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PRELIMINARY IAH 2023 CONGRESS PROGRAMME – 18 to 22 SEPTEMBER 2023

MONDAY 18 September 2023

08:00 – 17:00 Field Excursions

TUESDAY 19 September 2023

Venue 1 Opening Session

K Pietersen, Programme Director

09:00-09h15 **M Dippenaar/J Conrad, IAH Local Organising Committee: Welcome and Introduction to IAH 50**

09:15-09:30 **D Kreamer, IAH President: Opening address**

D Kreamer, IAH President

09:30-09:45 **Z Badroodien, Mayoral Committee Member for Water, City of Cape Town, Welcome to Cape Town**

09:45-10:00 **Honourable S Mchunu, Minister of Water and Sanitation: Official Opening of the IAH Conference**

10:00-10:15 Cultural/Music Item

10:15-10:45 **Keynote: W Timms, Deakin University Australia: Top tools for data-driven geology and groundwater studies**

10:45-11:15 **Keynote: S Kebede Gurmessa, University of KwaZulu Natal and IAH Vice President for Sub-Saharan Africa: Highlights on the hydrogeology of African dryland environments.**

11:15-11:45 COMFORT BREAK

Venue 1 The connectedness of groundwater and planetary sciences

11:45-12:00 **86 D Hohne., S Esterhuyse: A conceptual model for methane occurrences in the Western Karoo as part of a geochemical baseline for shale gas development.**

12:00-12:15 **166 L Ojeda, Iñaki Vadillo., Pablo Jiménez-Gavilán., José Benavente., Antonio Fermín Castro-Gómez: Platinum-Group-Elements and Total Organic Carbon in hyper alkaline springs at the Ronda peridotites (Malaga, Spain) as proxies of the origin of dissolved methane gas.**

- 12:15-12:30 **259 E Gustavo.**, A Bittner: *Baseline concentrations of radionuclides in groundwater of the Namibian Uranium Province, Namib Desert, western Namibia*
- 12:30-12:45 **185 Y Xie.**, C Wang: *Groundwater flow paths dictate terrestrial carbon inputs into a groundwater-dominated stream.*
- 12:45-13:00 **272 H Mbah:** *Protecting Groundwater Resources in an Era of Geological Carbon Sequestration: A Fractional Stochastic Model To Predict Pressure Buildup Due to CO₂ Injection into a Saline Aquifer.*

13:00 – 14:15 LUNCH

Venue 1 The connectedness of groundwater and planetary sciences

- 14:15-14:30 **27 A Allwright.**, F de Lange., R Lubbe., L Mbonambi., K Vivier., K Witthuser., S Webb., L Ashwal., F Roelofse., D. Khoza., R Trumbull: *Research-based exploration of deep groundwater within the eastern limb of the Bushveld Complex*
- 14:30-14:45 **195 L Towers.**, D Blake., D McGibbon: *Groundwater resources of the Danakil Depression – hydrogeology in the hottest place on Earth.*
- 14:45-15:00 **237 S Barbieri:** *New challenges for low-enthalpy geothermal resource management at the urban scale*
- 15:00-15:15 **287 S Meekes:** *Monitoring a deep fresh-saline water interface using repeat Vertical Electrical Soundings measurements*
- 15:15-15:30 **326 E Kayukova:** *Peculiarities of the chemical composition of the Ordovician aquifer as a source of potable water supply (St. Petersburg, Russia)*

15:30-16:00 COMFORT BREAK

Venue 1 The connectedness of groundwater and planetary sciences

- 16:00-16:15 **334 R Aissat.**, A Pryet., M Saltel., A Dupuy: *Comparison of different pilot point parameterization strategies when measurements are unevenly distributed in space*
- 16:15-16:30 **242 Z Gaffoor.**, K Pietersen: *The impacts of climate change on groundwater in South Africa*
- 16:30-16:45 **356 M Demlie.**, S Rajpal., N Govendor., D Naidoo: *Investigation of Seawater Intrusion due to Group-Well-Pumping of a local coastal aquifer in Durban, South Africa.*
- 16:45-17:00 **35 A David.**, T Abiye: *Assessment of groundwater potential of the Kalahari aquifers in Kavango East and West regions, Namibia*

17:00–18:00 Commission/Network Meeting

Venue 1 Burdon Groundwater Network for International Development

TUESDAY 19 September 2023	
Venue 2	BIOGRIP Session
	Catchment scale integrated surface water and groundwater studies
11:45-12:00	263 R Diamond: <i>Tracing mine water flows in a dolomite quarry in South Africa, using hydrochemistry and stable isotopes</i>
12:00-12:15	37 A Welham., R Chow., J van Rooyen., A Watson: <i>Identifying water sources of Verlorenvlei using stable isotopes and hydrochemistry.</i>
12:15-12:30	224 B Baud., P Lachassagne., A Fadillah., Heru Hendrayana., Nathalie Dorfliger: <i>Aquifers recharge in volcanic-arc area, stable isotopes insights to emphasize a multi-scale approach on a local hydrogeological conceptual model elaboration.</i>
12:30-12:45	156 J van Rooyen., A Watson., Jodie Miller: <i>Stable and Radiogenic isotopes in southern Mozambique: a window into groundwater recharge, mixing and vulnerability</i>
12:45-13:00	154 L Ligavha-Mbelengwa., G Madzivire., M Gomo: <i>Vulnerability of South African water resources to emerging organic contaminants: a case study of the Witwatersrand Goldfields, Eastern Basin</i>
13:00 – 14:15	LUNCH
Venue 2	Catchment scale integrated surface water and groundwater studies
14:15-14:30	82 V Lorenzi., A Lacchini., M Manetta., M Petitta: <i>Distributed recharge in karst-fractured carbonate aquifers: insights from the KARMA EU project for the groundwater resource management of Gran Sasso (Central Italy)</i>
14:30-14:45	412 K Banda., M Mataa., M Chomba., I Nyambe: <i>Regional-scale identification of recharge or discharge using remote sensing and GIS: Implications towards groundwater-surface water interactions</i>
14:45-15:00	400 N Tuswa., T Kanyerere., N Jovanovic., Y Xu: <i>A Review of potential and actual groundwater recharge: Insights and implications to groundwater use.</i>
15:00-15:15	88 P Finini., Thokozani Kanyerere, Dominic Mazvimavi: <i>Assessing the hydrogeology of springs, Heuningnes catchment South Africa</i>
15:15-15:30	373 V Banda., T Kanyerere., H Mengistu: <i>Assessment of catchment scale groundwater-surface water interaction in a non-perennial river system, Heuningnes catchment, South Africa</i>
15:30-16:00	COMFORT BREAK
Venue 2	Catchment scale integrated surface water and groundwater studies
16:00-16:15	65 A Xaza: <i>Using derivative plot analysis for diagnosing boundary conditions and flow regimes, Heuningnes, Cape Agulhas, South Africa</i>
16:15-16:30	399 M Zarate <i>How alluvial storage controls surface water – groundwater interactions in dryland intermittent and ephemeral streams: A case study from semi-arid Australia</i>

16:30-16:45 **179 A Bissoon, E Haricombe:** *Literature review on methodologies used to assess surface water and groundwater interaction*

16:45-17:00 **113 N Hartog.**, Jan van Lopik: *Evaluation of the conditions that impact the spreading, impact and groundwater monitoring for the risk of brine leakage from wells into fresh groundwater aquifers*

17:00–18:00 **Commission/Network Meeting**

Venue 2 Commission on Groundwater Quality

TUESDAY 19 September 2023

Venue 3 Scale aspects of groundwater flow and transport systems

11:45-12:00 **258 D Mudimbu.**, B Brauns., K Banda., D Lapworth., A MacDonald, W Namaona., R Owen., M Sinda: *Groundwater recharge in sub-humid drylands under different agricultural systems*

12:00-12:15 **21 E Davies.**, R Chow., S Furihmann., C Stamm: *Using passive sampling to identify trends in aquatic pesticide pollution in the Western Cape, South Africa.*

12:15-12:30 **314 F Beetle-Moorcroft:** *Per and Polyfluoroalkyl Substances (PFAS) Groundwater Toolkit*

12:30-12:45 **381 S Stevenazzi.**, L Massaro., D Ducci: *Spatial distribution and temporal variation of groundwater physicochemical features in coastal aquifers (Campania Region - Southern Italy)*

12:45-13:00 **76 M Etuk., V Re.**, S Viaroli., I Ogbonnaya: *Nitrate vulnerability assessment in the fast-growing African district of Abuja Federal Capital Territory (Nigeria)*

13:00 – 14:15 LUNCH

Venue 3 Scale aspects of groundwater flow and transport systems

14:15-14:30 **249 J Podgorski.**, O Kracht., L Araguas-Araguas., J Miller., R Straub., R Kipfer., M Berg: *Assessing aquifer vulnerability using tritium and machine learning in Africa's western Sahel*

14:30-14:45 **299 M Berg.**, D Araya., J Podgorski: *Machine learning spatial prediction modelling of groundwater salinity in the Horn of Africa*

14:45-15:00 **56 N Igwebuike.**, S Clarke., T Kanyerere: *Application of machine learning techniques to improve groundwater level predictions and optimization, West Coast, South Africa*

15:00-15:15 **45 B Hunink.**, R Chow., T Wöhling: *Delineating wellhead protection areas and aquifer vulnerability in the Cape Flats, South Africa*

15:15-15:30 **246 M Llamas.**, J Jiménez-Martínez., P Jiménez-Gavilán., C Corada-Fernández., P Lara-Martín., I Vadillo A., **L Ojeda:** *A mixing analysis to explore the distribution and behaviour of contaminants of emerging concern and regulated organic pollutants in the hydrogeological media. Case study: the endorheic catchment of the Fuente de Piedra Lagoon (Southern Spain)*

15:30-16:00	COMFORT BREAK
Venue 3	Scale aspects of groundwater flow and transport systems
16:00-16:15	161 T James Oudega., G Lindner., A Scheidl., A Eder., P Strauss., A Blaschke., G Blösch., <u>M Stevenson</u> : <i>Upscaling Preferential Flow in Heterogeneous Porous Media from the Laboratory to the Field</i>
16:15-16:30	<u>N Vermaak</u> , S Fourie., S Esterhuyse., D Hohne: <i>Recharge under review: implications for Water Resources Management</i>
16:30-16:45	213 <u>L Landi.</u> , M Rotiroti., M Filippini: <i>Unfolding the spatial heterogeneity of the natural background level of arsenic in groundwater at the mesoscale using data from sites under remediation</i>
16:45-17:00	115 <u>A David.</u> , T Abiye: <i>Estimation of groundwater recharge in the Kalahari aquifers of Kavango West and East Regions using the chloride mass balance method and environmental isotopes, Namibia</i>
17:00–18:00	Commission/Network Meeting
Venue 3	Early Career Hydrogeologists' Network
TUESDAY	19 September 2023
Venue 4	Critical zone sciences – a multidisciplinary, cross-scale science
11:45-12:00	33 <u>C Chamathong.</u> , T Nettasana., M Hengsuwan., P Kullaboot., J Park., K Kim: <i>Application of Nanofiltration Membrane for Removal of VOCs and Heavy Metals in Groundwater, Ratchaburi, Thailand</i>
12:00-12:15	374 <u>J Loock</u> : <i>Maximising groundwater value through innovation & technology - the power of membranes</i>
12:15-12:30	433 <u>K Reynolds-Clausen</u> : <i>The use of Coal Combustion Residues for the stabilisation of mines and the treatment of mine drainage.</i>
12:30-12:45	58 <u>L Mokhahlane</u> : <i>Groundwater trend analysis at an active underground coal gasification plant</i>
12:45-13:00	24 <u>M Hengsuwan</u> : <i>In-situ Remediation of Contaminated Groundwater Using Permeable Reactive Barrier at the 16th Lum Nam Jone Reservoir, Chachoengsao, Thailand.</i>
13:00 – 14:15	LUNCH

Venue 4	Critical zone sciences – a multidisciplinary, cross-scale science
14:15-14:30	6 L Boumaiza. , J Walter., R Chesnaux., F Zahi., F Huneau., É Garel., R Stotler., G Bordeleau., K Johannesson., Y Vystavna., T Drias., V Re., K Knöller., C Stumpp: <i>Combined effects of seawater intrusion and nitrate contamination on groundwater quality in the coastal agricultural area of El-Nil River, Algeria.</i>
14:30-14:45	134 S Santoni. , E Garel., M Gillon., M Babic., Jorge Spangenberg., B Bomou., D Sebag., T Adatte., R van Geldern., V Pasqualini., F Huneau: <i>Isotope geochemistry disentangles interactions between water and carbon cycle in Mediterranean peatland.</i>
14:45-15:00	141 M Rojo. , A Nogales., C Hurtado., Z Vargas: <i>Potential land use changes and wildfires effects over the spatiotemporal distribution of groundwater recharge at a regional scale: RAPReHS indicator accounting for SDG-13 in Bolivia</i>
15:00-15:15	262 M Menichini. , M Burlando., L Franceschi., A Berton., L Costanza., S Trifirò., L Foresi., R Giannecchini., M Doveri: <i>Hydrological processes and evolution in the critical zone of a small island: the case of Pianosa Island in the Tuscan Archipelago</i>
15:15-15:30	226 P Labuschagne. , M Lenahan: <i>Mine pit backfilling: opportunities for West African Mine Projects</i>
15:30-16:00	COMFORT BREAK
Venue 4	Critical zone sciences – a multidisciplinary, cross-scale science
16:00-16:15	129 D Shockley. , D Lapworth: <i>Microplastics presence in key aquifers used for drinking water supply in England: results of this first systematic study and overview of methodological development</i>
16:15-16:30	377 Okutan., Sağır., Pekkan., Turkulus., Razack., Le Coustumer, P: <i>First results on the transport of polydisperse polyethylene microplastics in saturated porous media</i>
16:30-16:45	25 K Novakowski. , L Egan: <i>Heat and Solute Tracer Experiments in a Discrete Crystalline Rock Fracture</i>
16:45-17:00	297 K Riemann: D Blake: <i>Water Quality of Cape Town Aquifers – The WWQA African Use Case</i>
17:00–18:00	Commission/Network Meeting
Venue 3	Transboundary Aquifers Commission
TUESDAY	19 September 2023
Venue 5	Special session: The future of groundwater resources research for Africa Convenors: UNESCO/IAH
11:45-13:00	PROGRAMME TBC
13:00 – 14:15	LUNCH

Venue 5	Special session: Transformational development of groundwater resources: Towards adaptation and resilience Session Sponsor and Convenor and Sponsor: Water Research Commission (WRC)
14:15-15:30	PROGRAMME TBC
15:30-16:00	COMFORT BREAK
Venue 5	Special session: IAH UN-Engagement Working Group Convenors: IAH
16:00-17:00	PROGRAMME TBC
Venue 5	Commission/Network Meeting
17:00-18:00	Commission on Groundwater and Climate Change
WEDNESDAY	20 September 2023
Venue 1	Upscaling/downscaling
08:30-08:45	153 C Viviers. , M van der Laan., M Dippenaar: <i>Can open-source remote sensing data be used to accurately downscale groundwater storage estimates?</i>
08:45-09:00	42 R Nenweli. , A Watson., R Chow. , A Brookfield: <i>Evaluating groundwater storage changes under droughts in The Western Cape using GRACE data</i>
09:00-09:15	436 T Solovey. , J Śliwińska., A Brzezińska., M Przychodzka: <i>Validation of algorithms for estimating changes in groundwater storage from GRACE gravity satellite data for Poland</i>
09:15-09:30	194 T Casati. , A Navarra., M Filippini., A Gargini: <i>Groundwater discharge and climate change: the application of RCMs to assess long-term effects of climate change on spring flow along the Apennines</i>
09:30-09:45	207 Z Gaffoor. , K Pietersen., T Kanyerere: <i>The application of artificial intelligence techniques to support groundwater management in Southern Africa</i>
09:45-10:00	419 A Kovacks: <i>A combined stochastic-analytical method for the assessment of climate change impact on spring discharge</i>
10:00-10:15	233 N Vinograd. , A Potapov., Y Mohamed: <i>Formation of the groundwater chemical composition in the Quaternary aquifer of the coastal valley (North Sinai, Egypt)</i>
10:15-10:30	175 D Benedicto van Dalen. , H van den Berg., A Fall., E Monteiro., J Baptista: <i>Developing and testing a Groundwater Mapping methodology to increase drilling success rates for sustainable drinking water boreholes in African Arid and Semi-Arid Lands – the case study of Cunene Province, Angola</i>
10:30-11:00	COMFORT BREAK

Venue 1	PLENARY PRESENTATIONS
11:00-11:30	15 M Taniguchi: <i>Time scale connection of groundwater with adjacent spheres</i>
11:30-12:00	177 C Moeck., W Berghuijs., E Luijendijk: <i>Global potential groundwater recharge in response to climate variability and teleconnection.</i>
12:00-12:30	TBC
12:30-13:00	260 J King., D Zamrsky., J Delsman., J Verkaik., M Bierkens., G Oude Essink: <i>Showcasing a global-scale, 3D coastal groundwater salinity model</i>
13:00-14:00	LUNCH
Venue 1	The connectedness of groundwater and planetary sciences Special Session IAH-SHG: The connectedness of groundwater and human systems
14:00-14:30	M Hammie Presentation TBC
14:30-14:45	388 S Bourke., B Moggridge., K Wallis., D Owen., J Searle., S Bolton., M Currell: <i>First Nations Communities as Partners in Hydrogeology</i>
14:45-15:00	53 A Healy., M Cuthbert: <i>Making the Invisible Visible: Do Aquifers Have Agency?</i>
15:00-15:15	91 V Re., J Rizzi., C Tuci., C Tringali., E Mendieta., A Marcomini: <i>Learning from complexity: multi-stakeholder water resources management in the island of Santa Cruz, Galápagos (Ecuador)</i>
15:15-15:30	183 D Walker., M Smigaj., K Moreri., T Sithabile., C Pringle., J McCosh., S Mustafa., C Hackney., N Jovanovic., W Otto: <i>Digging deeper: exploring the socio-environmental impacts of sand mining in Southern Africa</i>
15:30-16:00	COMFORT BREAK
16:00-16:15	353 B Misstear: <i>The connectedness of groundwater and human systems: a study of sacred wells in Ireland.</i>
16:15-16:30	382 K Hinsby., H Broers., L Gourcy., P van der Keur: <i>Open access to digital groundwater and geodata supports the green transition and the spatial planning of competing subsurface uses</i>
16:30-16:45	300 K Riemann., D Blake: <i>An Overview of long-term groundwater development and management – 20 years of Hermanus wellfields</i>
16:45-17:00	142 K Robey., P Bauman., S Edris., L Woods., T Coultish., R Shinduke., C Rouault., A Michel: <i>A Case Study on Capacity Development in Rural Groundwater Supply in Acholiland, Northern Uganda</i>
17:00-18:00	IAH AGM

WEDNESDAY 20 September 2023	
Venue 2	Catchment scale integrated surface water and groundwater studies
08:30-08:45	406 K Mokoena: <i>Mapping Groundwater Vulnerability to Drought.</i>
08:45-09:00	268 D Hendriks., P Gijsbers., I America., H Kok., B Verastegui: <i>Real-time information and forecasting of groundwater droughts at the national scale for the Netherlands, using a spatially distributed groundwater-surface water model</i>
09:00-09:15	61 D Lapworth., G Krishan., Alan MacDonald., M Rao: <i>Groundwater recharge sources and salinity in Northwest India</i>
09:15-09:30	279 N Mashimbye: <i>Groundwater Remediation - Bushveld Igneous Complex - Western Limb, North West, RSA</i>
09:30-09:45	225 M Sanchez., C ten Velden., F Grez., B Becker., H van Duijne., D Hendriks: <i>Integrated and conjunctive Reservoir and Aquifer Management to improve water security in the Elqui Basin, Chile</i>
09:45-10:00	269 T Kruijssen., M Wit., M van der Ploeg., B van Breukelen., Victor Bense: <i>Hydrogeological characterization of a small island catchment by combining literature and field data</i>
10:00-10:15	109 D Mazvimavi., K Pietersen., G Mundondwa., K Mpakaira., J Sauramba: <i>Investigating groundwater-surface water interaction processes in the Pungwe River Basin shared between Mozambique and Zimbabwe.</i>
10:15-10:30	427 E Ramudzuli., T Vennemann: <i>Preliminary Insights into Hydrological Dynamics in an Arid Swampy Lake System: Context, Findings, and Future Directions</i>
10:30-11:00	COMFORT BREAK
Venue 2	Catchment scale integrated surface water and groundwater studies
14:00-14:15	332 B Hansen: <i>A new Danish groundwater mapping and modelling concept - the key to targeted agricultural N-regulation</i>
14:15-14:30	78 M Rotiroti., E Sacchi., M Caschetto., C Zanotti., L Fumagalli., T Bonomi: <i>Basin-scale transfer of nitrate pollution from groundwater to surface water in an intensively irrigated system</i>
14:30-14:45	7 L Smit: <i>Groundwater and surface water interdependencies in a water-scarce arid system, Sandveld, South Africa</i>
14:45-15:00	111 J Liu., P Brunner., T Tokunaga: <i>Evaluating dry wells for flood management in urban catchments using integrated surface-subsurface flow models</i>
15:00-15:15	132 I Karlović., T Marković., A Smith., A Kulaš., M Udovič., S Orlić: <i>Contribution of gravel pit lakes in reducing the groundwater nitrate contamination originating from agricultural land</i>
15:15-15:30	283 E Bjerre., K Thage., A Aes., K Villholth., J Koch., R Scheider., T Sonnenborg., K Jensen: <i>Integrated Modelling of the Hydrological Dynamics of the Semi-arid Hout-Sand Catchment, South Africa</i>

15:30-16:00	COMFORT BREAK
Venue 2	Catchment scale integrated surface water and groundwater studies
16:00-16:15	390 A Ross: <i>Risks related to groundwater resources in the Murray-Darling Basin Australia</i>
16:15-16:30	204 M Maseko., S Gurmessa., B Kelbe., S Janse van Rensburg., M Toucher: <i>Dynamic groundwater modelling of Lake Sibaya</i>
16:30-16:45	199 D Blake., P Lee., G Bluff: <i>Celebrating hydro-geoheritage – the Table Mountain Dams Trail and Hermanus Water Walk (Western Cape, South Africa)</i>
16:45-17:00	426 M Marweshi: <i>Numerical Modelling of Groundwater Flow at Mogalakwena Subcatchment, Limpopo Province: Implication for Sustainability of Groundwater Supply</i>
WEDNESDAY	20 September 2023
Venue 3	Scale aspects of groundwater flow and transport systems
08:30-08:45	264 R Lubbe., F de Lange., J Vivier: <i>A review of slug tests analysis on South African aquifers in potential yield and transmissivity estimations</i>
08:45-09:00	126 H Williams: <i>Defining the Goldilocks Zone for Aquifer Thermal Energy Storage versus Unidirectional Ground Source Heat Pumps using Groundwater Flow and Heat Transport Modelling</i>
09:00-09:15	280 M Gizzi., A Berta., G Taddia., F Vahnon., Stefano Lo Russo: <i>Open-loop Groundwater Heat Pumps diffusion in Italian urban areas: modelling for the hydrogeological constraints definition</i>
09:15-09:30	281 K de Bruin., L Towers., D Blake: <i>Test-pumping derivative analysis to improve conceptual understanding and abstraction yields in a complex fractured aquifer: Steenbras Wellfield (Western Cape, South Africa)</i>
09:30-09:45	384 A Parker: <i>Characterisation of the Lower Berg River Aquifer System, Western Cape, South Africa</i>
09:45-10:00	417 M Brown., J Kennel., J Munn., C Maldaner., B Parker: <i>Well integrity assessment using fibre optic active distributed temperature sensing</i>
10:00-10:15	352 F Barreto., J Rusig., L Freitas., C Varnier., A Suhogusoff., R Bertolo., R Hirata: <i>Hydrostratigraphy of the Bauru and Guarani Aquifer Systems in the central region of the State of São Paulo (Brazil)</i>
10:15-10:30	155 S Zou., C Zhou., Y Zhao., D Zhu., L Lu., L Fan., Y Lin: <i>The influence of hydrodynamic characteristics on transportation and conversion of nitrate in Huixian Karst wetland, South China</i>
10:30-11:00	COMFORT BREAK

Venue 3 Scale aspects of groundwater flow and transport systems

- 14:00-14:15 **32 U Ofterdinger.**, R Raine., K O'Donnell., S Oguntade., G Abbas Shah., R Gee., M Kynaston., J Comte: *Multi-scale investigation of thermal and hydraulic properties of the Sherwood Sandstone aquifer for Low Enthalpy Geothermal Applications*
- 14:15-14:30 **277 B Karthikeyan.**, E Lakshmanan., M Schneider: *Groundwater overuse and water quality challenges in a large metropolitan catchment*
- 14:30-14:45 **331 S Uugulu.**, N Poulton., A Tse., M Harris: *Assessment of hydrochemistry and heavy metal contamination in the groundwater around an abandoned Copper Mine area in Klein Aub, Namibia*
- 14:45-15:00 **122 N Van Putte.**, P Meire., M Grodzka-Łukaszewska., J November., G Verreydt: *Real-time iFLUX sensors reveal rapidly changing groundwater flow dynamics in wetland ecosystems.*
- 15:00-15:15 **123 K Hokanson.**, K Devito., C Mendoza: *Variable-scale conceptual framework for shallow groundwater systems in the low-relief, water-limited Canadian Boreal Plains*
- 15:15-15:30 **128 C Zou.**, S Zou., D Zhud: *Distribution, Formation Conditions and Genesis of High-Quality Groundwater Containing Metasilicate in Zhaojue County, Southwest China*

15:30-16:00 COMFORT BREAK**Venue 3 Scale aspects of groundwater flow and transport systems**

- 16:00-16:15 **148 S Stevenazzi.**, V Konstantinos., D Daniela: *Application of multivariate statistical analysis as a support for the delineation of groundwater bodies: a case study in coastal plain areas of Campania Region (Southern Italy)*
- 16:15-16:30 **116 D Pacios.**, I Coletto., P Verzier., V Gómez-Escalonilla., **P Martínez-Santos:** *Machine learning as a tool to improve groundwater monitoring networks*
- 16:30-16:45 **232 T Sarris.**, A Kenny., D Scott: *Risk-corrected contaminant detection probability of monitoring well networks for flow towards pumping wells in heterogeneous aquifers*
- 16:45-17:00 **46 Y Shi:** *Analysis of Heavy Metal Sources in Groundwater and Assessment of Health Risks: An Example from the Southwest Sub-basin of the Shiqi River*

WEDNESDAY 20 September 2023	
Venue 4	Critical zone sciences – a multidisciplinary, cross-scale science
08:30-08:45	198 D Blake. , K Riemann: <i>Development of Table Mountain Group aquifer wellfields and monitoring networks for the City of Cape Town (Western Cape, South Africa)</i>
08:45-09:00	308 P Galvão. , C Schuch., S Pereira., J de Oliveira., P Assunção., T Halihan: <i>Modeling the Impact of Groundwater Pumping on Karst Geotechnical Risks in Sete Lagoas (MG), Brazil</i>
09:00-09:15	11 A Kuczyńska. <i>Sampling procedures for PFAS and pharmaceuticals – recommendations vs reality</i>
09:15-09:30	189 E Egidio. , D De Luca., M Lasagna: <i>How groundwater temperature is affected by climate change: a systematic review and meta-analysis</i>
09:30-09:45	121 N Van Putte. , P Meire., P Seuntjens., G Verreydt., S Temmerman: <i>Improving groundwater dynamics: a key factor for successful tidal marsh restoration.</i>
09:45-10:00	193 D Lookin., C Varnier. , F Barreto., R Bertolo., R Hirata: <i>Hydrogeochemical and temporal nitrate variation in an unconfined urban aquifer in a tropical area in Brazil</i>
10:00-10:15	290 E Pugliese. , S Rodani., A Dematteis., A Gargini: <i>Development and calibration of tools for preliminary quantification of the Hydrogeological Interference Risk of tunnels in different geological settings</i>
10:15-10:30	294 H Kupfersberger., G Rock., G Klammler., J Vrzal: <i>Coupling saturated and unsaturated groundwater models to represent the effect of intensive anthropogenic activities at the regional scale</i>
10:30-11:00	COMFORT BREAK
Venue 4	Polycentric groundwater governance systems
14:00-14:15	69 C Bosman: <i>Some Trans-disciplinary Legal Options to Ensure the Protection of South Africa's Utilisable Groundwater Resources</i>
14:15-14:30	278 P Kenabatho. , T Basamba., B Maheshwari., D Hagare., T Setloboko., O Mampane., N Tafesse., D Moalafhi: <i>Securing Water Supplies – Participatory Groundwater Monitoring and Management in Botswana and Uganda</i>
14:30-14:45	176 F Ward: <i>Ensuring the provision of sustainable water services in water scare humanitarian environments</i>
14:45-15:00	52 A Healy: <i>The role of groundwater in urban resilience</i>
15:00-15:15	68 C Bosman: <i>A non-anthropocentric perspective on groundwater quality and a proposed system for groundwater quality classification and regulation</i>
15:15-15:30	396 F de Lange: <i>Researching Fracking in the Karoo: Summary of lessons learned</i>
15:30-16:00	COMFORT BREAK

Venue 4	Polycentric groundwater governance systems
16:00-16:15	92 A Tomlinson: Development of multi-level groundwater governance systems and groundwater capacity development to support local municipalities in the Northern Cape Region
16:15-16:30	99 K Pietersen., J Strömngren., M Storie., L Nzeyimana., L Itimu., T Lilja: <i>Understanding informal institutions' role in groundwater management – Lessons from borderland communities</i>
16:30-16:45	145 T Halihan., C Barnes: <i>Building a Groundwater Educational Pipeline from Elementary to Continuing Education</i>
16:45-17:00	239 E Cut., K Ni'matul., B Leimona., R Anggraeni., N Dorfliger: How collective groundwater resource management solutions can be benefit for the water governance at various levels? An example in a volcanic watershed in East Java, Indonesia.

WEDNESDAY 20 September 2023

Venue 5 Special Session: Enhancing inclusive groundwater governance and management in TBAs
Session Sponsor and Convenor SADC-GMI

08:30 – 10:30	PROGRAMME TBC 304 G de los Cobos: Radical evolution of the Geneva transboundary aquifer agreement: an example for the sustainability of TBA governance?
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10:30-11:00 COMFORT BREAK

Venue 5 Special Session: Advancing the knowledge of strategic aquifers in SADC
Session Sponsor and Convenor SADC-GMI

14:00-15:30	PROGRAMME TBC 238 J Verkaik., J van Engelen., G Nijsten., M Bierkens., G Essink: <i>Assessing groundwater fluxes of transboundary aquifers, using a high-resolution global groundwater model and implications on transboundary cooperation</i>
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15:30-16:00 COMFORT BREAK

Venue 5 Special Session: Sustaining Local-scale Resilient Hubs Using Groundwater
Session Sponsor and Convenor SADC-GMI

16:00-17:00	PROGRAMME TBC
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THURSDAY 21 September 2023

Venue 1 Local-scale, pore-scale, and discrete scale

08:30-08:45	286 M Gomo: <i>Experience with the electrical potential difference-audio magnetotelluric (EPD-AMT) Groundwater Detector geophysical groundwater exploration</i>
08:45-09:00	305 Z Rademan: <i>Robust Hydrogeological Conceptual Models Through Interdisciplinary Characterisation – A Case Study</i>
09:00-09:15	336 A Lukas., F de Lange., A Allwright: <i>Machine learning applied to pumping test analysis</i>

- 09:15-09:30 **360 M Dippenaar:** *The complexity and importance of the intermediate vadose zone - Local-scale, Pore-scale, and Discrete Scale*
- 09:30-09:45 **165 W Timms:** *Micro pore-pressure sensor (MEMs) and analysis technologies – towards a future of multi-scale groundwater monitoring*
- 09:45-10:00 **274 A Gargini,** E Pugliese., M Filippini., G Bolognesi., C Giuliani: *Tracing an arenitic aquifer by DNA-labelled nano particles*
- 10:00-10:15 **8 Y van Wyk:** *Combined Use of Environmental and Artificial Tracers to Characterise the Vadose Zone*
- 10:15-10:30 **431 M Touchahi,** S Blanks., P Tadich., W Timms: *MEMS Technology for Groundwater Monitoring*

10:30-11:00 COMFORT BREAK

Venue 1 KEYNOTE PRESENTATIONS

- 11:00-11:30 TBC
- 11:30-12:00 **187 V Matta:** *Making Groundwater a National Priority*
- 12:00-12:30 **41 G Kode:** *Sustainable establishment of localised groundwater supply systems at critical infrastructure for disaster preparedness*
- 12:30-13:00 **M Killick:** *Cape Town Water Strategy*

13:00-14:00 LUNCH

Venue 1 Improving shared sustainable use of groundwater resources that cross two or more jurisdictional borders

- 14:00-14:15 **435 T Solovey,** R Janica., V Harasymchuk., H Medvid., L Yanush., **M Przychodzka:** *Transboundary groundwater flows between Poland and Ukraine: The role of joint assessments and international frameworks on water resources management*
- 14:15-14:30 **22 B Flem.,** L Stalsberg., P Gundersen: *Harmonized groundwater data in International River Basins under the Water Framework Directive (2000/60/EC) – Challenges*
- 14:30-14:45 **36 M Hunt,** D Borozdins., **A Marandi:** *Basin Water Balance modelling with the aim to make transboundary groundwater flow visible*
- 14:45-15:00 **48 P Tungkidwanichakul:** *Water allocation and economic analysis for developing groundwater resources*
- 15:00-15:15 **181 H Wazaz.,** A Micallef., C Bertoni., M Giustiniani., K Schwalenberg., A Thomas., E-Jordan., W Hong., D Chiacchieri: *OFF-SOURCE: A network to address the potential use of offshore freshened groundwater as an unconventional source of potable water in coastal cities.*
- 15:15-15:30 **230 D MacDonald:** *Continental-scale mapping of groundwater yield from basement aquifers in Africa*

15:30-16:00 COMFORT BREAK

Venue 1	Improving shared sustainable use of groundwater resources that cross two or more jurisdictional borders
16:00-16:15	389 A Fernald., A Atkins., C Kirkpatrick., C Tang., J Kaminsky., I Zaslavsky : <i>The connectedness of transboundary groundwater researchers: from network analysis to network-building</i>
16:15-16:30	408 S Mustafa ., A Matano., F Franchi., S Tirivarombo., A Van Loon., J Comte: <i>Enhancing resilience to hydrological extremes in the Limpopo River Basin: a collaborative modelling approach</i>
16:30-16:45	344 H Meaški ., R Biondić., J Loborec., K Leskovar: <i>How to manage the Plitvice Lakes National Park (Croatia) as part of transboundary groundwater resources?</i>
16:45-17:00	366 A Oyebamiji : <i>Application of GIS-based Approach for Groundwater Potential Mapping of the Niger Delta Region, Nigeria</i>
17:00-18:00	GWD/IAH-SA Meeting
THURSDAY	21 September 2023
Venue 2	Catchment scale integrated surface water and groundwater studies.
08:30-08:45	200 A Fadillah ., R Lubis., N Dörfliger., A Muhammad: <i>Water impact assessment of water stewardship activities at catchment scale: the case of the Lido Catchment in West Java, Indonesia</i>
08:45-09:00	428 J Conrad : <i>Findings from nearly three decades of groundwater monitoring in an area of intensive agriculture: Sandveld, West Coast, South Africa.</i>
09:00-09:15	202 A MacDonald ., D MacAllister., G Krishan., M Basharat., D Lapworth., M Arran: <i>Long-term evolution of groundwater/surface water interactions in the Indus and Upper Ganges</i>
09:15-09:30	250 L Franceschi ., M Menichini., B Raco., M Doveri: <i>Data-Driven approach to groundwater level prediction for improving water resource management: the Brenta aquifer system case study (Veneto, Italy)</i>
09:30-09:45	63 A Umunezero : <i>Application of the multi-method approach to assess river-aquifer interaction in Upper Berg catchment, Western Cape, South Africa</i>
09:45-10:00	320 J Bernasconi ., T LaVanchy ., J Adamson: <i>Hydrogeological assessment for sourcing regionally significant freshwater supplies in southern Malawi</i>
10:00-10:15	144 J Nicolas., A Gutierrez ., B Mougine., V Bault., C Lasher-Scheepers., L Fisher Jeffes., P Msimango: <i>From monitoring network to near real-time groundwater forecast. A case study in Cape Town Table Mountain Aquifer, South Africa.</i>
10:15-10:30	102 N Vermaak ., P Oberholster., T Mathivha., S Mapapu., N Memela., S Fourie., A Magingi: <i>Groundwater Dependent Ecosystems or wetland dependent groundwater systems: A case study</i>
10:30-11:00	COMFORT BREAK

Venue 2 Catchment scale integrated surface water and groundwater studies.

- 14:00-14:15 **418 A Elçi**, C Meisina., C Guardiola-Albert., R Tomas., P Teatini., J Valdés-Abellán., K Shatanawi., T Letterio., A Hakan Ören: *Groundwater Flow Modeling for Investigation of Exploitation Induced Land Subsidence*
- 14:15-14:30 **312 L Alberti**, P Mazzon., P Colombo: *Winter irrigation as climate change adaptation strategy in northern Italy*
- 14:30-14:45 **186 A Fadillah**, N Dörfliger., B Baud., H Hendrayana., P Lachassagne., H Wibowo., A Muhammad., A Harijoko., A Putra: *Improved hydrogeological conceptual model through additional ert profiles in medial-distal facies of andesitic volcanic area: Case study of Pandaan, East Java, Indonesia.*
- 14:45-15:00 **338 R Aissat**, G Picot-Colbeaux., C Herivaux., M Parmentier., A Manlay., P Audigane., J Vergnes., F Mathurin., J Mossmann: *Exploring the Role of Land Use evolution in Groundwater Modeling for Sustainable Management: A Case Study of the Lille Metropolitan Area*
- 15:15-15:30 **248 G Mohale**: *Integrated Modeling to Simulate Groundwater and Surface Water Interaction in the Letaba River Catchment, Limpopo Province, South Africa*

15:30-16:00 COMFORT BREAK

Venue 2 Catchment scale integrated surface water and groundwater studies.

- 16:00-16:15 **267 D Hendriks**, S Vermooten., M Sánchez., N Mulder., D Irato., L Hüsken., B Verastegui., M van Aalst: *Combining global and local models and data for sector-specific water scarcity risk assessments for mega-cities*
- 16:15-16:30 **350 G Picot-Colbeaux**, N Devau., A Manlay., V Debois., P Goderniaux., L Jehanno., B Meire: *Characterization of groundwater dynamics to identify the risks of flooding of the sewerage network of the urban communities of Lens-Liévin (northern France).*
- 16:30-16:45 **430 S Musy**, C Friederike., N Teresa., T Yama., S Yuji., S: *Oliver Water resource management in tectonically active volcanic regions: towards an in-depth understanding of Mt. Fuji's hydrogeology*
- 16:45-17:00 **266 M Doveri**, I Baneschi., L Franceschi., M Menichini., A Vergnano., F Pace., G Romano., A Godio., A Santilano., L Capozzoli: *Hydrological processes in the Arctic catchment of Bayelva River (Western Svalbard-Norway)*

17:00-18:00 Commission/Network Meeting

Venue 2 W&C Europe Region

THURSDAY 21 September 2023	
Venue 3	GEOROC Session
	Scale aspects of groundwater flow and transport systems
08:30-08:45	79 A Dassargues: <i>Groundwater porosities and effective porosities: definitions, physical relevance, and scale issues</i>
08:45-09:00	3 Y Lévesque, J Walter., R Chesnaux: <i>Geophysics-estimated groundwater levels to assess the accuracy of a numerical flow model</i>
09:00-09:15	17 V Hunyek, J Phetheet., J Yanawongsa., O Occarach: <i>Integrated assessment of groundwater potential zones for deep groundwater exploration in hard rock aquifers using GIS and geophysical techniques: A case study of Huai Krachao, Kanchanaburi, western Thailand</i>
09:15-09:30	97 Y Adeotan, M Koita., J Vouillamoz., F Lawson: <i>Determination of the best hydrogeological target for improving the success rate and productivity of boreholes in basement rocks.</i>
09:30-09:45	178 D Sarma, G Symons: <i>Role of regional scale dykes in the flow of groundwater in the Otavi Mountainland karst aquifers</i>
09:45-10:00	23 Y Li: <i>Groundwater circulation and hydrogeochemical evolution in the coastal zone of Xiamen, southeast China</i>
10:00-10:15	55 E Kaminsky, C Englisch., C Griebler., C Steiner., G Götzl., C Stump: <i>The impact of groundwater temperature on water quality in the urban aquifer of the city of Vienna</i>
10:15-10:30	73 M Sinreich: <i>Multiple-tool approach of combining microbial markers with artificial and natural tracers to specify the origin of faecal contamination on karst groundwater catchment scale</i>
10:30-11:00	COMFORT BREAK
Venue 3	Scale aspects of groundwater flow and transport systems
14:00-14:15	80 A Dassargues, P Orban: <i>Thermal energy storage in old flooded mines: how to tackle the hydrogeological issues</i>
14:15-14:30	492 A Johnson, S Rziki: <i>Mine dewatering case study at a gold mine in Mandiana Region, Eastern Guinea.</i>
14:30-14:45	411 S Mahlangu: <i>Hydrogeological Conceptual Model of Kinsevere Mine</i>
14:45-15:00	137 H Levanon, A Burg, I Gavrieli., Y Rosenberg., R Gersman., Y Bartov., Y Livshitz., A Starinsky., I Reznik: <i>Paleo-hydrogeological reconstruction of a complex deep groundwater system in a tectonically active region</i>
15:00-15:15	434 C Villarreyes: <i>A methodology for uncertainty quantification of dewatering volumes under the context of open-cast mining</i>
15:15-15:30	316 J Gunnink, S Meekes: <i>Electromagnetic measurements in the Netherlands using an All Terrain Vehicle to rapidly characterize groundwater salinity and clay distribution in 3D</i>
15:30-16:00	COMFORT BREAK

Venue 3	Scale aspects of groundwater flow and transport systems
16:00-16:15	151 S Van den Broeck. , S Six: <i>Balancing qualitative and quantitative issues of the groundwater extraction at the drinking water production site of Velm (Central Belgium)</i>
16:15-16:30	191 D Di Curzio. , C Ottosen., G Lemaire., M Laurenì., P Bjerg., D Weissbrodt., M Broholm., B van Breukelen: <i>Integrating reductive dehalogenase enzyme production into reactive transport modelling to simulate chloroethene biodegradation in groundwater pollution plumes</i>
16:30-16:45	180 V Dall' Alba. , S Lanini., Y Caballero., P Renard: <i>The Roussillon coastal aquifer: using multiple-point statistics aSarrisnd multi-model ensemble to characterize geological uncertainty impact on water resources estimation.</i>
16:45-17:00	182 J Labbe. , H Celle., P Nevers., V Klaba., J Devidal., M Clauzet., G Mailhot: <i>Alluvial aquifer modelling with MODFLOW in a case of a wellfield in a climate change context (Clermont-Ferrand, France).</i>
17:00–18:00	Commission/Network Meeting
Venue 3	Socio-Hydrogeology Network

THURSDAY 21 September 2023	
Venue 4	Special Session: Managed Aquifer Recharge Session Sponsor: GEOSS D Benedicto van Dalen., K Pietersen Chairperson
08:30-08:45	169 D Hohne. , N Vermaak., F Fourie., S Esterhuyse: <i>Mitigating climate change with managed aquifer recharge: 5 Case Studies</i>
08:45-09:00	120 J Stromgren. , N Kellgren., P Johansson., K Gaboiphiwe: <i>Managed Aquifer Recharge as a strategy for increased water supply security in Eastern Botswana</i>
09:00-09:15	261 H van den Berg. , A Al-Maktoumi., S de Silva., L Mammeri., M Scharnke., K Radmann., A Al-Dhahli: <i>Aquifer storage and recovery (ASR) applications to enhance drinking water supply security in the Sultanate of Oman</i>
09:15-09:30	112 N Hartog. , G Schout., Thomas Sweijen: <i>The impact of storage and hydrogeological conditions on the design and recovery performance of small-scale urban ASR systems</i>
09:30-09:45	146 Q Hao. , Y Zhu., Y Li: <i>Evaluation of the impact of artificial recharge of groundwater by river replenishment in the North China Plain using numerical model</i>
09:45-10:00	391 A Ross: <i>Benefits and costs of managed aquifer recharge: an integrated water governance solution</i>
10:15-10:30	409 A Lindhe., L Rosén: <i>Assessment of Water Supply Security and Sustainability of Managed Aquifer Recharge in Botswana</i>
10:30-11:00	COMFORT BREAK
Venue 4	Special Session: Managed Aquifer Recharge D Benedicto van Dalen., J Conrad Chairperson
14:00-14:15	143 T Halihan. , W Andrews: <i>Electrical Hydrogeology of Managed Aquifer Recharge from Meter to Kilometer Scales</i>
14:15-14:30	256 I de Groot-Wallast., I America., J King., G Oude Essink., K Raat: <i>Planning for increased water security and preventing salinisation in coastal areas of the Netherlands: A study on the suitability for managed aquifer recharge and extraction of brackish water, including quantification of potential extractable volumes.</i>
14:30-14:45	170 M Holloway. , P Lourens: <i>Managed Aquifer Recharge within the Greater Kruger National Park and Implementation of Recharge Scheme</i>
14:45-15:00	196 L Towers. , K Riemann: <i>The Atlantis Water Resource Management Scheme – Lessons in Resilience</i>
15:00-15:15	13 H Baalousha: <i>Assessment of flash flood potential for artificial recharge in arid regions</i>

15:15-15:30 **150 J van Rooyen.**, O Schilling: Tracer applications in an urban MAR (Rhine) scheme: identifying the presence of regional groundwater in a complex geological setting

15:30-16:00 COMFORT BREAK

Venue 4 Special Session: Managed Aquifer Recharge
D Benedicto van Dalen, J Conrad Chairperson

16:00-16:15 **62 Y Ganot.**, E Valdman., E Farber., N Amir., Y Amiaz., T Kamai: *Evaluating Karst Drywells for Urban Stormwater Management and Aquifer Recharge*

16:15-16:30 **43 K Daranond.**, J Chimpalee., A Pongsatitpat., P Klahan: *Experiments of the artificial-recharge rate of sand and gravel aquifer through shallow recharge wells in Chao Phraya River basin region*

16:30-16:45 **244 L Nhleko.**, Z Phikiso., C Musekiwa., R Grow: *Managed aquifer recharge (MAR) suitability mapping Using GIS-MCDA: The South African perspective.*

16:45-17:00 TBC

17:00-18:00 Commission/Network Meeting
Commission on Managing Aquifer Recharge

THURSDAY 21 September 2023

Venue 5 Special session: Near real-time Groundwater Level Forecasting
Session sponsor and convenor - BGRM

08:30-09:45 PROGRAMME TBC

Venue 5 Special session: Education and outreach
Session convenor – IAH

09:45-10:30 PROGRAMME TBC

10:30-11:00 COMFORT BREAK

Venue 5 Special session: Municipal Groundwater Supply
Session Convenor – City of Cape Town

14:00-15:30 PROGRAMME TBC

15:30-16:00 COMFORT BREAK

Venue 5 Special session: Young Professionals Programme
Session convenor – Water Research Commission

16:00-17:00 PROGRAMME TBC

17:00–18:00 Commission/Network Meeting

Venue 5 Urban Groundwater Network

FRIDAY 22 September 2023	
Venue 1	Improving shared sustainable use of groundwater resources that cross two or more jurisdictional borders
08:30-08:45	410 D Kibirige: <i>Pock Marks as a Nature-based solution for enhancing water availability in African marginal drylands?</i>
08:45-09:00	57 A Love, R Purtschert., Y Xie., D Wohling., S Fulton., J McCallum., M Chmielarski., W Ziang., Z Lu., G Yang., P Shand., W Aeschbach., L Broder., P Mueller., Y Tosaki: <i>Coupling environmental tracers and modelling and what can they tell us about groundwater sustainability and example from the southwestern Great Artesian Basin (GAB) of Australia</i>
09:00-09:15	276 C Morales, T Stigter., C Fraser., B van Breukelen., G Jewitt: <i>Units for joint management of cross-border groundwater impacts in Transboundary Aquifers: an overview of concepts and methodologies</i>
Venue 1	Scale aspects of groundwater flow and transport systems
09:15-09:30	190 D McGibbon, L Towers., K Riemann: <i>Cape Flats Aquifer Management Scheme – the City of Cape Town's groundwater abstraction and MAR scheme for a resilient future (South Africa)</i>
09:30-09:45	96 V Price, J Dottridge: <i>Groundwater models for water resources assessment at regional, local and site scales</i>
09:45-10:00	229 T Sarris, A Kenny., D Scott., C Moore: <i>Source protection zone delineation: numerical insights on the effect of heterogeneity</i>
10:00-10:15	231 J Weitz, N Jovanovic: <i>Numerical groundwater modelling of the Windhoek Aquifer (Namibia) for wellfield management</i>
10:15-10:30	236 K Gibson, D McGibbon., T Flügel: <i>Design and Implementation of Groundwater Protection Schemes in Different Aquifer Settings within the City of Cape Town (Western Cape, South Africa)</i>
10:30-11:15	COMFORT BREAK
Venue 1	Closing session Programme Director: A Vicente
11:15-11:45	Keynote address - Young Water Professional
11:45-12:15	H Pienaar: <i>Circular economy and implications for groundwater</i>
12:15-12:45	IAH Speaker
12:45-13:15	Water Ceremony and hand over to following conference organisers
13:15-13:30	Vote of thanks and close conference

FRIDAY 22 September 2023	
Venue 2	Council for Geoscience Session Catchment scale integrated surface water and groundwater studies.
08:30-08:45	293 D Grombache., V Matta : Highly productive geophysical mapping of groundwater systems in water-scare countries
08:45-09:00	257 A Neven. , L Schorpp., J Straubhaar., P Renard: <i>A stochastic data integration approach to generate geologically consistent hydrogeological models from geophysical and hydrogeological data</i>
09:00-09:15	Groundwater models for water resources assessment at regional, local and site scales
09:15-09:30	167 B van Wyk., D Sarma : <i>Springs of the Otavi Mountainland. Could they teach us something significant?</i>
09:30-09:45	168 D Benedicto van Dalen. , A Ketema., G Zeleke: Building evidence through hydrogeological survey and monitoring for the conjunctive development and management of water resources in Kunzila catchment area – Amhara Region, Ethiopia
09:45-10:00	95 F Fourie : Using the Groundwater Level Status approach for climate impacts
10:00-10:15	317 P Saveca. , T Stigter., F Fourie., E Lukas: <i>Groundwater potential and lateral connectivity of the Limpopo sand river system mitigating water scarcity and salinity in semi-arid Mozambique</i>
10:15-10:30	
10:30-11:00	COMFORT BREAK
FRIDAY 22 September 2023	
Venue 3	Scale aspects of groundwater flow and transport systems
08:30-08:45	136 A Brugeron., A Soullignac., A Gutierrez. , B Swartz: From the national hydrogeological map to regional ones. How to identify a suitable level of detail to work with? An application in Kunene and Omusati Regions in Northwestern Namibia
08:45-09:00	251 S Lu. , Y Xie., A Love., W Jiang., G Yang., Z Lu: <i>Use of krypton-81 to constrain the reliability of carbon-14 in estimating groundwater ages</i>
09:00-09:15	323 K Dragon. , R Kruć-Fijałkowska., D Drożdżyński., J Górski: <i>The pharmaceutical compounds diversity at two river bank filtration sites located in Warta River valley (Poland)</i>
09:15-09:30	255 D Aind. , A Mukherjee: Hydrostratigraphic controls on groundwater arsenic enrichment in the Brahmaputra river basin aquifers
09:30-09:45	227 L Shen : Study on the Relationship between Water Quality and Wetland Plant Community in Huixian Karst Wetland

- 09:45-10:00 **74 L Gourcy., A Gutierrez., B Swartz., F Soetaert:** What decision-making information can be obtained from chemical data on a large scale? A case study in Kunene and Omusati regions in Namibia
- 10:00-10:15 **346 I Muchingami., J Hamutoko., T Kanyerere., S Uugulu., J Mutjida:** *An assessment of hydrogeophysics application for groundwater resource assessment in Kalahari sands aquifers and crystalline basement aquifers with case studies from Namibia and South Africa.*
- 10:15-10:30 **265 N Maluleke:** *Using analytical models to examine groundwater abstraction impacts on surface water levels.*

10:30-11:00 COMFORT BREAK

FRIDAY 22 September 2023

Venue 4 Polycentric groundwater governance systems

- 08:30-08:45 **240 G Nijsten., S Vermooten., J Delsman., P de Louw., J Gunnink., J Buma., J Zaadnoordijk:** *Netherlands National Groundwater reserves: 3D mapping and development of management policies as part of a multi-level strategy to secure water supply for disasters and the far future.*
- 08:45-09:00 **273 A Taylor., F Atkins:** *Governing groundwater in city regions: Water metabolism and actor networks in the cases of Cape Town and Nelson Mandela Bay*
- 09:00-09:15 **94 H Loaiciga:** *Groundwater for people and the environment: a globally threatened resource*
- 09:15-09:30 **51 P van der Keur:** *Development of United Nations Framework Classification for Resources (UNFC) for Groundwater Resources Management*
- 09:30-09:45 **163 I Rodriguez-Levy ., M Centellas-Levy., W Ferreira., L Rivera-Rodriguez., S Mustafa., C Apaza-Coria., M Soruco., A Amaya., M Huymans:** *Alternative approaches for integrated groundwater management in the rural basins of Central Bolivia*
- 09:45-10:00 **318 B Curk., P Banovec., A Papadopoulou., V Kanakoudis., N Guyennon., E Romano:** *Management of water-related risks in drinking water supplies*
- 10:00-10:15 **234 C Monokofala:** *Groundwater resource assessment and delineation of resource unit for the Komati catchment within the Inkomati Usuthu Management Catchment area – Mpumalanga Province, South Africa*
- 10:15-10:30 **26 J Goldin:** *Keep the flow: applying a HOPE model*

FRIDAY 22 September 2023

Venue 5 Special session: Groundwater Project

Session convenor – J Cherry, K Pietersen: Groundwater Project

08:30-10:30 PROGRAMME TBC

- **Biographies of the keynote presenters and convenors available at: <https://iah2023.org.za/keynote-presenters/>**
- **A list of the poster presenters will be made available shortly.**
- **The organizers reserves the right to make changes to the programme without prior notice.**