings continue to be held at the office of WSP located in the Sydney CBD on the second Tuesday of each month. Thank you to WSP for supplying the convenient central venue, first class facilities, and food and drinks. IAH NSW branch provides events that span all stages of a career in hydrogeology. Our Student Night event provides a platform for students, and our Young Professional Award that recognises young professionals. For mid to late career hydrogeologists, a forum is provided for technical presentations.

### ***NSW Sponsors***

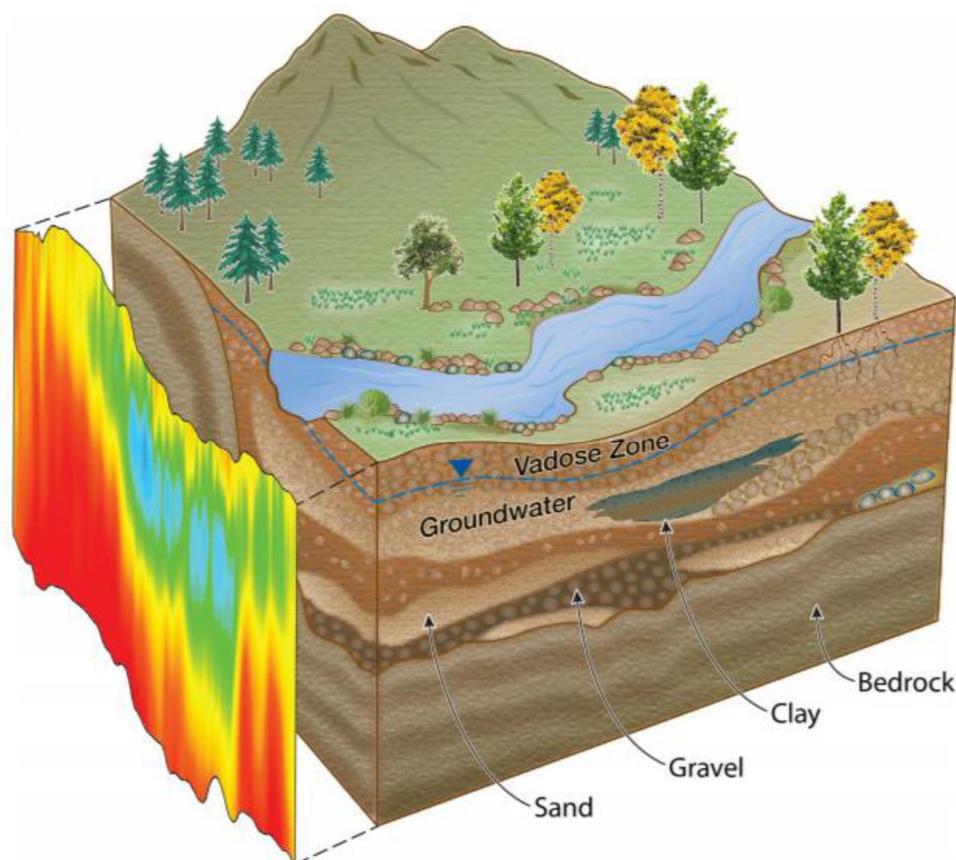
IAH NSW gratefully acknowledges the contributions of its 2018/19 sponsors. Details of sponsors can be found on the website at <http://www.iah.org.au/about/new-south-wales/nsw-branch-sponsors>

Our Gold Sponsors are AECOM, NSW DPI, Earth Science Information Systems, Ecological Australia, Jacobs, JBS& G, UNSW Water Research Laboratory, WaterNSW and WSP.

Our Silver Sponsors are EI Australia and HydroSimulations.

## ***Recent Events***

**30 July 2018 – NGWA McEllhiney Lecture - Electrical Hydrogeology: A Picture Is Worth 1000 Wells – Professor Todd Halihan (Oklahoma State University and Aestus LLC)**



IAH NSW proudly presented a talk by Todd Halihan, Ph.D., P.Gp., Professor of Geology at Oklahoma State University and Chief Technical Officer for Aestus LLC, as part of the NGWA McEllhiney Lecture Series. Todd Halihan has been an associate editor for Groundwater and has served as Secretary-Treasurer of the U.S. Chapter of the International Association of Hydrogeologists. He served as Chair of the Hydrogeology Division and the South-Central Section of the Geological Society of America and currently serves on the Oklahoma governor's Coordinating Council on Seismic Activity.

The science of hydrogeology was developed by creating conceptual models of the subsurface based on chemical or physical hydrogeology principles. Numerical and analytical modeling added significantly to the science to understand how best to sample and test these subsurface ideas. The ability to collect high density electrical data on an academic and commercial basis has allowed us to make several new advancements in the science This lecture will look at how electrical data can allow us

to determine the location of flowpaths, find meter-scale structures that change our conceptual models, and monitor life in the subsurface as it grows. Examples will include water supply in porous media and karst domains as well as contaminated sites affected by microbial activity.

## ***Upcoming Events***

### **Student night 9 October**

IAH NSW is pleased to announce that our next meeting is our annual student night, featuring the following talks:

**Joshua Yu, UNSW:** Mechanisms affecting PFAS migration under groundwater – surface water interactions.

**Emily Barber, UoW:** Crossing Three Deep Valleys: The Sedimentology, Geomorphology and Palaeo-environments of Thirlmere Lakes, NSW.

**Venue:** WSP office Level 27, 680 George Street, Sydney

**Time:** 5.30 pm for a 6.00 pm start

### **IAH NSW Regional Meeting and IAH/DPI Field Trip: 13 and 14 November 2018**

IAH NSW is pleased to announce that this year's regional meeting will be held in Mildura, with the following proposed itinerary:

Tuesday 13 November 5.30pm: Presentation by Asitha Katupitiya (Director – Water Quality and Salinity Management MDBA) on the Basin Salinity Management Strategy.

Wednesday 14 November morning: Field trip to the Salt Interception Schemes (SIS) that pump saline groundwater to facilitate salinity reduction on the Murray River.

Field trip places are limited – please RSVP to Richard Cresswell to express your interest in the presentation and/or the field trip: richardc@ecoaus.com.au

### **NCGRT distinguished lecturer 27 November**

Dr Jenny Stauber, Chief Research Scientist from CSIRO Land and Water will present on Groundwater Quality: An Ecotoxicology Perspective

<https://groundwater.arlo.co/global/courses/1132-2018-ncgrt-iah-distinguished-lecture-series>

## Refugee student sponsorship

In 2016, the IAH NSW Chapter undertook an initiative to provide funds for a refugee to study Hydrogeology at the University of Parma. The project was conceived with the desire to provide hope and opportunity to a refugee by providing them with an education in Hydrogeology at the University of Parma. The process involved the Alumni & Friends Association (University of Parma) as Lead Partner, in a wider Partnership involving, the International Association of Hydrogeologists (IAH NSW, Australia and IAH Italy) Chapters, Ecoseal Developments Pty Ltd (Australia) and the Hydrogeocentre of the University of Parma (Italy). The CIAC Onlus (Parma), the Italian Ministry of Interior, as well as some Italian families living in Parma will also be involved in the project. In order to be eligible, the candidates selected a course in Earth Sciences at the University of Parma, with a focus on Hydrogeology.

The selection process started through a national call. The winner was a young refugee from Pakistan, Mr Arif Khan. It took some time to organise the transfer of the student from Trieste to Parma. Mr Arif Khan started his first semester in Earth Sciences at the University of Parma, under the tutorship of prof. Fulvio Celico. However, due to the problems mentioned above, the Student started his studies one month after the beginning of the first semester.

During the first year, the Student was involved in the following courses: (i) Mathematics, (ii) Chemistry, (iii) Introduction to Earth Sciences (annual course), (iv) Physical Geography, (v) Cartography and GIS, (vi) Mineralogy, (vii) Palaeontology, (viii) English. At the end of the first year, the Student passed three exams.

During the second year, the Student was involved in the following courses: (i) Geological field survey (annual course), (ii) Petrography (annual course), (iii) Sedimentology, (iv) Geochemistry, (v) Physics (annual course), (vi) Structural Geology (annual course). At the end of the second year, the Student passed other five exams.

Taking into account his problems in fully understanding Italian language, the tutor organised a dedicated course of Italian, thanks to the work of a volunteer professional teacher. Therefore, from January 2017, the Refugee is also studying Italian language obtaining very good results. Now, he is able to talk and write a good Italian.

The University of Parma provided a student card, linked to a bank account from the Alumni and Friends Association to transfer the fund to the Student.

In a wider perspective, it is important to underline that the integration of the student is very good and he is happy to live and study in Parma. He is also studying deeply and improving thanks to the help of some Italian students at University of Parma.

## ***IAH NSW on LinkedIn***

IAH NSW has gained a presence on professional social media site, LinkedIn. The page provides events newsletters and advertisements for hydrogeology positions in the industry. Link: <https://www.linkedin.com/in/iah-nsw-816481125/>

# Northern Territory

## IAH NORTHERN TERRITORY BRANCH

### 2018 Committee:

<b>Chair</b>	John Wischusen
<b>Vice Chair</b>	Tim Murphy
<b>Treasurer</b>	Bruce Ryan
<b>Secretary</b>	Brayden Briggs
<b>Public Officer/Member champion</b>	Steven Tickell

***No update available this edition.***

# Queensland

## 2018 Committee:

<b>President</b>	Lucy Reading	QUT
<b>Vice President</b>	Kelly Jane Wallis	SLR Consulting Pty Ltd
<b>Treasurer</b>	Zach Van Haaften	QUT
<b>Secretary</b>	Thomas Neame	Eco Logical Australia
<b>Communications Manager</b>	Jim Stanley	QUT
<b>Technical Representative</b>	Jim Undershultz	UQ
<b>North Qld Representative</b>	Angela Bush	AGE Consultants
<b>Other Committee Member</b>	Jorge Martinez	Klohn Crippen Berger
<b>Other Committee Member</b>	Nick Coulson	Golder Associates

## ***Local News***

Qld Branch Executive Committee is sad to announce the loss of one of our members and supporters, Mr Robert Ellis. Rob joined the then Irrigation and Water Supply Commission in the early 70's and served for several years in Head Office before being transferred to various regional and district offices in Rockhampton, Ayr and Townsville. He returned to Brisbane and served for a period in Groundwater Branch at the Resource Sciences Centre at Indooroopilly before moving to the South Region District Office at Woolloongabba from where he retired a few years ago. Over the period of his career he was involved in detailed groundwater investigations over most areas of the State including supervision of drilling programs, pump testing etc. He was very much involved in the local management of water resource plans in each of the regions he served in. His regular appearances and contributions to Qld Branch presentation meetings will be greatly missed.

It has been very busy this year for Qld Branch, hosting regular presentations as well as being involved in the organising committee for the 2019 Australasian Groundwater Conference (a big thank you to all who have been

involved!) This year we will be awarding our second Groundwater Student of the Year Award.

Updates continue via the website <https://www.iah.org.au/about/queensland/> and our LinkedIn page <https://www.linkedin.com/company/iahqld/>

### ***Qld Branch Sponsors***



## **Recent Events**

The Qld branch has continued to host regular monthly presentations from a variety of interesting guest speakers:

### **Monday 27<sup>th</sup> August 2018**

Dr Stefano Lo Russo, a visiting Professor from the Department of Environment, Land and Infrastructure Engineering at Politecnico di Torino, Italy, will be presented: "From low-enthalpy geothermal energy: a new perspective of hydrogeology".

*"The planning of rational heating and cooling systems for urban and rural areas play a key role in the renewable energy development in any climatic condition. The energy sustainability depends on the annual energy request, the population density and the efficiency in heat production. Groundwater plays a crucial role in the assessment of the potentials of such alternative technologies. Open-loop groundwater heat pumps (GWHPs) are considered one of the most energy efficient and environmentally friendly air-conditioning systems and among the best options where aquifers conditions are suitable."*

Venue: QUT Gardens Point Campus, Brisbane.



**Monday, 17<sup>th</sup> September 2018**

Mahdi Zoorabadi (Principal Geotechnical Engineer, Golder Associates) will be presented: “Hydraulic conductivity of jointed rock: New estimation approach and insights into field testing”.

*“Rock discontinuities play a significant role in the circulation of water through jointed rock, while the geometrical characteristics of joints control the magnitude and orientation of the hydraulic conductivity tensor. The first section of this presentation includes a new approach to estimate the hydraulic conductivity of jointed rock on the basis of the geometrical properties of rock discontinuities. This framework provides the capability to estimate the 3D tensor of hydraulic conductivity and assess the variation in average hydraulic conductivity with depth.*

*Field tests providing a more reliable method to estimate the hydraulic conductivity are discussed in this presentation. Although the single-hole tests such as water pressure test and slug tests are common practice, they are not capable to measure the anisotropic hydraulic conductivity of jointed rocks. Additionally, the effected volume of jointed rocks in these tests is not representative of real conditions in most cases. The effect of nonlinear flow condition on the results of packer test (under-estimating of the hydraulic conductivity) also is discussed in this presentation. Interference tests (crosshole conductivity test or multi-well test) covers a larger volume of jointed rocks and provides the required data to calculate the 3D tensor of hydraulic conductivity. The concept and interpretation procedure of interference tests will be presented using real test.”*

Venue: (Our helpful Sponsors!) Golder, Brisbane Offices.

...and in October we are looking forward to hosting **Dr Jenny Stauber, Chief Research Scientist from CSIRO Land and Water**, who will be presenting: “Groundwater Quality: An Ecotoxicology Perspective” (as part of the **2018 NCGRT/IAH Distinguished Lecture Series**).

For more information, please visit the Qld Branch LinkedIn page:

<https://www.linkedin.com/company/iahqld/>

# South Australia

## IAH SOUTH AUSTRALIA BRANCH

### 2018 Committee:

<b>President</b>	Steve Barnett
<b>Vice President</b>	Neil Power
<b>Membership champion</b>	Tavis Kleinig
<b>Committee member</b>	Russel Martin
<b>Web master/mistress</b>	Fiona Adamson
<b>Modelling Forum</b>	Juliette Woods

### *Upcoming Events*

A questionnaire has been circulated to SA members to help the Committee formulate a program for the next six months or so. A likely candidate is a social gathering at the end of this year, so stay tuned.

Another “South Australian basins – Stratigraphy and Hydrogeology” workshop at the Drill Core Reference Library is being planned for early next year when the St Vincent Basin which underlies Adelaide will be examined.

Steve Barnett

# Victoria

## IAH VICTORIAN BRANCH

### 2018 Committee:

<b>Title</b>	<b>Name</b>	<b>Company</b>
<b>Chair</b>	Alan Wade	Aquade
<b>Vice-Chair</b>	Ben Hall	Eartheon
<b>Secretary</b>	Tara Smith	Jacobs
<b>Treasurer</b>	Anne Northway	EPA
<b>Events Committee</b>	Katy Kijek	Senversa
<b>Communications Champion</b>	Heath Pawley	Golder Associates
<b>Membership Champion</b>	Alexis Valenza	Valenza Engineering
<b>General Committee</b>	Matt Currell	RMIT
	Ben Petrides	EHS
	Rikito Gresswell	GHD
	Ben Moore	Melbourne Airport Authority
	Chris Smitt	EHS
	Matthew Hudson	Southern Rural Water

### ***Local News***

Our regular branch meetings continue to be held alternatively at the Melbourne RMIT City Campus, Melbourne University, Senversa, Golder, Aurecon and Jacobs Melbourne Branches. Thank you for supplying the convenient central venues and first-class facilities.

Our last VIC Chapter IAH committee meeting was held on 25 October 2018, at Senversa. We had again this quarter some very interesting talks and a growing attendance with numerous new professionals attracted by the booming Victorian construction, mining and remediation market. Read the following abstracts of presentations held over the second quarter.

### ***Recent Events***

**Wednesday, August 29, 2018 - AGS/IAH encore presentation. The University of Melbourne. Dr Irena Krusic-Hrustanpasic, Improved understanding of Melbourne's hydrogeology gained from**

## **investigations and numerical modelling of large civil infrastructure projects**

### ***Bio:***

Irena Krusic-Hrustanpasic is a Principal at Golder Associates Pty Ltd. Irena has over 30 years' experience in a wide range of groundwater projects including a variety of geotechnical, civil, environmental and remediation projects. She has been the lead hydrogeologist for a number of large infrastructure projects and complex groundwater contamination projects. In Melbourne, she has worked on Melbourne Metro Rail Project, West Gate Tunnel, Main Sewer Replacement, East West Link and CityLink. She specialises in aquifer hydraulic testing, development of conceptual three-dimensional geological and hydrogeological models and numerical flow models focused on practical resolution for a variety of groundwater issues.

### ***Abstract:***

Irena provides an overview of the hydrogeological setting and groundwater flow system within the Melbourne area using examples of hydrogeological investigation and modelling work undertaken for some of recent infrastructure projects including Melbourne Metro Rail and Melbourne Main Sewer Replacement projects.

Demand was so high, that some of us didn't manage to attend. Golder is giving a second presentation on the 29<sup>th</sup> August.

## **Tuesday, 9 October 2018 - Looking Beyond Wells: Geophysical Methods for Improved Groundwater Assessments**

### ***Bio:***

Kevin Hayley is a Geophysicist/Hydrogeologist from Western Canada with 16 years of experience in using geophysical methods for environmental monitoring and mineral exploration, and in the construction and calibration of numerical models of groundwater flow and contaminant transport. Kevin moved to Melbourne in 2013 and works as an independent consultant through Groundwater Solutions Pty Ltd., contracting primarily on large groundwater modelling jobs in North America, Australia and New Zealand. He received his Ph.D. from the University of Calgary in 2010 where he conducted research into monitoring salt impacted soil using time lapse geophysics. He has specialties in numerical methods, inverse problems and uncertainty analysis.

### ***Abstract***

Geological heterogeneity and variations in groundwater composition can result in material properties and water concentrations varying over several orders of magnitude within small distances. Despite this reality of groundwater investigations, traditional hydrogeological assessments are generally restricted to point measurements of the subsurface at boreholes and, highly uncertain extrapolation is necessary to develop a conceptual model of the hydrogeology.

Geophysical methods often offer a spatially extensive complement to traditional hydrogeological investigations where the appropriate physical property contrasts exist in the subsurface. In academic and niche consulting environments geophysical methods have been applied to improve groundwater understanding for decades. However, wider adoption of geophysics by the hydrogeology community is limited due to lack of technical knowledge, cost, availability of equipment, and project budgets and time lines.

The purpose of this talk is to provide an overview of common geophysical methods used for groundwater investigations; highlight pros/cons, relevant physical properties, and initiate a discussion on how geophysical methods can further our understanding of groundwater in Victoria. Examples of geophysical investigations were presented from both consulting and academic studies, ranging from low cost non-intrusive studies to high resolution time-lapse imaging of groundwater changes.

### ***Also...***

We are excited that next year's lecturer Darcy Lecture is Mr. PEST, Dr John Doherty (bound to be entertaining).

IAH Victorian chapter has received from Victoria EPA on the 8 October 2018 a letter of response to IAH submission regarding the new SEPP and a copy of the "Summary of Comment and Response Report". Both documents can be downloaded:

<https://drive.google.com/drive/folders/1jbTjnPxcM9ph8S1eEGnjKHsNtsAF1d0?usp=sharing>

Stay tune.

# Western Australia

## **IAH WA BRANCH**

### **2018 Committee:**

<b>Chairperson</b>	Ian Brandes de Roos
<b>Vice Chairperson</b>	Mal McGivern
<b>Secretary</b>	Sarah Bourke
<b>Treasurer</b>	Sandie McHugh
<b>Events team</b>	Cassie Turvey Josephine Searle
<b>Communications team</b>	Rachel Hamilton Giovanni Firmani
<b>ECHN Representative</b>	Margaret McCormack

## Local News

WA Sponsors IAH WA is proud to be supported by DWER, Acqua Drill Resources and Airwell Group for the 2018 series of technical presentations.



IAH WA is proud to welcome the **Department of Water and Environmental Regulation (DWER)** as gold sponsor for the 2018 technical talks.

DWER supports Western Australia's community, economy and environment by managing and regulating the state's environment and water resources.

The department is responsible for environment and water regulation, serving as a 'one stop shop' for industry and developers, with the aim of streamlining and simplifying regulation.

DWER support ongoing hydrogeology science and data and looks forward to working with IAH WA in 2018 to help maximise the potential and protection of our groundwater resources.

The Atrium Level 4, 168 St Georges Tce, Perth WA 6000  
Tel +61 8 6364 7000  
Web [dwer.wa.gov.au](http://dwer.wa.gov.au)



**Acqua Drill Resources** is ongoing and valued supporter of IAH WA. They specialise in large diameter surface drilling using conventional air/hammer or mud rotary methods. Whether the drilling program involves monitoring bores, production bores, dewatering or managed aquifer recharge bores, paste fill holes, or underground mining service holes, Acqua Drill Resources has the in-house experience and modern equipment to deliver successful project outcomes.

Acqua Drill Resources invests heavily in engineering controls which target the risks associated with manual handling, working at heights, equipment guarding and all other identified operational risks. We operate the only Versa Drill rigs in Australia which have been fitted with dual hydraulic breakout assemblies, now a site access requirement for some mining houses.

Acqua Drill Resources' primary goal is to become the water bore drilling company of choice by delivering quality technical outcomes at highly competitive rates.

Carl Davies - General Manager  
2279 Great Northern Hwy, Bullsbrook  
Tel +61 438 899 580  
Email [carl@acquadrill.com.au](mailto:carl@acquadrill.com.au)  
Web [acquadrill.com.au](http://acquadrill.com.au)



**Airwell Group** is a world leader in low flow direct gas displacement pumping methods and technology. A solutions-orientated company, Airwell provides innovative pumping, monitoring, testing, recovery and field service solutions to the mining, oil & gas, industrial, environmental and agricultural industries.

With 30 years of industry experience Airwell is at the forefront of providing innovative pumping solutions to meet even the most challenging requirements of our clients. All IAH members and their staff are welcome to come and join Airwell at their office/warehouse to view their capabilities and equipment in operation first hand.

Airwell are specialists in:

- Airwell pump solutions
- Pump/ Flow Testing equipment and services
- Ground water sampling equipment and services
- Remote monitoring and automation of pumping equipment
- Airwell landfill leachate pumping equipment

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Web [airwellgroup.com.au](http://airwellgroup.com.au)



## ECHN site visit to the Water Corporation drilling program



On 28 July 2018 the IAH WA ECHN team organised as site visit to the Water Corporation drilling program in Perth. Hydrogeologists were on hand to provide and extensive tour of this exciting program. Thank you ECHN for organising this event, including the hard work of Margaret McCormack. Thank you Water Corporation and for making this event possible and providing logistics and technical support.

## Geothermal presentation

On 29 August 2018 Martin Pujol gave an extremely engaging presentation to 64 attendees regarding geothermal energy and the role of hydrogeologists in this emerging field. Martin outlined the geothermal resources that exist in Australia and the role that geothermal energy can play for Australia's energy future. Martin provided Australian and international examples of projects and explained what happened to the Hot Dry Rocks projects in South Australia. The presentation included an overview of the Perth's geothermal projects (including pool heating) and drew on Martin's experience working on large-scale geothermal projects in Europe.



## IAH WA social night



On 28 September 2018 IAH WA held our annual social night at The Globe. It was a great night and the 63 attendees raised over \$900 for WaterAid.

# IAH Publications

Discounted IAH publications in the 'International Contributions to Hydrogeology' and the 'Selected Papers' series can be ordered by Australian IAH members directly from Macmillan Publishers Australia in Victoria.

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