

2023 CHAPTER REPORT



Each national chapter is required by IAH Rule 6.5 to provide an annual report on its activities. This helps us to report the Association's activities and is published on the IAH web site. It is also expected that, under the terms of the chapter's constitution or rules, the national committee will make an annual report to members in their country.

1. ABOUT YOU

Your name	Sergio Rusi
Email address	presidente@iahitaly.it sergio.rusi@unich.it
Role/responsibility held in chapter	President

2. YOUR CHAPTER'S INFORMATION

Is your chapter's information correct on IAH's website: https://iah.org/groups/national-chapters	Yes We are also on facebook and LinkedIn https://www.facebook.com/IAHITALY https://www.linkedin.com/groups/6632655/
Does your chapter have its own website? If so, please confirm the URL. If you do have a website, who is responsible for its management? Please provide contact details.	Yes http://www.iahitaly.it/ webmaster: webmaster@iahitaly.it Chiara Porru: mchiaraporru@unica.it Ernesto Pugliese: ernesto.pugliese2@unibo.it Davide Fronzi: d.fronzi@staff.univpm.it
Would you be interested in IAH hosting your chapter's website/providing support? As an example, see https://germany.iah.org/ .	No
Does your chapter have an elected committee? If yes, how often are elections held and how are they managed e.g. postal/email vote/at meetings?	Yes Every 5 years; we had elections at the end of 2021

3. LOCAL MEMBERSHIP

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<p>How is local membership status and trends?</p> <p>We had an increasing (see diagram for detail)</p>	<p>In 2023, the number of members was 233, a 15% increase compared to 2022. This trend confirms what has been observed in previous years: during the years when the Flowpath conference was held, there was always a slight increase in memberships. Overall, the trend shows a gradual increase.</p>
<p>What are your challenges to recruitment? e.g. volunteer time/limitation, IAH fee rates, competition from other societies, language, etc.</p>	<p>IAH fee rates for standard members are high, especially if compared with other Italian societies and also with IAEG. The number of student members increase thanks to the possibility of joining for free.</p>

4. YOUR CHAPTER'S ACTIVITIES IN 2023

<p>Did your chapter hold an annual meeting (AGM-style)? If so, please advise:</p> <ul style="list-style-type: none"> • Date and place of meeting • Approximate number attending 	<p>We had the National meeting on June 2023 in Malta.</p> <p>Detailed discussions were held with representatives of IAH Italy, where we sought to place the focus of the Workshop on emerging issues and challenges to groundwater management. Therefore the meeting in Malta would enable discussions to address specific topics of interest such as Groundwater Protection Policies, Emerging Challenges to Groundwater Quantity and Quality and Groundwater Dependent Ecosystem. A special session on Hydrogeological Studies in Malta was also included with the aim of providing all participants with an outlook on the diverse hydrogeological characteristics of the Maltese Islands. It was the intention of all that Flowpath 2023 was to serve also to bring together our two hydrogeological communities, with the scope of fostering future joint cooperation initiatives.</p> <p>It is therefore encouraging to note, the strong participation of 48 Maltese and 132 Italian hydrogeologists in this edition of Flowpath. We are sure that the contacts built during the three days of Flowpath will provide a platform for future joint projects and initiatives. The presence of a further six colleagues from other countries was much encouraging.</p> <p>The opening session of Flowpath 2023 on the 14th June was addressed by HE Minister Miriam Dalli, Malta's Minister for the Environment, Energy and Enterprise followed by Prof Sergio Rusi President of the Italian Chapter of the IAH, Ing Karl Cilia Chief Executive Officer of Malta's Water Services Corporation (WSC) and Mr Manuel Sapiano Chief Executive Officer of the Energy and Water Agency (EWA). The Meeting was held in St Julians, on the north-eastern region of Malta.</p>
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Fig. 1 - A moment of the audience of Flowpath 2023.

Following the official opening, technical discussions were started by a key note speech from Dr David Macdonald from the British Geological Survey (BGS) who presented an outline on the development of Malta's groundwater monitoring framework – highlighting current work being undertaken by EWA and BGS to upgrade Malta's national hydrogeological monitoring framework.

The first session of the workshop focused on “Policies and Practices to Protect Groundwater” and was opened by a key-note by Dr Isaac Ojea Jimenz from DG Environment within the European Commission. Dr Jimenz presented an outline of the EU Policy Framework for the protection of Groundwater referencing the current processes for the updating of the EU's Water Framework and Groundwater Directives, two central pieces of legislation in the EU's policy framework. This session was co-chaired by Dr Ondine Gaerty and Dr Stefania Stevanazzi. The keynote was followed by ten presentations which explored the subject from different policy and technical perspectives.

The second session was preceded by a key-note presentation by Dr Dario Masante from the Joint Research Centre (JRC) of the European Commission who presented the context of droughts and their relevance to groundwater management. In particular he highlighted JRC's EDORA initiative - the European Drought Observatory for Resilience and Adaptation.

The second session reflected the organization of Flowpath in Malta, and therefore focused on Hydrogeological Studies undertaken in Malta. The session was opened with two keynote speeches – a first from Dr Ariel Thomas from the University of Malta who presented the initiatives which the hydrogeology research group is undertaking in the field of offshore groundwater resources. This presentation was followed by Dr Yongcheol Kim from the Geological Survey of South Korea (KIGAM) who provided an outline of the work being currently undertaken by KIGAM and EWA in the development of a freshwater-saltwater interface monitoring network in Malta. The session was chaired by Manuel Sapiano and Prof Sergio Rusi. The ensuing seven presentations provided an excellent outline of research initiatives undertaken jointly by Maltese and Italian researchers to advance knowledge on the hydrogeological characteristics of the Maltese islands.

The first day of Flowpath 2023 was then concluded with a poster session during which 16 abstracts received were presented. The poster session was accompanied by a social event with the aim of further facilitating a broader discussion between all the participants of the workshop.

The second day of Flowpath 2023 started with a keynote speech by Prof Eriberto Euilisse, Executive Director of the Global Network of Water Museums entitled “The potential contribution of ancient water cultures to groundwater management in achieving the SDGs”. In this keynote, Prof Euilisse highlighted the importance of rediscovering traditional and historic groundwater techniques and practices and adapting these to support the optimization of today's groundwater management. In simple terms, whilst we need to look forward, we need also to look backwards and learn from past experiences.

The third session of the workshop focused on “Emerging Challenges to Groundwater Quantity and Quality”. This session can be considered to have been the most popular session with nineteen selected presentations. It was opened by a keynote presentation by Prof Christoph Schuth from the Technical University of Darmstadt (Germany) titled Water Management in times of Climate Change – Do we have a water problem in Germany? The presentations in this session highlighted a range of different quantitative and qualitative challenges to groundwater status coming from different hydrogeological typologies, reflecting the diverse environment in which groundwater is sustained, thereby enabling a comprehensive discussion on the diverse challenges facing the groundwater environment. The session was chaired by Dr Claudio Arras and Dr Julian Mamo.

The fourth and final session of Flowpath 2023 presented an outlook on “Groundwater Dependent Ecosystems” and started with a keynote by Dr Tiziana Di Lorenzo from the Italian National Research Council (CNR) titled



“Diversity, traits, services, vulnerability and conservation of groundwater ecosystems”. This keynote provided the opportunity for a discussion on groundwater ecosystems, in itself an emerging topic in groundwater management. The session was chaired by Dr Maria Filippini, and included six presentations.

The closing session of Flowpath 2023 provided the opportunity for the launch of the Eurokarst 2024 Conference, to be held in Rome, by Prof Marco Petita. In this session Manuel Sapiano and Sergio Rusi thanked all the presenters and attendees to Flowpath 2023, in particular the staff from the Energy and Water Agency who were heavily involved in the organizational and logistical aspects of the conference.

The third day of Flowpath 2023 was then dedicated to technical site visits. Participants could follow one of five different site visits focusing on different water management aspects. The first visit presented Malta’s National Groundwater Monitoring Network with visits to monitoring sites within the Unsaturated Zone Monitoring Network and the Freshwater-Saltwater Transition Zone Monitoring Network. The second visit presented Malta’s geological structure and highlighted the role which local geology plays in the development of Malta’s perched and mean sea-level groundwater bodies. The third visit focused on Non Conventional Water Resources presenting Malta’s sea-water desalination plants and New Water reclamation programme. The fourth visit enabled participants to descend 100m below ground level to one of the groundwater pumping stations operating in Malta’s mean sea level aquifer system, presenting the galleries which were developed during the early to mid-1900’s for spreading groundwater abstraction to limit sea-water intrusion. The fifth visit presented the educational experience at GHJN – Malta’s National Water Conservation Awareness Centre where the importance of water conservation is presented in an informal and “fun” setting, promoting the importance of using water resources effectively to our future generations.

Following the technical site visits, all five groups converged to the Hagar Qim Neolithic Temple Complex in Qrendi, and were entertained to a guided tour of these impressive historical sites dating back over 5000 years. The Hagar Qim Temples have an inherent link with water management as they include the first rainwater retaining cisterns in the Maltese islands, highlighting the importance of water management throughout the history of the islands. This brought Flowpath 2023 to an end, with a social event at the interpretation centre of the Neolithic Park, with the Temples providing an impressive backdrop to an important conference which strengthened the links between Maltese and Italian hydrogeologists.



Fig. 2 – Two images taken from the field trips.

To close off this review of Flowpath 2023, I would like to thank the organizing team in Malta who have provided extensive support in the logistical and technical planning of the meeting: Michael Schembri, Henry Debattista, Aaron Cutajar, and Vanessa Vella, as well as the communications team who were deeply involved in the promotion of the meeting: Nadine Vella, Gilbert Gauci and Veonica Mizzi. Definitely, also a merited thanks goes to Prof Sergio Rusi and IAH Italy Committee including Luca Alberti, Stefania Da Pelo, Giovanna De Filippis, Diego Di Curzio, Giovanni Forte, Manuela Lasagna, Marco Petitta, Vincenzo Piscopo, Elisabetta Preziosi, Marco Rotiroti, Glenda Taddia, Alberto Tazioli, Daniela Valigi, Valentina Vincenzi for their assistance in the organization of the technical aspects of the meeting, as well as the members of the scientific committee who provided key support in the selection of the oral and poster presentations. Additional appreciation goes to the 8 key-note speakers, the 42 presenters of the oral presentations and the 45 posters who were the core technical element of the meeting, and definitely an important element the strong technical element which emerged. Last but not least to the 186 attendees of the meeting who contributed to making this meeting the successful event it was.



Fig. 3 - Group photo in the conference room.

Did your chapter hold other events e.g. technical and scientific meetings, seminars, conferences, field visits, training events?

- If you have already reported these to the IAH Secretariat, only summary information is required.
- If not, these please provide a summary of dates, location, number of participants, topics, etc. and how successful you felt each event was.
- Do you have photos we can use?
- Are your events open to IAH non-members?
- Did you hold events in partnership with others e.g. a national society, company, institution?

- During the GEOFLUID trade fair event, our SiCaptAS working group - IAH-Italy Committee organized the seminar: Groundwater for human consumption: innovations introduced by the recent Legislative Decree 18/2023, applications and case studies - Wednesday 13 September 2023.
- During the SGI conference held in Potenza from September 19 to 21, 2023, the session "S35 (P72-P73): Groundwater sustainability and water-energy-food nexus" (Conv.: S Da Pelo, V. Piscopo, M. Polemio, S. Rusi, D. Rapti, F. Sdao) was co-organized with the hydrogeology section of the Italian Geological Society,
- During the XVII National Conference GIT - Section of Geosciences and Information Technologies, held in Pietrasanta (Lu) from September 11 to 13, 2023, the session "Groundwater modeling as a decision-support tool for resource management" (Conv.: C. Arras, F. Lotti, P. Mazzon, D. Sartirana) was co-organized with the hydrogeology section of the Italian Geological Society and the ECHN.
- Moreover IAH Italy supported the XII National Conference of Young Researchers in Applied Geology, organized by the AIGA (Italian association of Applied Geology), held in Urbino in June 22–24, 2023, and the BEGEO conference on "Sustainability and Risk: Begeo Scientists on the road to the Future" held in Napoli from October 3 to 6, 2023, Napoli.
- Moreover, IAH Italy supported two grants assigned to young researchers or professionals:
 - the Botti Grant, that was assigned to Edoardo Severini for his PhD Thesis on "The effects of aquifer recharge and river-groundwater interaction on contaminant migration in alluvial aquifers: the test sites of Goito and Parma aquifer (northern Italy)", a study on the migration of microplastics and nitrates in groundwater in the Po Valley as a function of recharge. A Special Mention to Francesco La Vigna for the video of the Italian Institute for Environmental Protection and Research (ISPRA): "What flows beneath our feet" was also assigned.
 - the Zoppi Grant, assigned to Davide Fronzi for the best PhD Thesis in hydrogeological framework.

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	 <p style="text-align: center;"><i>Fig. 4 - D. Fronzi presentation and award ceremony moment.</i></p> <ul style="list-style-type: none"> - Throughout 2023 we have designed, discussed and drafted the new statute of the association as required by Italian law. At the end of the year, we finalized the registration in the National Single Register of the Third Sector (RUNTS). All procedures were discussed and approved by the Members' Assembly. In the new statute the relationships with IAH International have remained unchanged.
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5. YOUR CHAPTER'S PLANS

<p>Do you have any activities or tasks planned for 2024?</p> <p>If yes, please provide brief details, including if your plans are limited because of e.g. lack of funds or local interest/volunteer support to help</p>	<p>During 2024, the bureaucratic and administrative procedures, required by law, resulting from registration with the RUNTS will be finalized and completed.</p> <p>In addition to the usual events with our patronage and/or co-organization, we will organize, and in part the organization is already underway, the international conference Eurokarst 2024 in collaboration with the universities of "Roma - La Sapienza", "Bari - A. Moro" and "Sannio", which will be held in Rome from 10 to 14 June 2024.</p> <p>During the annual conference of the Italian Geological Society, we will organize a session dedicated to the Hydrogeology and in particular: "Groundwater resources innovation and sustainability: from characterization to management of saturated and unsaturated zone".</p>
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6. ADDITIONAL COMMENTS

<p>Please use this section to make any additional comments/suggestions e.g. what support from IAH centrally might assist your chapter, future plans you would like to see for IAH</p>