

IAH-SA SYMPOSIUM 2026 | STIAS STELLENBOSCH | 26 to 28 March 2026

Groundwater Quality: Assessment, Emerging Challenges and Sustainable Solutions

SUBMIT YOUR ABSTRACT

- Please email your abstract to: deidre@iafrica.com
- Please label your file as follows: SURNAME, INITIAL - Example: Cloete D
- Please include in your email:
 - Name of presenter
 - Contact email of presenter.
 - Abstract selected for Oral or Poster presentation

If you need to revise your abstract, please resubmit the updated file using the following format:

- SURNAME, INITIAL, REVISED - Example: Cloete D Revised

IMPORTANT

The presenting author is required to register and settle the applicable registration fee in order for their presentation to be included in the final symposium programme.

The abstract submission deadline: **Extended to 19 June 2026**

An overview of the programme, including scheduled days and times, is available at:

<https://iah.org.za/symposium-2026/>

ABSTRACT TEMPLATE – available on the Symposium website:

<https://iah.org.za/symposium-2026/>

CALL FOR CONGRESS ABSTRACTS

Groundwater is a primary water source for approximately 70% of the population in southern Africa, yet its chemical and microbiological integrity is under significant pressure from both geogenic and anthropogenic sources. Current assessments indicate that in certain critical regions, up to 25% of boreholes yield water that fails to meet domestic and agricultural safety standards without intervention. The primary contaminants threatening regional water security and public health include:

- **Nitrates:** Identified as the most pervasive regional contaminant, driven by agricultural runoff, inadequate sanitation infrastructure, and natural leaching in arid basins like the Kalahari. High concentrations present a persistent risk of methemoglobinemia.
- **Geogenic Fluoride:** Naturally elevated levels are widespread, particularly within the East African Rift and provinces such as Limpopo and the North West. Chronic exposure remains a leading cause of dental and skeletal fluorosis across rural communities.
- **Mining Impact & Acid Mine Drainage (AMD):** Significant degradation is observed in gold and coal mining districts. The resulting acidification of aquifers facilitates the mobilisation of toxic heavy metals, including arsenic, uranium, lead, and cadmium, posing severe carcinogenic and ecological risks.
- **Salinity & TDS:** Increasing mineralisation and brackishness are reported in the deep inland basins of Botswana and coastal aquifers in Mozambique, limiting the potability of available reserves.

- Pathogenic & Emerging Risks: Microbiological contamination (E. coli, cholera) remains a critical problem in shallow, unprotected aquifers. Furthermore, the detection of Contaminants of Emerging Concern (CECs), specifically antiretrovirals and antibiotics, in urban groundwater highlights a new frontier for regional water monitoring and policy. CECs are synthetic or natural chemicals, including pharmaceuticals, personal care products (PPCPs), PFAS, and microplastics.

In addition, Industrial contamination of groundwater is a significant environmental threat, often caused by leaking storage tanks, improper waste disposal, and seepage from industrial sites. This contamination, often in the form of heavy metals, toxic substances, and hydrocarbons, renders water unsafe for drinking and harms ecosystems, often taking much longer to recover than surface water.

Greater awareness and understanding of all the threats affecting groundwater quality is essential. Forecasting is required to determine what these impacts will be in the longer term, and, crucially, solutions to mitigate these problems have to be shared. Regulatory frameworks that exist to monitor and mitigate impacts must be understood and properly implemented.

You are invited to submit an abstract for consideration in the scientific programme of the IAH-SA Symposium 2026 – “Groundwater Quality: Assessment, Emerging Challenges and Sustainable Solutions.”

Symposium topics:

- Is groundwater safe to drink? Standards, guidelines and treatment (SANS241).
- Groundwater quality problems encountered across Southern Africa – iron, scaling, nitrates, microbial contamination, and other issues
- Contaminants of emerging concern (forever chemicals, plastics) – are we encountering them in South Africa?
- The impact of industrial processes on groundwater quality
- Contamination case studies – monitoring and attenuation
- Monitoring, sampling and analytical protocols for groundwater quality
- (Innovative) solutions to groundwater quality issues
- Water treatment processes and solutions

Abstracts will be reviewed by the IAH-SA Committee for inclusion in the final programme. Depending on the number of submissions and the available programme space, some abstracts may be allocated to the poster session.

Guidelines for writing an abstract:

- Type the title in CAPITAL LETTERS, using no more than twenty (20) words.
- The presenter’s name should be underlined.
- Indicate department and/or institution of first author.
- The abstract must be typed in single space using 12-point Arial Font with 2.5cm margins on all sides of the page.
- Abstracts should be approximately 250 words or less without editorial errors.
- All abstracts will be reviewed and may be selected for oral presentation or poster presentation or may be rejected.
- The time allotted for each oral presentation will depend on the session to which the abstract is allocated.
- Notification of acceptance or rejection by the IAH-SA Committee will be emailed to the presenting author.
- Acceptance of abstracts for poster presentation will be confirmed in writing, together with detailed poster presentation instructions.

Please contact the event organizers at deidre@iafrica.com if you have any questions.