



# **Annual Report 2024**

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## 1. Introduction

The Early Career Hydrogeologists' Network (ECHN) was established during the reorganisation of the commissions and working groups of the International Association of Hydrogeologists (IAH) on July 1st, 2011, and provides a forum for Hydrogeologists at the start of their professional or academic careers. An "Early Career Hydrogeologist" is someone having less than 10 years of professional experience in the field of hydrogeology independently of their age.

The ECH Network aims to support hydrogeologists in the early stages of their careers (e.g., mentoring, career development) and to promote their involvement in IAH affairs. The ECH Network focuses on information sharing, networking and strengthening the status of early career hydrogeologists within IAH.

This report presents the activities that were carried out by the ECHN from January 2024 to December 2024, as well as the plans for the year 2025.

## 2. ECHN structure and ECHN Steering Committee

The present structure of the network consists of a Steering Committee (SC), led by a chairperson and two co-chairs, and complemented by a task team. The SC is supported by a group of advisors composed of former members of the committee (i.e., former chairs or co-chairs).

To ensure active participation of the ECHN SC, members are invited to join the committee for one year as part of the task team. Following this time, members can re-apply if they are willing to continue their involvement. Membership of the steering committee is not automatically renewed to allow for new member involvement, changing priorities of existing members and also reflecting that involvement may be task-specific or due to geographical location (e.g. assisting the organising committee in a specific annual IAH congress).

The ECHN SC was renewed as follows:

- Alina Kadhila (Namibia), Igor Karlović (Croatia), Brian Murove (Zimbabwe), Stéphanie Musy (Switzerland), Aqeela Parker (South Africa), Ashwani Kumar Tiwari (India), Eileen Villaseñor (UK) joined the SC [Feb 2024].
- Richard Hoffmann (Germany) and Tirza Contreras (Honduras) decided not to renew their commitment with ECHN SC [July 2024].
- Fatima Monji (The Netherlands) was not reachable during 2024.
- Jared Van Rooyen (South Africa), Jade Ward (UK), Stefania Stevenazzi (Italy) resigned their duties as chair and co-chairs.

The new leadership has been elected among the SC members following an open nomination pool. Among the most voted candidates, and according to their willingness in being in the leadership team Aqeela Parker (South Africa), Isadora Kuhn (Brazil) and Eileen Villaseñor (UK) accepted the invitation of being the new chair and co-chairs.

## **Current steering committee**

Aqeela Parker (South Africa)	chair
Eileen Villaseñor (UK)	co-chair
Isadora Kuhn (Brazil)	co-chair
Alina Kadhila (Namibia)	task team
Luis Camilo Suescún (Colombia)	task team
Brian Murove (Zimbabwe)	task team
Paulo Filipe Silva Borges (Portugal)	task team
Stéphanie Musy (Switzerland)	task team
Jared Van Rooyen (South Africa)	task team
Klara Zagar (Slovenia)	task team
Igor Karlović (Croatia)	task team
Ashwani Kumar Tiwari (India)	task team
Stefania Stevenazzi (Italy)	task team

## **Advisory team**

Raquel Sousa (Portugal)	ECHN Advisors (Past Co-chair)
Carlos Maldaner (Brazil/Canada)	ECHN Advisors (Past Chair)
Viviana Re (Italy)	ECHN Advisors (Past Chair)
Judith Flügge (Germany)	ECHN Advisors (Past Chair)
Matthys Dippenaar (South Africa)	ECHN Advisors (Past Co-chair)

Information on the ECHN-SC is regularly updated and available online at:

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

### **2.1. Portfolios**

The increased number of SC members required a structured organisation. Therefore, a series of portfolios (i.e., tasks) have been proposed and distributed to the SC members according to their preferences:

- Social Media - Eileen Villaseñor, Luis Camilo Suescún & Aqeela Parker
- National Chapters - Igor Karlović, Klara Zagar & Paulo Borges
- Website - Stefania Stevenazzi
- Network & Collaborations - Alina Kadhila, Brian Murove & Ashwani Kumar Tiwari
- Finance - Jared van Rooyen, Isadora Kuhn
- Congresses - Stéphanie Musy, Alina Kadhila & Aqeela Parker
- Duties in IAH - chair and co-chairs

The document summarising the roles (chair, co-chairs, task team members and advisors) and describing the portfolios (description and frequency of the activities) represents an internal regulation among current and new SC members. New ECHs willing to join the steering committee will be invited to participate in one or more tasks.

### **3. Activities**

#### **3.1. Meetings of the Steering Committee**

Regular meetings are held by video conferences (about 3 to 4 per year). These meetings allow an efficient exchange between the members of the SC and for the joint planning of the activities of the ECHN during the year. During the reported period, steering committee meetings were held on the following dates:

- February 26th, 2024
- April 22nd, 2024
- July 3rd, 2024
- August 8th, 2024
- October 3rd, 2024

#### **3.2. IAH Congress**

The 51st IAH Congress was held in Davos, Switzerland on September 8-13, 2024 under the theme “Interacting Groundwater”. The congress was once again a great occasion for ECH networking and development of our professional careers. ECHN activities counted with the great support of the Congress Organizing Committee and IAH Central. Following are listed the ECHN activities in the 51st IAH Congress:

The IAH Council supported the attendance of four ECHs allowing them the free registration to the congress (Jared van Rooyen, Isadora Kuhn, Alina Kadhila and Aqeela Parker).

The Congress was officially opened by Professor Daniel Hunkeler, the Head of the Congress Organizing Committee. In his opening speech, he called this Congress “a true global event”, with 1150 registered delegates from about 85 countries.

The former president of the IAH, Prof David Kreamer, was also present at the official opening, and it is noteworthy to mention how he reminded everyone of the importance of the hydrogeology profession. He reiterated that hydrogeology is a noble profession that can make a world a better place, as much as any profession out there.

The conference had lots of parallel sessions, special sessions and plenaries, all focusing on various themes as can be found on the congress program. These included:

- a) Hydrogeological systems and processes
- b) Groundwater in the anthropocene- challenges and solutions
- c) Groundwater in a changing society

- d) Sustainable groundwater resources management and,
- e) Emerging field and computational methods.

The complete listing and descriptions of all parallel sessions can be accessed at: <https://www.iah2024davos.org/parallel/>.

The ECHN was acknowledged for playing an important role in making the event possible. Ms. Stephanie Musy, an ECHN Steering Committee member, was part of the local organizing committee, and served as a link between the congress organization and the ECHN. The ECHN successfully incorporated ECHN activities in the congress program. These are:

#### **The Annual ECHN social event:**

On Wednesday, 11 September 2024, the ECHN SC members hosted a networking event amongst early career hydrogeologists, which took place after a thrilling hockey match. The ECHN prepared a network game called "Hydrobingo". This game encouraged participants to ask each other specific questions about their background, groundwater knowledge, and personal life. The goal was to fill out a bingo-style card by interacting with others and recording their answers. As an incentive, participants who completed the form received a coupon for a drink at the stadium's "kanteen" to enjoy while networking. However, many participants were so engaged in getting to know each other that they continued interacting long after the vouchers were gone, and some didn't even collect theirs. This activity successfully encouraged communication and networking between ECHN members and non-members, making it easier for congress participants to connect. Additionally, the social session provided a platform for junior and senior hydrogeologists to exchange ideas, share experiences, and have fun.

#### **Youth Hub Networks- Developing Groundwater for a Sustainable Future:**

This was a special focus event, hosted by Swiss Water Partnership (SWP) Youth, organized by UNESCO Groundwater Youth Network (GWYN) and the ECHN. This event was particularly organized to have youth networking, and provided a platform for exchange of knowledge from senior experts and the younger professionals. The event encouraged engagement with experts from four different groundwater sectors (private, public, research and NGO) and allowed for an in-depth discussion on significant groundwater case studies which allowed an intergenerational exchange of ideas.

#### **The Early Career Best Poster and Oral Presentation Awards:**

The Early Career Hydrogeologists' network honoured the best oral and poster presentation at the 2024 World Groundwater Congress in Davos. All scientists within the first 10 years of their career (after their last graduation, MSc or PhD) were invited to participate in the award. The evaluation of the Oral Presentations were done by session chairs and co-chairs; while the posters could be evaluated by anyone visiting the poster. The winners are:

#### Best Oral Presentation:

1. Davide Furlanetto - University of Padova “Coping with structural uncertainty in a complex multilayer aquifer system”
2. Asadullah Farahmand - Ministry of Energy and Water of Afghanistan “Hydrogeochemical evolution and groundwater quality assessment in Herat Plain Aquifer, western Afghanistan”
3. Gita Lestari Putri - University of Technology in Sydney “Impact of climate variability on faecal contamination from on-site sanitation systems in shallow groundwater”

#### Best Poster Presentation:

1. Courtney Kilian - USGS “Machine learning predictions of groundwater salinity across the contiguous United States”
2. Elisa Mammoliti - Marche Polytechnic University “Advancements in Assessing Fracture Hydraulic Conductivity: Integrating Permeability Tests and Discrete Fracture Networks at the laboratory scale”

### **3.3. Annual General Meeting**

The ECHN Annual General Meeting (AGM) took place in the afternoon of 09 September 2024, during the IAH Annual Congress in Davos, Switzerland.. About 20 attendees were present, most of whom were keen to learn more about how the network operates. The meeting was an opportunity to introduce the steering committee, present the different programmes maintained by the ECHN, such as IAH mentoring scheme programme, the funding opportunities to attend IAH Congresses, and the support for the creation of an ECHN Branch. The AGM fostered engagement among young professionals, emphasizing discussions on the formation of national chapters. Many young professionals were unaware of the ECHN before the event. The event successfully raised awareness about the committee, leading to numerous young professionals expressing interest in joining our LinkedIn community.

The AGM presentation is available in the link below:

[https://docs.google.com/presentation/d/1dVlkbVN6Av6uNf89RiQAQMUp\\_19L-MFO/edit?usp=drive\\_link&oid=114706927919509586263&rtpof=true&sd=true](https://docs.google.com/presentation/d/1dVlkbVN6Av6uNf89RiQAQMUp_19L-MFO/edit?usp=drive_link&oid=114706927919509586263&rtpof=true&sd=true)

### **3.4. Collaboration with other youth organisations**

ECHN renewed its support to the UNESCO Groundwater Youth Network (UN-GWYN) as a member organization in March 2024. In April 2024 the new Committee leads were elected and the ECHN representative was present in the nomination event, which was held online. In an effort to continue with already established collaborations and reaching out to other youth organisations, the ECHN established the network and collaborations portfolio. The proposed framework entails incumbents under this portfolio to attend UN-GWYN Steering Committee online meetings throughout the year as representatives of ECHN.

### **3.5. Outreach activity: webinars organised by ECHN**

In 2024, ECHN organised two webinars in collaboration with other organisations and with the support of IAH.

On 22 March 2024, the webinar entitled “Exploring the Nexus of Groundwater and Sustainable Development Goals with a perspective on Global peace” with Prof. (Dr.) A.K. Sinha (President of INC-IAH, speaker) and Dr. Ashwani K Tiwari (ECHN, moderator).

On 4 November 2024, the webinar entitled “Emerging Contaminants in Groundwater Resources and Their Remediation Techniques” with Dr. Subhash Chandra (GITAM University, India, speaker) and Dr. Ashwani K Tiwari (ECHN, moderator) was hosted on the Zoom platform through the IAH zoom account. The webinar was organised in collaboration with the Indian National Young Academy of Science (INYAS) and the India Nation Chapter of IAH.

## **4. Exchange and dissemination of knowledge**

Since the beginning of ECHN's activities, the LinkedIn group has been used as a platform for sharing information and for discussions. Each member of the group can post jobs, conference announcements, groundwater events, make questions, leave comments and suggestions. The platform is used by ECHN to also promote ECHN and IAH activities, special sessions and the events and activities that are held at the IAH International Congresses. The profile of the group is updated by Aqeela Parker, Eileen Villaseñor and Jared Van Rooyen. The current number of members of the ECHN's LinkedIn group is 1230.

The network takes advantage of most of the social media platforms available, in order to communicate with the various young generations. Therefore, the platforms used by ECHN are:

- Facebook page, administered by Aqeela Parker, with 2839 followers (2714 likes), open since January 2014;
- X / Twitter account, administered by Luis Camilo Suescún and Eileen Villaseñor, with 1216 followers, open since December 2014;
- The ECHN Instagram account needs to be reactivated.

The objectives and applications of social media platforms, along with their advantages and disadvantages, continue to be a topic of discussion with the IAH Council.

The ECHN website, launched in 2014 (<https://echn.iah.org/>) is currently administered by Stefania Stevenazzi. The website is periodically updated mainly with news and pictures regarding ECHN activities (especially activities done during the IAH congresses).

## 5. ECHN Branches

The ECHN National Groups allow ECH's to network and share technical information with other hydrogeologists in their own country and/or city. Examples of events include side events at hydrogeological national meetings, technical presentations, hydrogeological tours or socialising with local/national experts in the field of hydrogeology. Please note that some smaller IAH National Chapters do not have an ECHN national branch, but organise activities for early careers in the same way (e.g., Belgium or France National Chapters of IAH).

Current National branches are:

1. West Australia
2. Brazil
3. Canada
4. Chile
5. Colombia
6. Italy
7. Japan
8. Portugal
9. South Africa
10. United Kingdom
11. U.S.A.
12. New Zealand

Contacts and other information (website, social media) are collected in the interactive world map that is present at the link: <https://echn.iah.org/echn-national-branches>

## 6. Outlook

The main objective of the ECHN for 2025 are:

- Continuation to engage with the UNESCO Youth Groundwater Network (UN-GWYN)
- Forming a relationship and collaborating with other young societies as well as job pages (e.g., Josh's water jobs, IGRAC) and generate more professional and academic opportunities/connections for the ECHs;
- Promote Groundwater awareness within the public domain through online community platforms and engagement activities;
  - Participating in the development of short, digestible videos related to groundwater topics, e.g., collaborate on videos about groundwater resources and quality around the world, why it is important for us to investigate it and how the importance of groundwater is perceived by different age generations worldwide as well as the role of groundwater in industry;



- Inspire ECHs to become members of IAH and the ECHN;
  - Delineate a regulation of new ECHs to be part of the Steering Committee;
  - Generate ideas for providing financial support to ECHN members attending the IAH Congresses.
  - Increase awareness of ECHN by posting more regularly on social media platforms.
  - Coordinating ECHN-related webinars and online events, as well as planning potential in-person events within the ECHN national chapters.
- Improve communication between IAH / ECHN community and with ECHN National Branches;
- Support the interaction between Junior and Senior hydrogeologists, with a special dedication to the Mentoring Scheme held by IAH.

10 February 2025



*Aqeela Parker*

*On behalf of the Early Career Hydrogeologists' Network*