

**GROUNDWATER CONFERENCE PROGRAMME**

07:00 REGISTRATION DAY 1 – MONDAY, 18 OCTOBER 2021		
08:00	<b>Welcome</b> Diamond 1 Session Chair: F Fourie <b>Kwazikwakhe MAJOLA</b> GWD Gauteng Conference Chair	
08:30	<b>Opening Address</b> Dhesigen NAIDOO* Commissioner Climate Change Commission	
09:00	<b>Keynote Address</b> David KREAMER International Association of Hydrogeologists (IAH)	
09:30	<b>Guest Speaker</b> Neno KUKURIC International Groundwater Resources Assessment Centre (IGRAC)	
10:00	<i>Icebreaker</i>	
10:10	<b>COMFORT BREAK / *Poster Spotlight*</b> Hendrik Botha, Angelo Johnson, Ritshidze Nenweli	
	<b>Session 1: Resilience 1</b> Diamond 2 Chair: Y van Wyk <b>Session 2: Visibility 1</b> Diamond 1 Chair: N Breedt	
10:30	<b>The application of machine learning for groundwater level prediction in the Steenkoppies compartment of the Gauteng and Northwest dolomite aquifer, South Africa -</b> <b>Kristy GIBSON</b> Umvoto Africa	<b>Diamonds on the soles of their feet: groundwater monitoring in the Hout Catchment, Limpopo</b> <b>Jacqueline GOLDIN</b> University of the Western Cape
10:50	<b>Managed aquifer recharge in South Africa (MARSA)</b> <b>Jens AAMAND</b> Ramboll	<b>Strengthening South Africa's groundwater regulatory framework: The case of the unprotected dolomitic aquifer of Delmas</b> <b>Carin BOSMAN</b> CBSS
11:10	<b>Sharing water resources and the complexities around it: Three Case Studies from the Western Cape</b> <b>Christel VAN STAADEN</b> Geoss South Africa	<b>Intraplate tectonic setting of the southwestern Cape, South Africa: Analysis of the TrigNet geodetic record</b> <b>Lechelle GOSLIN</b> Umvoto Africa
11:30	<b>Conjunctive use of water resources</b> <b>Jan KÜRSTEIN</b> Ramboll	<b>Using geophysics to detect water-hosting fractures in the Vredefort Dome: A training opportunity</b> <b>Stephanie SCHEIBER-ENSLIN</b> University of the Witwatersrand
11:50	<b>Assessment of the state of potable water supply system in selected communities of Vhembe District Municipality, South Africa</b> <b>Tuwani MALIMA</b> University of Venda	<b>Test pumping Well field analysis of a heterogeneous fractured rock aquifer.</b> <b>Reuben LAZARUS</b> Geoss South Africa
12:10	<b>LUNCH BREAK</b> ~ Visit our Exhibitors & Network Hub during all the breaks~	
	<b>Session 3: Research 1</b> Diamond 2 – Chair: A Johnston	<b>WORKSHOP:(Session 4)</b> <b>Groundwater Mapping and Assessment</b> Diamond 1 – Chair: JE Larsen
13:10	<b>Transport and attenuation of microplastics in saturated sands</b> <b>Sebastian STENZL</b> University of the Western Cape	
13:30	<b>Test pumping derivative analysis to improve conceptual understanding in a complex aquifer: Steenbras Wellfield.</b> <b>Kevin DE BRUIN</b> Umvoto Africa	<b>What is in a - groundwater - map?</b> <b>Nicolette VERMAAK</b> University of the Free State <b>South African – Danish Water Sector Programme – good practise for international knowledge exchange on ground water</b> <b>Jørgen E. LARSEN</b>
13:50	<b>Hydrocarbon groundwater analyses: a Karoo case study</b> <b>Danita HOHNE</b> Department Water & Sanitation	
14:10	<b>The presence and concentration of antiretroviral drugs in different water bodies around the Western Cape</b> <b>Phumelele MAPHUMULO</b> University of the Western Cape	<b>AI_GEO software platform for regional groundwater potential mapping</b> <b>Emmanuel SAKALA</b> Council for Geoscience
14:30	<b>Managed aquifer recharge - evaluating the efficiency of the unsaturated zone to reduce contaminants. A case study of Atlantis aquifer</b> <b>Londiwe NTSHANGASE</b> University of the Western Cape	<b>Testing Danish groundwater mapping methodologies in South Africa, Case Ladysmith, South Africa</b> <b>Jan KÜRSTEIN</b> Ramboll
14:50	<b>Prefeasibility Study for Managed Aquifer Recharge within the Greater Kruger National Park, Limpopo Province, South Africa.</b> <b>Michael HOLLOWAY</b> Institute of Groundwater Studies	<b>Exploring Danish experiences for Groundwater mapping in South Africa</b> <b>Anker Lajer HØJBERG*</b> Ramboll
15:10	<b>COMFORT BREAK / *Poster Spotlight*</b> Nathasha Gariremo, Charissa Worthmann, Lerize van Wyk, Mikyle Cloete	
	<b>Session 5: Innovation 1</b> Diamond 1 – Chair: N Vermaak	<b>Session 6: Management 1</b> Diamond 2 – Chair: K Majola
15:30	<b>Geophysical Borehole Siting at Elizabeth Conradie School in Kimberley, Northern Cape Province, South Africa</b> <b>Matome SEKIBA</b> Council for Geoscience	<b>Optimized groundwater monitoring design for managed aquifer recharge using hybrid numerical, geophysical and chemical modelling approach</b> <b>Clinton ANDRIES</b> Atlantis Foundries/ UWC
15:50	<b>Optimizing borehole performance through dynamic flow and chemistry profiling</b> <b>Steve KALULE</b> USK	<b>Assessing groundwater dependence of wetlands and streams within the Table Mountain Group Aquifer: A Case Study from the Kogelberg</b> <b>Dale BARROW</b> Geoss South Africa
16:10	<b>Sustainable rehabilitation of production boreholes Application of pH-neutral iron(III) dissolvers by closed-circuit injection</b> <b>Paivi PURONPÄÄ-SCHÄFER</b> Cleanwells	<b>Expanding the boundaries of the Eastern Kalahari Karoo Transboundary Aquifer (EKK-TBA) shared between Botswana and Zambia: A governance challenge</b> <b>Kevin PIETERSEN</b> L2K2 Consultants (Pty) Ltd
17:00	<b>GWD AGM</b>	
18:00	<i>Cocktail Function (RSVP)</i>	

## GROUNDWATER CONFERENCE PROGRAMME

08:00 REGISTRATION DAY 2 – TUESDAY, 19 OCTOBER 2021	
08:30	Diamond 1 Session Chair K Majola <b>Guest Speaker: Relationship between driller and Hydrogeologist</b> <b>Colin Rice</b>
09:00	<b>Plenary Address: SACNASP and CPD – The Professional's Journey</b> <b>Matthys Dippenaar</b> University of Pretoria, South African Chapter President International Association of Hydrogeologists (IAH)
09:30	<b>Plenary Address: Practitioners' Code of Practice</b> <b>Nicolette Vermaak</b> University of the Free State, Vice-Chairperson of the Ground Water Division, GSSA
10:00	<b>COMFORT BREAK / *Poster Spotlight*</b> Kimberley Murray, Akhona Maqhubela, Elvis Tamilo, Lesedi Sipuka
	<b>Session 7: Research 2</b> Diamond 1 – Chair: M Dippenaar
10:30	<b>Water Research Commission and Proposals</b> <b>Yazeed VAN WYK</b> Water Research Commission
10:50	<b>Groundwater in SADC Research Vision</b> <b>James SAURAMBA</b> SADC-GMI
11:10	<b>The Seven Deadly Sins of Numerical Modelling</b> <b>Andries WILKE</b> GCS Water and Environment
11:30	<b>Geochemical investigations to improve the prediction of mine water impacts: A case study in the Elandsfontein Aquifer System, West Coast</b> <b>Angelo JOHNSON</b> University of the Western Cape / GCS
11:50	<b>Towards a conceptual understanding of groundwater-ecosystems interactions in the Tuli-Karoo transboundary aquifer</b> <b>Kwazikwakhe MAJOLA</b> Department of Water and Sanitation
12:10	<b>LUNCH BREAK</b> ~ Visit our Exhibitors & Network Hub during all the breaks~
	<b>Session 9: Management 2</b> Diamond 2 – Chair: J Nel
13:10	<b>"But is it 'pollution'?" - determining appropriate site-specific regulatory limit values for groundwater quality.</b> <b>Carin BOSMAN</b> CBSS
13:30	<b>The Importance of Reliable Monitoring Data</b> <b>Shuaib DUSTAY</b> SRK Consulting
13:50	<b>Fracking regulations to protect groundwater resources during unconventional oil and gas extraction: Getting it right.</b> <b>Surina ESTERHUYSE</b> University of the Free State
14:10	<b>Update of regional groundwater flow models for the Vaal Gamagara SD1 and SD2 wellfields</b> <b>Martin HOLLAND</b> Delta-H Water Systems Modelling
14:30	<b>The onset of iron biofouling in boreholes in and around Cape Town</b> <b>Roger PARSONS</b> Parsons & Associates
14:50	<b>Practical Solutions for Academic Based Applications in Understanding the importance of correct aquifer test data interpretations</b> <b>Jorette VAN ROOYEN</b> Veltwater Groundwater Specialists
15:10	<b>COMFORT BREAK / *Poster Spotlight*</b> James Berkland, Yazeed van Wyk, Tarika Isaac, Jared van Rooyen
	<b>Session 11: Mentorship</b> Diamond 1 – Chair: A. Magingi
15:30	<b>Mentoring at Umvoto and the Umvoto Trust</b> <b>Kornelius RIEMANN*</b> Umvoto
15:50	<b>Young Professional Mentoring Experience</b>
16:10	<b>Annalisa VICENTE</b> Voices of Young professionals: Survey Results
18:30	<i>Conference Dinner (Rsvp/ Tickets)</i>
	<b>Session 8: Resilience 2</b> Diamond 2 – Chair: N Breedt
	<b>Latest approaches and examples illustrating the key role of numerical modelling in sustainable groundwater use in South Africa</b> <b>Analisa VICENTE</b> SRK Consulting (South Africa)
	<b>Assuring supply during a changing environment focusing on drought</b> <b>Danita HOHNE</b> Department of Water and Sanitation
	<b>The Role of GRACE data in mapping groundwater drought in the Southern African Development Community: Updating the groundwater drought risk map</b> <b>Zaheed GAFFOOR*</b> University of the Western Cape
	<b>Half Full or Half Empty? Groundwater surface water interactions – An ever-increasing focus for water resource management.</b> <b>Sonia VELTMAN</b> Veltwater Groundwater Specialists
	<b>A changing environment focusing on drought</b> <b>Fanus FOURIE</b> Department of Water and Sanitation
	<b>WORKSHOP:(Session 10)</b> <b>Groundwater Awareness*</b> Diamond 1 – Chair: N Vermaak
	<b>Groundwater Project: Release of Wally and Deanna Translation</b> <b>Everton DE OLIVIERA</b> Ground Water Project
	<b>Groundwater Kids</b> <b>Izelda MBATHA</b> <b>Nedbank Community Outreach Representatives</b>
	<b>Groundwater Kids Award Ceremony</b> Age 6 – 9: Colouring competition Wally and Deanna Age 10 – 13: Colouring competition of buildings with windpumps
	<b>How to get involved?</b> Open Discussion

**GROUNDWATER CONFERENCE PROGRAMME****08:00 REGISTRATION DAY 3 – WEDNESDAY, 20 OCTOBER 2021**

08:30	<b>Session 12: Resilience 3</b> Diamond 2– Chair: J Nel <b>Suitability of drilling techniques for geological interpretation and borehole design within the Cape Flats Aquifer, Western Cape</b> <b>Sasha Dean SINGH</b> Umvoto Africa	<b>Session 13: Management 3</b> Diamond 1 – Chair: M Dippenaar <b>Sustainable Groundwater Development Perspectives: Differences in sustaining individual abstraction rates based on test pumping data analysis with recharge based firm yield estimations for an aquifer or localised area.</b> <b>Kes MURRAY</b> Geoss South Africa
08:50	<b>Hydrogeological Characterization of a Methyl-Tertiary-Butyl-Ether (MTBE) Plume</b> <b>Bamanye TAKASHE</b> Nelson Mandela University	<b>Assessment of concentration levels of contaminants in groundwater of Soutpansberg Region, Limpopo Province, South Africa</b> <b>Lindelani LALUBE</b> Department of Water and Sanitation
09:10	<b>An investigation of the natural groundwater recharge and discharge of the Saldanha Bay Aquifer Systems, South Africa</b> <b>Aqeela PARKER</b> University of the Western Cape	<b>Development of an Aquifer Management Plan for the Polokwane Urban Complex</b> <b>Sivashni NAICKER</b> Department of Water and Sanitation
09:30	<b>An innovative approach to dealing with elevated iron concentrations at the Knysna Hospital</b> <b>Roger PARSONS</b> Parsons & Associates	<b>Science-Policy Nexus: Assessing role of groundwater resource directed measures in water resources protection practice, case of Schoonspruit-Koekemoerspruit River Catchment, South Africa</b> <b>Stanley NZAMA</b> Department of Water and Sanitation
09:50	<b>Observation and monitoring of field parameters for springs and rivers of a Swiss alpine valley in relation to seasonality</b> <b>Cedric MEIER</b> Private Consultant	<b>Estimating hydraulic conductivities through the measurement of streaming potentials in Karoo aquifers</b> <b>Jemias CLIFFORD</b> Water Resources Consultants Pty (Ltd)
10:10	<b>COMFORT BREAK / *Poster Spotlight*</b> Jureya Dildar, Sisipho DLakiya	<b>Final Poster Evaluations Close</b>
10:40	<b>Session 14: Resilience 4</b> Diamond 2– Chair: Y van Wyk <b>Identifying suitable sites for Managed Aquifer Recharge within the Saldanha Bay Local Municipality, situated in the West Coast of South Africa</b> <b>Ashleigh TOMLINSON</b> University of the Western Cape	<b>WORKSHOP:(Session 15) Regulations*</b> Diamond 1– Chair: K Majola <b>Stakeholder Engagement</b>
11:00	<b>Test Pumping: Comparing the Farmer Test, Constant Head Test and SANS 10299-4:2003 methodologies with regards to estimating groundwater abstraction. Data, analyses and recommendations.</b> <b>Kes MURRAY</b> Geoss South Africa	<b>Unconventional Gas Regulations for Water Use by DWS</b> <b>Lebogang MALEFANE</b> Department of Water and Sanitation <b>Leshego MAFUZA</b> Department of Water and Sanitation
11:20	<b>Investigating groundwater and surface water interactions using stable isotopes and hydrochemistry in the Notwane River Catchment, South East Botswana</b> <b>Piet KENABATHO</b> University of Botswana	
11:40	<b>The presence and concentration of antiretroviral drugs in different water bodies around the Western Cape</b> <b>Aarifah WILLIAMS</b> Nelson Mandela University	
12:00	<b>LUNCH</b> ~ Visit our Exhibitors & Network Hub during all the breaks~	
13:00	<b>Open/ Public Session</b> Diamond 1– Chair J van Rooyen <b>BIOGRIP/WRC/GWD SESSION</b> <b>Biogeochemistry Research Infrastructure Platform</b>	
15:00	<b>COMFORT BREAK</b>	
15:30	<b>CONFERENCE CLOSING CEREMONY</b> Diamond 1– Chair N Vermaak <b>Feedback From Rapporteurs; Awards</b>	
16:00	<b>Closing Remarks</b> <b>Fanus FOURIE</b> GWD National Chairperson <b>Mathys DIPPENAAR</b> IAH 2023 LOC Chairperson - <i>Passing the Torch!</i>	

**POSTER PRESENTATIONS**

- Hendrik BOTHA** GCS Impact of Engineered Tree Plantations on Water Transfer Through the Upper Vadose Zone and Implications on Vertical Groundwater Recharge
- Angelo JOHNSON** UWC Aquifer structure and extent based on Airborne Geophysical investigation: A case study based in Saldanha Bay Local Municipality, West Coast.
- Ritshidze NENWELI** SU Evaluating changes in groundwater storage during the 2015-2018 drought in the Western Cape using GRACE data
- Nathasha R. GARIREMO** NMU Hydrogeological modeling of a coastal wetland: The development of a steady-state numerical groundwater flow model for Rietvlei Wetland, Cape Town.
- Charissa WORTHMANN** UFS FrackSA: A tool to aid in the enforcement of groundwater regulations during unconventional oil and gas extraction
- Lerize VAN WYK** GCS Water Quality Guidelines: Which to use and where applicable?
- Mikyle CLOETE** UWC The fate and occurrence of pharmaceuticals in Cape Town's water network
- Kimberley MURRAY** UJ\_A redescription of groundwater amphipods (Crangonyctoidea: Sternophysingidae) from karstic aquifers in Gauteng, South Africa
- Akhona MAGHUBELA** NMU Groundwater monitoring of South Africa through numerical model
- Elvis TAMILO** Using geophysics to detect water-hosting fractures in the Vredefort Dome
- Lesedi SIPUKA** NMU Development and testing of a hydrogeological multilevel sampling device and analysis of water chemistry through hydrochemical parameters
- James BERKLAND** NMU Analysis of groundwater sampling methods used within uranium-rich fractured rock aquifers of the Beaufort West region
- Yazeed VAN WYK** WRC Combined use of Environmental and Artificial Tracers to Characterise the Vadose Zone
- Tarika ISAAC** GCS eSymon - An Innovative Solution to Monitoring Data Management
- Jared VAN ROOYEN** SU Stable isotope techniques for the evaluation of water sources for domestic supply in Stellenbosch, South Africa
- Jureya DILDAR** WITS Integrated approach to understanding the causes of ground subsidence in the Lyttelton Formation, Jan Smuts House: A potential case study to the greater Centurion
- Sisipho DLAKIYA** NMU Measuring hydraulic conductivity across different scales using varying methods to develop a hydraulic conductivity mode