



WISA 2022 DRAFT PROGRAMME

** Subject to change - Information correct at the time of publication. Updates are posted as and when further information becomes available.

TUESDAY 27 September 2022										
12:00 - 18h00	On Site Registration									
17:30 - 20:00	Welcome Function in Exhibition Hall / Official Opening of the Exhibition									
WEDNESDAY 28 September 2022										
07:00 - 17:00	Registration									
08:00 - 10:45	WISA 2022 PLENARY SESSION - Official Opening									
10:45-11:15- Refreshment Break in Exhibition Hall										
	Department of Water and Sanitation Session 1 <i>Chair:</i>	Topic: Don't abandon ship: Leaving no-one behind – reaching the goals of SDG6 in providing water and sanitation services, listening to our customers' needs and those of vulnerable communities that are unserved Session 2 <i>Chair:</i>	Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 3 <i>Chair:</i>	Topic: Running a tight ship: Improving water use efficiency and demand management across all sectors of water users; mining, agriculture, industry and municipal) Session 4 <i>Chair:</i>	Topic: Batten down the hatches: Responding to climate change Session 5 <i>Chair:</i>	Topic: Stemming the tide: Management and regulatory issues – Blue and Green Drop, professionalization of the sector, addressing skills shortages, managing stakeholders (regulators, elected political decision makers, trade unions, civil society) effectively, developing capable institutions Session 6 <i>Chair:</i>	Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 7 <i>Chair:</i>	Workshop Session 8 <i>Chair:</i>	Workshop Session 9 <i>Chair:</i>	Virtual workshop Session 10 <i>Chair:</i>
	DWS	Reaching the goals of SDG6	Sanitation in schools	Water re-use for drinking purposes	Responses to climate change	Governance	Contamination of water resources	Wetskills	Waste Discharge Charge System	Water Services Authorities
	11:15-11:35 Blue Drop –It's Time <u>Anet Muir</u> <i>Department of Water and Sanitation</i>	11:15-11:35 Listening to community voices, especially the most vulnerable, when striving for the WASH SDG 6 <u>Pontsho Kesengile Segwai, Hazel ZZ Mancotywa</u> <i>World Vision South Africa, UNICEF</i>	11:15-11:35 Evaluating the energy potential of faecal matrices from school on-site sanitation facilities <u>Estella Zandile Jingxi</u> <i>University Of KwaZulu Natal</i>	11:15-11:35 Water Safety Planning for the Cape Flats Indirect Potable Reuse Scheme <u>Chris Swartz, David Allpass, Cordi Laurens</u> <i>Chris Swartz Water Utilization Engineers, Cty of Cape Town Bulk Water Branch</i>	11:15-11:35 VIRTUAL The Evolution of Binary Responses to Climate Change: Lost Opportunities and New Possibilities <u>Prof Loretta Feris</u> <i>University of Cape Town</i>	11:15-11:35 Appropriate Water Governance requires following a principles-based approach - what does this mean in practice? <u>Carin Bosman</u> CBSS	11:15-11:35 Understanding the risk of groundwater contamination from pit latrines, soak pits and buried faecal sludge <u>Dave Still, Jeanette Neethling</u> <i>Partners in Development</i>	11:15-13:20 Wetskills-South Africa 2022: Finals <u>Johan Oost, Odwa Mtembu, Iaana Dobrescu, Karaba Makoena, Peter de Jong</u> <i>Wetskills Foundation</i>	11:15-13:20 Piloting the Implementation of the Waste Discharge Charge System in the Crocodile (East) Catchment <u>Lee Boyd, Priya Moadley, Dineo Makate, Jackie Crafford</u> <i>Golden Associates Africa, Prime Africa</i>	VIRTUAL 11:15-13:20 Is the Water Services Authority model broken? What lessons can be drawn from successes and failures? <u>Nick Graham, John Dini, Nazreen Kola</u> <i>PDG, Water Research Commission</i>

DWS	Reaching the goals of SDG6	Sanitation in schools	Water re-use for drinking purposes	Responses to climate change	Governance	Contamination of water resources
<p>11:35-11:55 Green Drop –It's a start but it takes a village <u>Anet Muir</u> Department of Water and Sanitation</p>	<p>11:35-11:55 Accelerating water allocation reform <u>Dr Barbara Van Koppen</u>, <u>Patience Mukuyi</u>, <u>Dr Inga Jacobs</u> International Water Management Institute</p>	<p>11:35-11:55 Characterization of excreta from on-site school sanitation to advise methods for optimal valorization safe and disposal <u>Yuri Ramuthan</u> Wash R&D Centre University of KwaZulu-Natal</p>	<p>11:35-11:55 Clostridium, Clostridium! Wherefore art thou Clostridium? How a risk-based approach can ensure your potable reuse plant is future-ready <u>Thaabit Nacerodien</u> Zutari</p>	<p>11:35-11:55 Water Stewardship as a Sustainable Response to Climate Change <u>Lindsay Shand</u>, <u>Fiona Sutton</u> Srk Consulting</p>	<p>11:35-11:55 The fragmented evolution of water legislation and governance in South Africa and its implications on current challenges and interventions <u>Gundo Vhusani Maswime</u> University Of Cape Town</p>	<p>11:35-11:55 Soul of the Jukskei River: The extent of bacterial contamination at Victoria Yards in the Jukskei River, Gauteng Province <u>Dr Kousar Banu Hoarzaok</u>, <u>Dr Anton Pieterse</u>, <u>Dr Lee Heine</u>, <u>Prof Tobias George Barnard</u>, <u>Nickey Janse van Rensburg</u> University Of Johannesburg</p>
<p>11:55-12:15 Decentralised System as A Viable Option For Water And Wastewater Services: Leave No One Behind <u>Salomon Makate</u>, <u>Leonardo Manus</u> Department of Water and Sanitation</p>	<p>11:55-12:15 "I don't understand what you're asking me"- improving questionnaire design for data integrity <u>Dr Sarah Slabbert</u>, <u>Nadia Green</u> BHI32</p>	<p>11:55-12:15 NEW generator Off-Grid Treatment System for Multi-Use Toilets in a South African Informal Settlement and Rural School <u>Dr Gunter Rencken</u>, <u>Timothy Fisher</u>, <u>Loreen Grobbelaar</u>, <u>Robert A. Bair</u>, <u>Prof Daniel H. Yeh</u> WEC Projects, University of South Florida Miami</p>	<p>11:55-12:15 VIRTUAL Development of the NEWater Point of Consideration Screening Tool <u>Frans De Beer</u> VUT</p>	<p>11:55-12:15 Disaster Risk Management - Collaborative thinking to mobilise proactive support <u>Maranel Steyn</u>, <u>Dr Karen Nortje</u>, <u>Nikki Funke</u>, <u>Dr Chavan Walters</u>, <u>Dr Lorren Haywood</u>, <u>Mathodi Mathye</u> Council for Scientific and Industrial Research</p>	<p>11:35-12:15 Waste Discharge Charge System - Implementing The Water Resources Management Charge for Waste Related Activities <u>Raqueel Mazwi</u>, <u>Dikeledi Baloyi</u> Department of Water and Sanitation</p>	<p>11:55-12:15 A Review: Rising Environmental Temperatures, Contaminated Surface Waters, and the Potential Mycoses-Related Implications for South Africa <u>Heidi Steffen</u>, <u>Dr Caylin Bosch</u>, <u>Prof Gideon Wolfaardt</u>, <u>Prof Alf Botha</u> Stellenbosch University, Ryerson University</p>
<p>12:15-12:35 A Framework for Tariff Setting, Norms and Standards for Water Services <u>Ridah Madikela</u>, <u>Simangele Mhlunqu</u> Department of Water and Sanitation</p>	<p>12:15-12:35 Evaluation of selected South African targets, indicators and reporting methodologies for Sustainable Development Goal 6 <u>Dr Simon Lorentz</u>, <u>Lindsay Shand</u>, <u>Bjanka Korb</u>, <u>Giulia Barr</u>, <u>Erin Haricombe</u> SRK Consulting (SA)</p>	<p>12:15-12:35 VIRTUAL Investigation of thermodynamic properties and sorption isotherms to determine the moisture boundness on faecal sludge from different onsite sanitation technologies <u>Larona Malope</u>, <u>Arun Suryakumar</u>, <u>Dr Edwina Mercer</u>, <u>Dr Jon Pocock</u>, <u>Dr Santiago Septien</u> Wash R&D Centre University of KwaZulu-Natal</p>	<p>12:15-12:35 Turning wastewater into potable water: practical experience on how to manage health risks <u>Yvan Poussade</u>, <u>Thys Els</u> Veolia</p>	<p>12:15-12:35 Desperate Measures: The temporary conversion of the Grassridge Reservoir to a Sedimentation Treatment Facility <u>Geoff du Toit</u>, <u>Morne Pienaar</u> Zutari</p>	<p>12:15-12:35 The National Water Act +20 – A review of water governance approaches and instruments in South Africa <u>Jurie Moolman</u>, <u>Dr Reece Alberts</u>, <u>Prof Francois Retief</u> NWU UESM</p>	<p>12:15-12:35 VIRTUAL Evaluation of the impact of landuse on the water quality of the Sabie River during drought and post-drought conditions <u>Prof Sandra Barnard</u>, <u>Dr Theunis Morgenthal</u>, <u>Michaela Rosher</u> North-west University</p>
<p>12:35-13:00 Questions & Answers</p>	<p>12:35-13:00 Questions & Answers</p>	<p>12:35-13:00 Questions & Answers</p>	<p>12:35-13:00 Questions & Answers</p>	<p>12:35-13:00 Questions & Answers</p>	<p>12:35-13:00 Questions & Answers</p>	<p>12:35-13:00 Questions & Answers</p>

13:00– 14:15 Lunch Break in the Exhibition Hall

13:00– 14:15 Poster Session

	<p>Department of Water and Sanitation Session 11 Chair:</p>	<p>Topic: Learning the ropes: Harnessing the technologies of the 4th industrial revolution Session 12 Chair:</p>	<p>Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 13 Chair:</p>	<p>Topic: Running a tight ship: Improving water use efficiency and demand management across all sectors of water users; mining, agriculture, industry and municipal) Session 14 Chair:</p>	<p>Topic: Stemming the tide: Management and regulatory issues – Blue and Green Drop, professionalization of the sector, addressing skills shortages, managing stakeholders (regulators, elected political decision makers, trade unions, civil society) effectively, developing capable institutions Session 15 Chair:</p>	<p>Topic: Don't abandon ship: Leaving no-one behind – reaching the goals of SGD6 in providing water and sanitation services, listening to our customers' needs and those of vulnerable communities that are unserved Session 16 Chair:</p>	<p>Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 17 Chair:</p>	<p>Workshop Session 18 Chair:</p>	<p>Workshop Session 19 Chair:</p>	<p>Virtual workshop Session 20 Chair:</p>
	DWS	New technologies and applications	Opportunities and challenges	Planning for the future	Infrastructure	Access for all	Water quality	Collaborative Arts and water and sanitation	Sanitation Transformation Initiative	Water law
	<p>14:15-14:35 Draft Compulsory national standards relating to the provision of water services <u>Anet Muir</u> Department of Water and Sanitation</p>	<p>14:15-14:35 Using Robotic Process Automation (RPA) to improve efficiencies at South African Water Utilities <u>Roseline Shumba</u>, <u>Mogao Padayachee</u>, <u>Dr Shallaine Padayachee</u> Rand Water</p>	<p>14:15-14:35 Why Flush your toilet with 9L of water when you can flush with 2L - The New Normal <u>Stewart Smetherham</u>, <u>Jacques Rust</u> EnviroSan Sanitation Solutions</p>	<p>14:15-14:35 The Development of Standards to support and improve Water Use Efficiency and Water Safety in Buildings <u>Ayesha Laher</u>, <u>Matthew Damons</u> AHI Water, Pretoria, Emanti Management</p>	<p>14:15-14:35 SAICE assessment of the condition of the nation's water and sanitation fixed infrastructure <u>Francis Gibbons</u>, <u>Helgard Muller</u>, <u>Prof Kevin Wall</u>, <u>Sam Amod</u> FG Consulting, Independent Consultant, University of Pretoria, Squinch Advisory Services</p>	<p>14:15-14:35 Household water access and COVID-19 in Windhoek Municipality, Namibia: Reflecting on Challenges and Potential Strategies for Sustainability <u>Dr Clayton Hazvinei Vhumbunu</u> University Of Pretoria</p>	<p>14:15-14:35 The development and application of effect-based methods (EBM) for water quality and safety: A South African perspective <u>Dr Natalie Aneck-hahn</u>, <u>Dr Catherina Van Zijl</u>, <u>Prof Rialet Pieters</u>, <u>Dr Suranie Horn</u>, <u>Naledi Mmekwa</u>, <u>Annika Kruger</u>, <u>Lizet Swart</u>, <u>Hesmarie Pearson</u>, <u>Edward Archer</u>, <u>Dr Christoff Truter</u> University of Pretoria, North West University, Biotox Lab, ToxSolutions, Kits and Services, Stellenbosch University Water Institute</p>	<p>14:15-16:00 Utilizing Collaborative Arts to Highlight issues of Water and Sanitation <u>Musa E. Zulu</u> <u>Valhalla Arts</u></p>	<p>14:15-16:00 The Sanitation Transformation Initiative (SANITI) - Creating a New Pathway for Sanitation Disruptors <u>Dr Sudhir Pillay</u>, <u>Jay Bhagwan</u>, <u>Jeanette Pretorius</u>, <u>Ruth Cottingham</u>, <u>Estella Jingxi</u>, <u>Dr Heidi Snyman</u> Water Research Commission</p>	<p>VIRTUAL 14:15-16:00 Water law expertise to the rescue? Guiding training investments for law-driven water reform <u>Prof Tracy-lynn Field</u>, <u>Melissa Strydom</u>, <u>Basetsana Koitsloe</u>, <u>Busiswe Kamalane</u> University of the Witwatersrand</p>
	<p>14:35-14:55 Sustainable Development Goal 6 – Are we going to achieve the 2030 Goal in South Africa? <u>Mark Bannister</u> Department of Water and Sanitation</p>	<p>14:35-14:55 Water volume information provided through Cloud-based processing of Satellite data "Eye in the sky no longer pie in the sky" <u>Jason Hollowes</u>, <u>Mark Thompson</u>, <u>Mehari Fezghi</u>, <u>Imraan Saloojee</u>, <u>Jens Hiestermann</u>, <u>Shuaib Suleman</u>, <u>Mr Kyle Cruickshank</u> EkoSource Insight, GeoTerra Image, South African National Space Agency</p>	<p>14:35-14:55 Rethinking human urine as a valuable resource for water and fertilizer production <u>A/Prof Dyllan Randall</u> University Of Cape Town</p>	<p>14:35-14:55 How can South Africa use water-informed trade policies to increase its economic water productivity and avoid virtual water leaks? <u>Joana Dobrescu</u> Water Footprint Implementation</p>	<p>14:35-14:55 Integrating the planning of tourism and engineering infrastructure <u>Shamilla Chettiar</u>, <u>Prof Kevin Wall</u>, <u>Prof Sam Laryea</u> Department of Tourism, University of Pretoria, University of the Witwatersrand</p>	<p>14:35-14:55 Leaving no-one behind, the needs of vulnerable communities. <u>Sbonakanye Zwane</u> Rand Water</p>	<p>14:35-14:55 Spatial and seasonal variations of pharmaceuticals in surface-water of Markman Canal and Swartkops, South Africa and their ecological risk assessment <u>Dr Chinemerem Oharo</u> University Of Fort Hare</p>			

DWS	New technologies and applications	Opportunities and challenges	Planning for the future	Infrastructure	Access for all	Water quality
<p>14:55-15:15</p> <p>A Forward Looking Strategy in Raw Water Pricing</p> <p><u>Lehlohanolo Nyabanyaba</u>, <u>Moretlo Botipe</u></p> <p>Department of Water and Sanitation</p>	<p>14:55-15:15</p> <p>Using pollution indices to assess artificial aeration as a restoration tool in a manmade urban lake</p> <p><u>Ndomupei Masawi</u>, Prof Paul Oberholster</p> <p>SRK Consulting</p>	<p>14:55 - 15:15</p> <p>Achieving 100% flush water recycle using innovative sanitation systems</p> <p><u>Phillip Majekwe</u></p> <p>Water Research Commission</p>	<p>14:55-15:15</p> <p>VIRTUAL</p> <p>Creating business cases for technology-based water demand management in facilities</p> <p><u>Crystal Griffiths</u>, Kevin Wall, Danie Hoffman</p> <p>Matheo Water, University of Pretoria</p>	<p>14:55-15:15</p> <p>Effective management of a water or waste water care works</p> <p><u>Stefanus Wevers</u></p> <p>Erwat</p>	<p>14:55-15:15</p> <p>Provision of Water to Improve Livelihoods of Resource Poor Farmers in the Lower Sundays Valley, Eastern Cape.</p> <p><u>Simphele Nailana</u></p> <p>Water And Sanitation, Uitenhage</p>	<p>14:55 - 15:15</p> <p>E. coli: An Emerging Threat in the Era of Antimicrobial Resistance</p> <p><u>Dr Zaakirah Delair</u>, Dr Atheesha Singh, Prof Tobias Barnard</p> <p>University of Johannesburg</p>
<p>15:15-15:35</p> <p>Framework for monitoring compliance to the Resource Quality Objectives</p> <p><u>Kama Mesa</u>, Londolani Mushekwa, Raquel Mazwi</p> <p>Department of Water and Sanitation</p>	<p>15:15-15:35</p> <p>Case Study Results from a Smart Network Management System in South Africa</p> <p><u>Rhulani Shingwenyana</u>, Hannes Botha, <u>Dr Albert Lysko</u></p> <p>Council for Scientific and Industrial Research</p>	<p>15:15-15:35</p> <p>VIRTUAL</p> <p>The Importance of Assessing the Acceptance of Alternative Toilets in Affluent Homes in Johannesburg, South Africa</p> <p><u>Xanthe Roux</u>, Prof Adeshala Ilombade</p> <p>University Of The Witwatersrand</p>	<p>15:15-15:35</p> <p>VIRTUAL</p> <p>Barriers to Water and Sanitation Safety Plans in Rural Areas of South Africa</p> <p><u>Arinoo Mureji</u>, Barbara Mogane, Dikeledi Prudence Mathiba, Opelo Tlatlo Wryl Machware, Jeridah Matlhokha Sekgabela, Mulala Mudau, Mr Ndamulelo Musumuvhi, Dr Colette Mmapenya Khabo-Mmekoa, Dr Resoketswe Charlotte Morapeng, Prof Maggie Ndombo Benkete Mamba</p> <p>Tshwane University Of Technology, University of Venda</p>	<p>15:15-15:35</p> <p>VIRTUAL</p> <p>Feasibility study of designing Combined Heat Power plant and financial investment volume at Ekurhuleni Wastewater Treatment plant</p> <p><u>Crosby Thabisa Bhembe</u></p> <p>Erwat</p>	<p>15:15-15:35</p> <p>Equitable access to water at rural communities of Alfred Duma Local municipality</p> <p><u>Nokuphila Ndumande</u></p> <p>University Of Zululana</p>	<p>15:15-15:35</p> <p>VIRTUAL</p> <p>Temporospatial monitoring of Phthalate Esters in municipal wastewater effluents, rivers, and the dam: Profiling and ecotoxicological risk assessments</p> <p><u>Ntsako Baloyi</u>, Prof Memory Tekere, Dr Khumbudzo Maphangwa, Dr Vhangwele Masindi</p> <p>University of South Africa, Magalies Water</p>
<p>15:35 - 16:00</p> <p>Questions & Answers</p>	<p>15:35 - 16:00</p> <p>Questions & Answers</p>	<p>15:35 - 16:00</p> <p>Questions & Answers</p>	<p>15:35 - 16:00</p> <p>Questions & Answers</p>	<p>15:35 - 16:00</p> <p>Questions & Answers</p>	<p>15:35 - 16:00</p> <p>Questions & Answers</p>	<p>15:35 - 16:00</p> <p>Questions & Answers</p>

16:00– 16:30 Refreshment break in the Exhibition Hall

16:00– 16:30 Poster Session

Department of Water and Sanitation Session 21 Chair:	Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 22 Chair:	Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 23 Chair:	Topic: Running a tight ship: Improving water use efficiency and demand management across all sectors of water users; mining, agriculture, industry and municipal) Session 24 Chair:	Topic: Learning the ropes: Harnessing the technologies of the 4th industrial revolution Session 25 Chair:	Topic: Stemming the tide: Management and regulatory issues – Blue and Green Drop, professionalization of the sector, addressing skills shortages, managing stakeholders (regulators, elected political decision makers, trade unions, civil society) effectively, developing capable institutions Session 26 Chair:	Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 27 Chair:	Virtual workshop Session 28 Chair:	Workshop Session 29 Chair:	Workshop Session 30 Chair:
DWS	Stormwater	Circular economy	Agriculture	New technologies and applications	Strengths and risks of public involvement	Design principles	Water losses and non-revenue water	SASTEP	Management of water and wastewater
<p>16:30-16:50 Implementation of the Mine Water Policy and Government Notice 704 <u>Londolani Mutshekwa</u>, Divan Van Niekerk Department of Water and Sanitation</p>	<p>16:30-16:50 Evaluating the multi-functional potential of stormwater ponds: planning support for a Water Sensitive City transition in Cape Town, South Africa <u>Jessica Fell</u>, Prof Neil Armitage, Dr John Okedi University of Cape Town</p>	<p>16:30-15:50 Gauging the traction of circular economy in the sanitation value chain <u>Phillip Majeka</u> Water Research Commission</p>	<p>16:30-16:50 VIRTUAL Wastewater reuse for agriculture: development of a water reuse decision tool <u>Dr Chavon Walters</u>, Maronel Steyn CSIR</p>	<p>16:30-16:50 Mechanical stresses investigation on ferroous pipelines using non-invasive magnetic tomography method at Rand Water <u>Danny Kuyva</u>, Mogan Padayachee, Aubrey Nxumalo, Didier ILunga Rand Water</p>	<p>16:30-16:50 VIRTUAL CoSMOS - Community-based Sustainable Water Management and Observation System <u>Justin Wiggatz</u>, Prof. Dr Karl-Ulrich Rudolph, Prof Harro Stolpe, Prof Christian Jalk, Charlotte Greger, Ingo Nienhaus, Dr Gabriele Walenzik Institute for Environmental Engineering + Ecology, Centre for Environmental Resources Management, Ruhr-University Bochum, Institute of Environmental Engineering and Management, Witten/Herdecke University, GIS and Digitalisation, OWL University of Applied Sciences and Arts, DIE GEWÄSSER-EXPERTENI,</p>	<p>16:30-16:50 Rocking the boat: Don't Capsize the Boat whilst Experimenting <u>Richard Holden</u> Trans-Caledon Tunnel Authority</p>	<p>VIRTUAL 16:30-18:00 Analysis of water losses and non-revenue water in South African municipalities - 2020/2021 <u>Zamampafu Siqalaba</u> Wrp Consulting Engineers</p>	<p>16:30-18:00 South African Guide for Selection of Appropriate Sanitation Systems Akin Akinsete, Jeanette Neethling, Ruth Cottingham Water Research Commission, City of Johannesburg, City of Cape Town, eThekweni</p>	<p>16:30-18:00 How can we improve the uptake of modelling for the management of water and wastewater in Southern Africa? <u>Chris Brouckaert</u>, <u>Barbara Brouckaert</u>, <u>Prof David Ikumi</u>, <u>Dr Xavier Flores-Alsina</u>, <u>Akash Singh</u>, <u>Dr Sven Sotemann</u> University Of KwaZulu-Natal, University of Cape Town, Danish Technical University, eThekweni Water and Sanitation, City of Cape Town</p>
<p>16:50-17:10 Overview and implementation of the Wastewater Discharge Standards <u>Nomathemba Mazwi</u> Department of Water and Sanitation</p>	<p>16:50-17:10 VIRTUAL A paradigm-shift from conventional stormwater drainage systems towards Sustainable Drainage Systems (SuDS) in South Africa <u>Marelize Beer</u>, Prof George Ogieng Vaal University Of Technology</p>	<p>16:50-17:10 Circular economy in municipal wastewater treatment plants: Unpacking the challenges and waste beneficiation avenues <u>Dr Vhahanqwele Masindi</u> Magalies Water</p>	<p>16:50-17:10 Opportunities to enhance water use efficiency in irrigated agriculture through innovative irrigation technologies <u>Dr Luxon Nhamo</u>, <u>Prof Sylvester Mpaandell</u>, <u>Dr Samkelisiwe Hlophe-Ginindza</u>, <u>Prof Stanley Liphadzi</u>, <u>Dr Jennifer Molwantwa</u> Water Research Commission</p>	<p>16:50-17:10 Application of a Hybrid Neural Network Model to Forecast Mining Influenced Water Parameters <u>Kagiso More</u>, <u>Prof Christian Walkersdorfer</u> Tshwane University of Technology</p>	<p>16:50-17:10 The negative effects of terminating the Harties Metsi-a-me programme <u>Frederick Botha</u> Retired and consultant to Unisa</p>	<p>16:50-17:10 Know your ingredients before you start cooking: How over-design in wastewater treatment can come back to haunt you <u>Muhammad Paleker</u>, <u>Daniel Petrie</u>, <u>Ahmed Hassim</u>, <u>Keith Olsen</u> Zutari</p>			

	DWS	Stormwater	Circular economy	Agriculture	New technologies and applications	Strengths and risks of public involvement	Design principles			
	17:10-17:30	17:10-17:30 Towards urban MAR in Cape Town's retrofitted multifunctional stormwater ponds <i>Craig Tinashwe Tanyanyiwa, Prof Neil Armitage, Dr John Okedi University Of Cape Town</i>	17:10-17:30	17:10-17:30 Wastewater reclamation and reuse potentials in agriculture: towards environmental sustainability <i>Dr Jemal Nure, Prof Stijn van Hulle Unisa</i>	17:10-17:30 ColiMinder as an early warning system for real-time monitoring of water treatment process efficiency <i>Obakeng Mogopa Rand Water</i>	17:10-17:30 Use of communication platforms to spread disinformation and its impact on water utilities <i>Yvone Lieg Rand Water</i>	17:10-17:30			

THURSDAY 29 September 2022

07:30 - 17:00	Registration
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08:30 - 9:15	Plenary Session
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10:00-10:30 - Refreshment Break in Exhibition Hall

	Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 31 <i>Chair:</i>	Topic: Don't abandon ship: Leaving no-one behind – reaching the goals of SDG6 in providing water and sanitation services, listening to our customers' needs and those of vulnerable communities that are unserved Session 32 <i>Chair:</i>	Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 33 <i>Chair:</i>	Topic: Running a tight ship: Improving water use efficiency and demand management across all sectors of water users: mining, agriculture, industry and municipal Session 34 <i>Chair:</i>	Topic: Stemming the tide: Management and regulatory issues – Blue and Green Drop, professionalization of the sector, addressing skills shortages, managing stakeholders (regulators, elected political decision makers, trade unions, civil society) effectively, developing capable institutions Session 35 <i>Chair:</i>	Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 36 <i>Chair:</i>	Workshop Session 37 <i>Chair:</i>	Workshop Session 38 <i>Chair:</i>	Virtual workshop Session 39 <i>Chair:</i>	Workshop Session 40 <i>Chair:</i>
	Water quality	Towards the goals of SDG6	Sludge management	Mining and industry	Tools, guidelines and partnerships	Managing water quality in different environments	WaterWise	Groundwater	Circular economy	Community participation
	10:30-10:50 Investigation of Ionic Disinfection By-products Presence in Treated Drinking Water Distribution Network Using Ion Chromatography <i>Mxolisi Majala Rand Water</i>	10:30-10:50 SAMRC Wastewater Surveillance and Research Programme: A potential tool to contribute to the sustainable management of water in South Africa <i>Candice Webster, Dr Renee Street, Dr Robia Johnson, Prof Angela Mathee, Prof Christo Muller, Prof Johan Louw E&HRU, SAMRC</i>	10:30-10:50 Municipal sludge challenges and how the demo partnership with municipalities will provide more options for managing sludge effectively <i>Ednah Mamakop Water Research Commission</i>	10:30-10:50 VIRTUAL Water innovations market demand analysis in the mining sector <i>Dr Jo Burgeess, Caroline Wadsworth Isle Utilities</i>	10:30-10:50 Strategy to Facilitate the Upscaling of Excreta (Shit) Flow Diagrams as a Regulatory and Management Tool in South Africa <i>Dr Sudhir Pillay, Lusanda Aqabasi, Iris Mathye Water Research Commission, Department of Water and Sanitation</i>	10:30-10:50 Predicting the Water Quality in Flooded Underground Mines – New Insights About the First Flush <i>Elke Mugaova, Leshego Molaba, Prof Christian Walkerdorfer Research Center of Post-Mining, Bochum, Germany, Tshwane University of Technology</i>	10:30-12:15 Using water wisely! <i>Grant Pearson, Dikeledi Maluleke, Sameer Morar Rand Water</i>	10:30-12:15 Developing mechanisms to improve the development and management of groundwater <i>Dr Shafick Adams, Yazeed van Wyk Water Research Commission</i>	10:30-12:15 VIRTUAL Circular Economy opportunities in the South African Water Sector <i>Prof John Ngani Zvimba, Prof Sylvester Mpanzeli, Dr Luxon Nhamo, Dr Samkelisiwe Hlophe-Ginindza Water Research Commission</i>	10:30-12:15 Enhancing community participation in municipal water services: understanding the real bottlenecks <i>Ngowenani Nohayi, Dr Barbara van Koppen, Dr Inga Jacobs-Mata International Water Management Institute, Department of Water and Sanitation, Water Research Commission</i>

Water quality	Towards the goals of SDG6	Sludge management	Mining and industry	Tools, guidelines and partnerships	Managing water quality in different environments
<p>10:50-11:10</p> <p>Isolation, characterisation, and antimicrobial susceptibility patterns of coliform bacterial isolates from treated water reservoirs in Kwa-Zulu Natal, South Africa <u>Siphehile Swango</u>, Handubuhle Gonose, Dr Vusi Ntema Umgeni Water</p>	<p>10:50-11:10</p> <p>Environmental surveillance for non-sewered communities: a tool for disease mitigation in developing countries <u>Dr Gina Pocock</u>, Leanne Coetzee, Bettina Genthe, Prof Janet Mans Waterlab (Pty) Ltd, Pretoria, South Africa, University of Pretoria</p>	<p>10:50-11:10</p> <p>Commercial-Scale Trial Feeding Thermally Hydrolyzed Waste Activated Sludge to a Sasol Fixed Bed Dry Bottom Gasifier <u>Andrei Koekemoer</u> Sasol</p>	<p>10:50-11:10</p> <p>Towards Resilient Mining: Responsible Water Usage in Mineral Processing for Value Recovery <u>Dr Malibonawe Manono, A/Prof Kirsten Corin</u> University Of Cape Town</p>	<p>10:50-11:10</p> <p>Improving challenges of sanitation services through the development of Shit Flow Diagram (SFD): Case study <u>Thabisa Manxodidi</u> Emanti</p>	<p>10:50-11:10</p> <p>Occurrence of Hexabromocyclododecane and 2,2',4,4',5,5'-Hexabromobiphenyl in the stormwater from Markman canal and its impact on Swartkops River Estuary, South Africa <u>Oladapo Olaniyun</u>, Dr Abiodun Olagoke, Professor Anthony Ijeanyi Okoh, Prof Omobola Oluranti Okoh South Africa Medical Research Council, Microbial Quality Monitoring Centre, University of Fort Hare, National University of Lesotho, University of Sharjah</p>
<p>11:10-11:30</p> <p>An improved optical property of conjugated polymer modified TiO2 for photocatalytic oxidation of acetaminophen in water under visible-light <u>Prof Joe Madise</u>, Dr Olayinka Awofiranye, Prof Bobby Naidoo Vaal University Of Technology</p>	<p>11:10-11:30</p> <p>Users' perceptions of water services in South Africa – findings of a barometer study <u>William Moraka, Jay Bhaogwan</u>, Dr Sarah Slabbert SALGA, Water Research Commission, BH132</p>	<p>11:10-11:30</p> <p>Application of Electrochemical Oxidation technique for removal of metals in faecal sludge <u>Phuliso Clement Tshivhula</u>, A/Prof Martha, Anna, Aletta Coetzee, Happiness Ngwanamoseka Nobela, Prof Lizzy Manyatsi, Mr Nthambeleni Tshivhundo Tshwane University of Technology</p>	<p>11:10-11:30</p> <p>Implementation of a Water Conservation and Demand Management Plans in the Mining Environment – Lessons Learned <u>Gerardo Pretorius</u> BBenergy and WISA Mine Water Division</p>	<p>11:10-11:30</p> <p>Guidelines for the utilisation & re-use/ disposal of faecal sludge <u>Dr Sudhir Pillay, Estella Jiraxi</u>, Dr Santiago Stringel, Dr Edwina Mercer, Dr Konstantina Velkushanova Water Research Commission, UKZN, IHE Delft</p>	<p>11:10-11:30</p> <p>Application of Solid Phase Adsorption Toxin Tracking Technology (SPATT) for Monitoring Microcystins in farm dams <u>Glynn Kuziva Pindihama</u>, Prof Wilson Mugeru Gitari University Of Venda</p>
<p>11:30-11:50</p> <p>VIRTUAL</p> <p>The Comparison of Spectroscopy and Calorimetry techniques in determination of Total Phosphate in water samples <u>Bafana Zwane</u> Rand Water</p>	<p>11:30-11:50</p> <p>An empirical assessment of the efficacy of prepaid water meters for development in Harare <u>Dr Tafadzwa Clementine Maramura</u> University Of The Free State</p>	<p>11:30-11:50</p> <p>Sewage sludge and green waste valorisation: A Msunduzi transdisciplinary pilot study <u>Sharon Migeri</u>, Mr Mdoda Zondo, Dr William Musazura, Mr Simon Gwara, Dr Samuel Getahun, Prof Alfred Odindo University Of KwaZulu Natal, Umgeni Water</p>	<p>11:30-11:50</p> <p>VIRTUAL</p> <p>Bioremediation of petroleum wastewater by sulphate reduction bacteria <u>Lerato Mokwane</u>, Dr Jeffrey Baloyi, Mthusi Marumo, Dr Mpfunzeni Raphulu, Prof Carsten Drebenstedt University Bergakademie Freiberg, Smart Places Cluster - Council for Scientific and Industrial Research, Advanced Materials Division - Mintek</p>	<p>11:30-11:50</p> <p>Aspects of Strategic Water Management through the Municipal Capability and Partnership Programme <u>Gary Parsons</u> CSIR</p>	<p>11:30-11:50</p> <p>The Application of an Integrated Catchment Model for the Crocodile (west) Catchment - South Africa <u>Khathushelo Joshua Rosifudi</u> Department of Water and Sanitation</p>
<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>
<p>12:15– 13:15 Lunch Break in the Exhibition Hall</p> <p>12:15– 13:15 Poster Session</p>					

	<p>Topic: Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 41 Chair:</p>	<p>Topic: Running a tight ship: Improving water use efficiency and demand management across all sectors of water users; mining, agriculture, industry and municipal) Session 42 Chair:</p>	<p>Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 43 Chair:</p>	<p>Topic: Stemming the tide: Management and regulatory issues – Blue and Green Drop, professionalization of the sector, addressing skills shortages, managing stakeholders (regulators, elected political decision makers, trade unions, civil society) effectively, developing capable institutions Session 44 Chair:</p>	<p>Topic: Batten down the hatches: Responding to climate change Session 45 Chair:</p>	<p>Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 46 Chair:</p>	<p>Virtual workshop Session 47 Chair:</p>	<p>Workshop Session 48 Chair:</p>	<p>Workshop Session 49 Chair:</p>	<p>Workshop Session 50 Chair:</p>
	Bacteria and contaminants	Wastewater challenges	Methods and solutions	Blue Deal Partnership	Climate change	Models and processes	Water re-use	Utility payment & SMMEs	COVID surveillance	Dragons Den
	<p>13:15-13:35 Synthesis of activated carbon from waste tire for the removal of ammonia from wastewater. Joseph Lephalla, Prof Lima Rutto, Prof John Kabuba Tshilenge, Mr Livhuvani Mathamu, Mr Stefanus Weyers Erwat</p>	<p>13:15-13:35 VIRTUAL The organic profiling of industrial effluent sources discharging to ERWAT water care works using gas chromatography mass spectrometry (GC-MS) Denver Karshaagen Erwat</p>	<p>13:15-13:35 The development and standardisation of a modified helminth isolation and enumeration method for sanitation and environmental samples Danica Naidoo, Dr Colleen Archer University of KwZulu-Natal Water Sanitation & Hygiene Research & Development Centre</p>	<p>13:15-13:35 Keeping a steady course in the Blue Deal: results of the first 4 years of strengthening water governance Monique Zwiers, Liesbeth Wilschut Unie Van Waterschappen</p>	<p>13:15-13:35 Enhancing the Resilience of Risk Management Processes: Incorporating Climate Change into Water Safety Planning Matthew Damons, Thabisa Manxodidi, Dr Brilliant Petja, Ms Suvritha Ramphal, Philip de Souza, Shawn Moorgas Emanti Management, Water Research Commission, USAID Resilient Waters Program</p>	<p>13:15-13:35 Monitoring of water quality changes due to rising global temperatures during production, storage and distribution Jacques Franken, Alessandro Mora Royce Water</p>	<p>13:15-15:00 VIRTUAL The Innovation, Optimisation and Implementation of Reuse Technology and Reuse Financing in South Africa Johann Lubbe DBSA</p>	<p>13:15-15:00 Time value of money and beyond: Promoting SMMEs through timely payment by utilities Sibusiso Mhlonga, Nontando Vungwana, Ashton Mpafu, Thulani Mllilwani Greencape, Brenntag, Lifalil, Thulani Mllilwani</p>	<p>13:15-15:00 Wastewater Based Epidemiology for SARS-CoV-2: Case Studies from South Africa and Future Opportunities as a Public Health Surveillance Tool Jay Bhagwan, Gina Pocock, John Zimba, Dr Melinda Suchard, Dr Nonhlanhla Kalebaila Water Research Commission, Agricultural Research Council, National Institute for Communicable Diseases, Waterlab PTY Ltd</p>	<p>13:15-15:00 Dragons Den to showcase innovative projects in water and sanitation Karessa Pilly, Manjusha Sunil, Vishnu Mabeer, Mthokozisi Ncube, Simon Pitts WISA Innovation for Water & Sanitation Division, Water Research Commission, DBSA, eThekweni Metro Rand Water, Du Paint Chemicals, Umgeni Water</p>

Bacteria and contaminants	Wastewater challenges	Methods and solutions	Blue Deal Partnership	Climate change	Models and processes
<p>13:35-13:55</p> <p>VIRTUAL</p> <p>Wastewater-based epidemiology: an additional tool for TB surveillance?</p> <p><u>Hlenjwe Mtetwa</u>, Dr Isaac Dennis Amoah, Prof Sheena Kumari, Prof Faizal Bux, Prof Poovendhree Reddy</p> <p>Durban University Of Technology</p>	<p>13:35-13:55</p> <p>Determination of chlorine resistant bacteria and their susceptibility to antibiotics from a wastewater treatment plant in KwaZulu-Natal province</p> <p><u>Thobile Nqace</u></p> <p>Umgeni Water</p>	<p>13:35-13:55</p> <p>Modelling of Filamentous Bacteria in Activated sludge systems and Reactive Secondary Settling Tanks</p> <p><u>Joson Minnie</u>, Dr David Ikumi, Dr Christopher Gaszynski, Dr Moses Basitere</p> <p>University Of Cape Town, DHI Group, Cape Peninsula University of Technology</p>	<p>13:35-13:55</p> <p>Successes, shortcomings and lessons learnt in the implementation of the Phase 1 of the Blue Deal Msunduzi Partnership</p> <p><u>Nkosinjani Mkhize</u></p> <p>Department Of Water and Sanitation</p>	<p>13:35-13:55</p> <p>A review of the impact of sea-level rise on wastewater treatment</p> <p><u>Teboho Mofakeng</u>, A/Prof David Ikumi, Chris Gaszynski</p> <p>University Of Cape Town</p>	<p>13:35-13:55</p> <p>VIRTUAL</p> <p>Use of the process capability index to measure contaminants removal by conventional water treatment processes for potable water production</p> <p><u>Dr Vuyakazi Belewa</u>, Lerato Lekalaka, Sayi Ramphal, Muzi Sibiyi</p> <p>Process Technology Rand Water</p>
<p>13:55-14:15</p> <p>Characterisation of bacterial communities in South African domestic wastewater treatment plants using molecular fingerprinting and next generation sequencing</p> <p><u>Phillia Thobejane</u>, Dr Pamela Welz</p> <p>Erwat, Cape Peninsula University of Technology</p>	<p>13:55-14:15</p> <p>SPE-IC-PDA method development and application for the analysis of selected pharmaceuticals in river and wastewater samples from KwaZulu-Natal, South Africa.</p> <p><u>Nontuthuko Hlenagwa</u></p> <p>University of KwaZulu-Natal</p>	<p>13:55-14:15</p> <p>Including the Fate of Products Generated at Wastewater Treatment Plants in Applying Decision Support Tools to Evaluate Phosphorus Removal Strategies</p> <p><u>A/Prof David Ikumi</u>, Nosisa Nqayi, Dr Chris Gaszynski, Dr Xavier Flores-Alsina, Dr Elham Ramin, Mr Chris Brauckaert, Dr Barbara Brauckaert, Prof Krist Germaey</p> <p>University Of Cape Town, Technical University of Denmark, University of KwaZulu Natal</p>	<p>13:55-14:15</p> <p>Alignment of water governance: experiences of the Blue Deal partnership</p> <p><u>Hans Waals</u>, Eustathia Bofilatos</p> <p>Dutch Water Authority Hollandse Delta, Department of Water and Sanitation, Blue Deal South Africa Partnership</p>	<p>13:55-14:15</p> <p>Operational measures to prevent overflows from Pollution Control Dams under increased flooding risk due to climate change</p> <p><u>Tefo Chabedi</u>, Carin Bosman</p> <p>Envirodalytics</p>	<p>13:55-14:15</p> <p>Application of Augmented Biomethane Potential Tests and Mathematical Model to Evaluate Potential Co-disposal of Wastewater and Food Waste</p> <p><u>Shalongo Anqula</u>, Prof David Ikumi, Dr Chris Gaszynski</p> <p>University of Cape Town</p>
<p>14:15-14:35</p> <p>VIRTUAL</p> <p>Toxicity, toxicokinetics and accumulation of copper (Cu) and cadmium (Cd) in brown mussels, <i>Perna perna</i></p> <p><u>Phumzile Mdingi</u></p> <p>Umgeni Water</p>	<p>14:15-14:35</p> <p>The potential of using struvite precipitation as a nitrogen removal technique in municipal wastewater: a pilot study</p> <p><u>Dr Jeffrey Baloyi</u>, Mr Jahn Khala, Dr Ryneth Mbhele</p> <p>Smart Places Cluster, Council for Scientific and Industrial Research</p>	<p>14:15-14:35</p> <p>Testing of a Screw Conveyor Based Solar Sludge Dryer</p> <p><u>Akhil Ramlucken</u>, Adheesh Ganapathie, Yashlen Pather, Prof Freddie Inambao, Dr Santiago Septien</p> <p>Wash R&D University of KwaZulu Natal</p>	<p>14:15-14:35</p> <p>Water quality: Not only a matter of technique - the Blue Deal perspective</p> <p>Eric Kuindersma</p> <p>Blue Deal South Africa</p>	<p>14:15-14:35</p> <p>Climate change liability law as a response to climate action failure.</p> <p><u>S'phamandla Mchunu</u></p> <p>Inkomati Usuthu Catchment Management Agency</p>	<p>14:15-14:35</p> <p>VIRTUAL</p> <p>Comparison of Chemical Oxygen Demand (COD) measurement by potassium dichromate spectrophotometric technique and thermal combustion</p> <p><u>Dr Sihle Mngadi</u>, Ms Mahadi Lesaona</p> <p>Rand Water</p>
<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>
15:00– 15:30 Refreshment break in Exhibition Hall					

15:00–15:30 Poster session										
		<p>Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 52 Chair:</p>	<p>Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 53 Chair:</p>	<p>Topic: Running a tight ship: Improving water use efficiency and demand management across all sectors of water users; mining, agriculture, industry and municipal) Session 54 Chair:</p>	<p>Topic: Learning the ropes: Harnessing the technologies of the 4th industrial revolution Session 55 Chair:</p>	<p>Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 56 Chair:</p>	<p>Workshop Session 57 Chair:</p>	<p>Virtual workshop Session 58 Chair:</p>	<p>Workshop Session 59 Chair:</p>	<p>Workshop Session 60 Chair:</p>
		Innovative methods	Sludge management	Innovative wastewater solutions	New ways of thinking	Acid mine drainage	Water quality drivers and remediation	CSIR Water Centre	SDG6 Targets	W&S Master Plan
		<p>15:30-15:50 Application of laccase enzyme for the bioremediation of persistent triazine contaminants and their effective degradation in aqueous solutions. <u>Mahadi Lesoaana</u>, Dr Heidi Richards, Prof Dean Brady, Prof Roger Sheldon University of the Witwatersrand</p>	<p>15:30-15:50 Microwave treatment of faecal sludge from onsite sanitation systems <u>Principal Mdofo</u>, Dr Jan Pocock, Dr Konstantina Velkushanova WASH R&D Centre University of KwaZulu-Natal, Lilangwe University of Agriculture and Natural Resources, IHE-Delft Institute for Water Education</p>	<p>15:30-15:50 Smart Waste in Africa: Cemented Ash and Brine Pastes for Backfill <u>Shameer Hareeparsad</u> Golder Associates</p>	<p>15:15-15:35 Detection of SARS-CoV-2 at an institutional campus in the Western Cape, South Africa. A wastewater-based epidemiology approach <u>Dr Funanani Mashau</u>, Hanyani Lebesse, Dr Kholofelo Malemela, Prof Christo Muller, Prof Johan Louw, Dr Mongezi Mdhuli, Prof Glenda Gray, Dr Renee Street, Prof Angela Mathee, Prof Rabia Johnson South African Medical Research Council</p>	<p>15:30-15:50 The Witwatersrand Acid Mine Drainage (AMD) Project - Gravitation towards Relevance and Future-proofed Solutions <u>Bashan Govender</u> PSP</p>	<p>15:30-17:15 VIRTUAL Transforming the State Urban Rivers: Identifying Complex Drivers of Water Quality Deterioration and Mechanisms to Improve and Remediate SA's Rivers Dr Eunice Ubomba-Jaswa Water Research Commission</p>	<p>15:30-17:15 The CSIR Water Centre - Turning the Ship Around Dr Rembu Magoba, Dr Harrison Pienaar, Dr Patrick Hlabela, Dr Ryneth Mbhele Council for Scientific and Industrial Research</p>	<p>15:30-17:15 Evaluation of selected South African targets, indicators and reporting methodologies for Sustainable Development Goal 6 Lindsay Shand, Simon Lorentz, Giulia Barr, Bjanka Korb, Erin Haricombe Srk Consulting</p>	<p>15:30-17:15 Operationalising and Resourcing The Water and Sanitation Industry Master Plan Dr Valerie Naidoo, Gaylor Montmasson-Clair Water Research Commission, TIPS</p>
		<p>15:50-16:10 Feasibility study: Development of a synthetic methodology for preparation of quaternary ammonium polymers as potential as coagulants in water treatment. <u>Dr Khethahole Sekagata</u>, Dr Esper Ncube, Prof Kuku Voyi, Prof Patricia Forbes Rand Water, University of Pretoria</p>	<p>15:50-16:10 Reduction of pathogenic microorganisms in faecal sludge by Electrochemical Oxidation: A case study of the City of Tshwane Metropolitan Municipality <u>Nthambeleni Tshivhunda</u>, Phuliso Clement Tshivhula, Happiness Ngwanamoseka Nabela, A/Prof Martha Aletta Coetzee, Prof Lizzy Mpenyana-Monyatsi Tshwane University of Technology</p>	<p>15:50-16:10 Binary Adsorption Studies of Toxic Metal Ions of Lead and Copper from Aqueous Solution by Modified Fennel Seeds <u>Ntandokazi Mabunqela</u> Vaal University Of Technology</p>	<p>15:50-16:10 Desalination: a new era emerges <u>Dawid Bosman</u> Trans-caledon Tunnel Authority</p>	<p>15:50-16:10 Acid Mine Drainage (AMD) softening via urea hydrolysis: A novel approach <u>Sibusiso Khumalo</u>, Dr Philiswa Nomngongo, Dr James Ramontja University Of Johannesburg</p>				
		<p>16:10-16:30 Adsorption of Hazardous Substances from the Aqueous Solution Using Agricultural Wastes Derived Biochar for Sustainable Environmental Water Quality Management <u>Obey Gatore</u>, Prof Tomoaki Itayama, Dr Bao-Trong Dang, Dr Duc Tan Nguyen, Dr Ramaraj Rameshprabu, Osamu Nakagoe, Prof Shuji Tanabe, Dr Maseda Hideaki, Dr Maseda Hideaki Nagasaki University</p>	<p>16:10-16:30 VIRTUAL Development and testing of a faecal sludge greenhouse solar drier <u>Parashin Naidoo</u> University of KwaZulu Natal</p>	<p>16:10-16:30 Recovery of CaCO₃, Na₂CO₃ and MgO from alkali earth metal sulphates <u>Canny Makgahlog</u>, Prof Johannes Maree, Prof David van Vuuren, Dr Muntaryadzi Mujuru, Prof Malose Makhonaana University Of Limpopo</p>	<p>16:10-16:30 VIRTUAL Silver nanoparticle-modified cellulose nanocrystals for fouling control in membrane distillation <u>Tshepo Maala</u>, Dr Lebea Nthunya, Dr Anita Etale, Dr Heidi Richards University of the Witwatersrand, University of Bristol</p>	<p>16:10-16:30 Treatment of Acid Mine Drainage with ROC process for the recovery of drinking water and saleable products <u>Tumelo Monty Moagshane</u>, Prof Johannes Philippus Maree, Prof Muntaryadzi Mujuru, Dr Mamasegare Mabel Mphahlele-Makgwane University of Limpopo</p>				

	Innovative methods	Sludge management	Innovative wastewater solutions	New ways of thinking	Acid mine drainage				
	16:30-16:50 Application of Ce doped poly (para-phenylenediamine) composites for arsenite, fluoride, and pathogens removal from aqueous solution <i>Elisa Pandelani Munzhelele, Prof Mugeru Wilson Gitari, Dr Wasiu Babatunde Ayinde</i> University of Venda, University of Kenya, University of Venda	16:30-16:50 VIRTUAL An Innovative Approach for the Management of Municipal Sludge, Fat, Oil And Grease (Sfog) using the Drain Model <i>Dr Surabhi Srivastava</i> University of KwaZulu Natal	16:30-16:50 Zero waste and saleable products from mine water <i>Prof Johannes Marge, Tumelo Magashane</i> University Of Limpopo	16:30-16:50	16:30-16:50 Comparing the effectiveness of sonication and flocculation in neutralization of acid mine drainage and removal of pollutants using calcined magnesite <i>Albert Shumba, Prof Wilson Mugeru Gitari, Dr Rabelani Mudzielwana, Dr Wasiu Babatunde Ayinde, Prof Austin Ochieng</i> University Of Venda, Technical University Of Kenya				
	16:50-17:15 Questions & Answers	16:50-17:15 Questions & Answers	16:50-17:15 Questions & Answers	16:50-17:15 Questions & Answers	16:50-17:15 Questions & Answers				
19:00 WISA2022 GALA DINNER									

FRIDAY 30 September 2022

08:30 - 9:15 Plenary Session

10:00-10:30 - Refreshment Break in Exhibition Hall

	Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 61 <i>Chair:</i>	Topic: Don't abandon ship: Leaving no-one behind – reaching the goals of SDG6 in providing water and sanitation services, listening to our customers' needs and those of vulnerable communities that are unserved Session 62 <i>Chair:</i>	Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 63 <i>Chair:</i>	Topic: Running a tight ship: Improving water use efficiency and demand management across all sectors of water users; mining, agriculture, industry and municipal) Session 64 <i>Chair:</i>	Topic: Stemming the tide: Management and regulatory issues – Blue and Green Drop, professionalization of the sector, addressing skills shortages, managing stakeholders (regulators, elected political decision makers, trade unions, civil society) effectively, developing capable institutions Session 65 <i>Chair:</i>	Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 66 <i>Chair:</i>	Workshop Session 67 <i>Chair:</i>	Virtual workshop Session 68 <i>Chair:</i>	Workshop Session 69 <i>Chair:</i>	Workshop Session 70 <i>Chair:</i>
Diverse aspects	Diverse aspects	Wastewater treatment processes	Diverse aspects	Impact of regulation	Water treatment technologies	Innovation Policy for SDGs	Project KreATiw	Water RDI Roadmap	Community partnerships	
10:30-10:50 The Development of a Environmental Surveillance Framework for Non-Sewered Settlements: A Tool for Disease Mitigation in Developing Countries <i>Dr Sughir Pillay, Dr Gina Pocock, Ms Leanne Coetzee, Prof Janet Mans, Mr Jay Bhagwan</i> Water Research Commission, Waterlab PTY Ltd, University of Pretoria	10:30-10:50 International Funding Trends and Gaps for Water in Africa <i>Nara Hanke-Louw</i> Oneworld Sustainable Investments	10:30-10:50 Process Engineering and Practical Considerations of Applying Thermal Hydrolysis to Anaerobic Digestion <i>Wesley Potts, Dr Sven Sötemann, Mr Mark Marais, Mr John Clayton</i> Project Assignments Engineers, City of Cape Town Water and Sanitation	10:30-10:50 Regulations requiring that the taking of water for irrigation purposes be measured, recorded and reported <i>Avhashoni Dorcas Nefale</i> Department Of Water And Sanitation	10:30-10:50 "But is it 'pollution'?" - determining appropriate site-specific regulatory limit values for water quality. <i>Carin Bosman</i> CBSS	10:30-10:50 Hydrothermal treatment of aluminosilicate-rich clay soils: Evaluating optimum condition for synthesis and physicochemical characterizations <i>Dr Oluwayiwa Adewale Obilola</i> Adeyemi Federal University, Nigeria	10:30-12:15 A transformative innovation policy for SDGs <i>Dan'sile Cindi</i> South African National Biodiversity Institute	10:30-12:15 VIRTUAL Climate Resilience, Sanitation & Water Safety (Project KreATiw) <i>Philip De Souza</i> Emanti	10:30-12:15 Research & Innovation Stemming the Tide: Reflecting on 6 years of Water RDI Roadmap Implementation <i>Mrs Shanna Nienaber</i> Water Research Commission	10:30-12:15 Leaving no-one behind in the living catchments of South Africa: best practice in partnerships with communities <i>Michelle Hiestermann, Dr Roderick Juba, Dan'sile Cindi, Dr Nontuzelo Gola, Nomalungelo Ndlovu, Prof Heila Lotz-Sisitka</i> Water Research Commission, South African National Biodiversity Institute, Rhodes University	

Diverse aspects	Diverse aspects	Wastewater treatment processes	Diverse aspects	Impact of regulation	Water treatment technologies
<p>10:50-11:10</p> <p>Balancing water protection and supply in the Thukela Catchment of South Africa</p> <p><i>Lee Boyd, Priya Moodley, Mahlapa Sekoele, Mkevu Mnisi</i></p> <p><i>Goldier Associates Africa, Department of Water and Sanitation</i></p>	<p>10:50-11:10</p> <p>Implementing ISO 9001:2015 in the water sector using project management principles</p> <p><i>Hlenziwe Kubheka</i></p> <p><i>Erwat</i></p>	<p>10:50-11:10</p> <p>Start-up of the pilot Partial Nitritation Anammox (PN/A) process using sewage anaerobic digester</p> <p><i>Dr Phumza Vuyokazi Zungu, Dr Kiprotich Kosgey, Prof Sheena Kumari, Prof Faizal Bux</i></p> <p><i>Durban University of Technology</i></p>	<p>10:50-11:10</p> <p>Evaluation of water footprint in sugar industries and bioethanol distilleries into two different water basins towards water sustainability</p> <p><i>Dr Jemal Nure, Prof Thabo Nkambule, Prof Kebede Kejeni, Imran Ahmed</i></p> <p><i>Unisa</i></p>	<p>10:50-11:10</p> <p>Gaps in the Green Drop Assessment System</p> <p><i>Dave Still</i></p> <p><i>Duzi-uMngeni Conservation Trust</i></p>	<p>10:50-11:10</p> <p>Effective removal of ammonia from aqueous solution using a combination of precipitation and breakpoint chlorination</p> <p><i>Muyahvho Mugwiji, Prof Frans Boudewijn Waanders, Dr Vhahangwele Masindi, Prof Elvis Fosso-Kankeu</i></p> <p><i>North-West University, Magalies Water, University of South Africa</i></p>
<p>11:10-11:30</p> <p>Assessment of the occurrence and removal of microplastics in wastewater treatment processes at the City of Ekurhuleni in South Africa</p> <p><i>Tendani Mphaga, Ntombi Mhlongo, James Topkin, Philip Thobejane</i></p> <p><i>Erwat</i></p>	<p>11:10-11:30</p> <p>Collaboration and Convening as the Foundation for Partnership: The case of the uMngeni Ecological Infrastructure Partnership (UEIP)</p> <p><i>Dr Nontutuzelo Gola</i></p> <p><i>South African National Biodiversity Institute</i></p>	<p>11:10-11:30</p> <p>VIRTUAL</p> <p>Start-up of Anammox SBR and effects of sulfide on the process performance</p> <p><i>Owae Magray, Dr K.M. Gani, Prof Kumari Sheena, Dr Seyam Mohammed, Prof Bux Faizal</i></p> <p><i>Durban University of Technology</i></p>	<p>11:10-11:30</p> <p>Water employed for fire fighting - the case of Sol Plaatje Municipality, South Africa</p> <p><i>Tumelo Thagae, Prof Adesola Illemobade</i></p> <p><i>University of Witwatersrand</i></p>	<p>11:10-11:30</p> <p>Resilience and Sustainability of the Water Sector during the COVID-19 Pandemic</p> <p><i>Dr Luxon Nhamo, Prof Sylvester Mpandeli, Dr Samkelisiwe Hlophe-Ginindza, Prof Stanley Liphadzi</i></p> <p><i>Water Research Commission</i></p>	<p>11:10-11:30</p> <p>Simulation of Water Recirculation on the Stability of the Froth in UG2 Cu-Ni-PGM sulfide flotation</p> <p><i>Michael Ngau, Malibogwe Manono, Prof Kirsten Corin</i></p> <p><i>University Of Cape Town</i></p>
<p>11:30-11:50</p> <p>Pivots in Transdisciplinary Engaged Water Sensitive Research in COVID Times; PaWS DANIDA case study</p> <p><i>Dr Amber Abrams</i></p> <p><i>Future Water</i></p>	<p>11:30-11:50</p> <p>Securing water resources during times of drought</p> <p><i>Rocco du Plessis</i></p> <p><i>Zutari</i></p>	<p>11:30-11:50</p> <p>A Review of the Full-Scale Application of Partial Nitritation Anammox Technology for Sidestream Nitrogen Removal within a South African Context</p> <p><i>Shanen Jelliman, Dr Sven Söttemann, Mark Marais, Mr John Clayton</i></p> <p><i>Project Assignments, City of Cape Town</i></p>	<p>11:30-11:50</p> <p>Flexibility in the face of project constraints - A case study of Moorreesburg WWTW</p> <p><i>Eugene Fatso Sima, Matthew Grüter</i></p> <p><i>Zutari</i></p>	<p>11:30-11:50</p> <p>An investigation into the impact of the IUCMA in redressing past imbalances in access to water in the WMA</p> <p><i>Sibonangaye Mkhathwa</i></p> <p><i>Inkomati-usuthu Catchment Management Agency</i></p>	
<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>	<p>11:50-12:15</p> <p>Questions & Answers</p>

12:15– 13:15 Lunch Break in the Exhibition Hall

12:15– 13:15 Poster Session											
	<p>Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 71 <i>Chair:</i></p>	<p>Topic: Batten down the hatches: Responding to climate change Session 72 <i>Chair:</i></p>	<p>Topic: Stemming the tide: Management and regulatory issues – Blue and Green Drop, professionalization of the sector, addressing skills shortages, managing stakeholders (regulators, elected political decision makers, trade unions, civil society) effectively, developing capable institutions Session 73 <i>Chair:</i></p>	<p>Topic: Running a tight ship: Improving water use efficiency and demand management across all sectors of water users; mining, agriculture, industry and municipal) Session 74 <i>Chair:</i></p>	<p>Topic: Matters Ashore: Addressing environmental water quality and sustainable groundwater issues Session 75 <i>Chair:</i></p>	<p>Topic: Rocking the boat: Rethinking sanitation in a circular economy – reuse, resource and energy recovery, off-grid solutions and reinventing the toilet Session 76 <i>Chair:</i></p>	<p>Workshop <i>Chair:</i></p>	<p>Session 77</p>	<p>Virtual workshop Session 78 <i>Chair:</i></p>	<p>Workshop Session 79 <i>Chair:</i></p>	<p>Workshop Session 80 <i>Chair:</i></p>
	Water quality	Climate change	Financial and asset management	Drinking water	Diverse aspects	Wastewater treatment technologies	WWP		Water use in irrigation	Mine water	Resource recovery
	<p>13:15-13:35 Real-time sensing as alert system for water quality changes <i>Cordt Lourens, Ludwig Brocker, Chris Swartz, Gideon Wolfaardt</i> <i>Chris Swartz Water Utilization Engineers, Stellenbosch University</i></p>	<p>13:15-13:35 Lessons from a crisis: a renewed technical agenda for sustainable water management <i>A/Prof Kirsty Carden, Ms Jessica Fell</i> <i>University Of Cape Town</i></p>	<p>13:15-13:35 Water Costing Tool for South African Municipalities <i>Dineo Makate, Valmak Mathebula, Dr Jackie Crafford, Micah Moynihan</i> <i>Prime Africa Consult</i></p>	<p>13:15-13:35 VIRTUAL Provision of potable water free from coloured organic substances by following an optimized coagulation approach <i>Dr Savia S Marais, Sayj Ramphal, Muzi S Sibiya, Dr Esper J Ncube</i> <i>Rand Water</i></p>	<p>13:15-13:35 Enhanced synergistic adsorption and biocatalytic degradation of diclofenac by fungal laccase immobilized on zeolitic imidazolate frameworks <i>Mbonqiseni Dlamini</i> <i>University Of The Witwatersrand</i></p>	<p>13:15-13:35 Validation of a data-driven primary sedimentation tank (PST) model <i>Christina Mazivila</i> <i>University of Cape Town</i></p>	<p>13:15-15:00 Megatrends and workforce of tomorrow: Young Water Professionals at the forefront <i>Ashton Mpofo, Nadia Lund</i> <i>Greencape (YWP-ZA), EnviDan A/S (YWP-DK)</i></p>	<p>13:15-15:00 VIRTUAL Unconventional water uses in irrigation and its role in sanitation and human health <i>Prof John Ngoni Zvimba</i> <i>Water Research Commission</i></p>	<p>13:15-15:00 Mine Water – Golden Thread or Gordian Knot for a post-Covid Stimulus and the Just Transition Pathway <i>Bashan Govender</i> <i>PSP</i></p>	<p>13:15-15:00 From Wastewater Treatment Plants to Resource Recovery Centres: The guide to transition <i>Mluleki Mnguni</i> <i>Umgeni Water</i></p>	

Water quality	Climate change	Finacial and asset management	Drinking water	Diverse aspects	Wastewater treatment technologies
<p>13:35-13:55</p> <p>An investigation of the treatment efficiency of bubble and surface aerated reactors at Hartebeestfontein Water Care Works</p> <p><u>Steven Mathebula</u>, Tendani Mphaga, Premlall Kasturie Erwat</p>	<p>13:35-13:55</p> <p>Recent Trends of Drought Using Remotely Sensed And In-Situ Indices: Towards an Integrated Drought Monitoring System for South Africa</p> <p><u>Mxolisi Mukhwana</u>, Mahlatse Kganyago, Mr Aphelele Mgbisa, Mr Simon Maloele, Marwapula Mashalane</p> <p>Department of Water and Sanitation, South African National Space Agency</p>	<p>13:35-13:55</p> <p>Reducing levels of Non-Renueve Water in Municipal Water Distribution Networks through the Municipal Capability and Partnership Programme</p> <p><u>Hannes Botha</u></p> <p>Council For Scientific And Industrial Research</p>	<p>13:35-13:55</p> <p>Synthesis and characterization of Ce/Al/Fe trimetal oxide modified diatomaceous earth for fluoride removal: Adsorption kinetics and isotherm modelling studies</p> <p><u>Tshilidzi Budeli</u>, Dr Rabelani Mudzielwana, Prof Wilson Gitari</p> <p>University Of Venda</p>	<p>13:35-13:55</p> <p>VIRTUAL</p> <p>Fabrication of Copper Selenide Nanoparticles Incorporated with Maize Cob Powder to Form Nanocomposites for the Removal of Pb (II)</p> <p><u>Baitumelo Mametja</u>, Prof Thokozani Xaba, Dr Agnes Pholosi, Prof Justice Maloto</p> <p>Vaal University of Technology, University of South Africa</p>	<p>13:35-13:55</p> <p>Treatment of flue gas desulfurization waste water with freeze crystallization</p> <p><u>Asser Latsatsi Tau</u>, Prof Johannes Philippus Maree, Amos Adeniyi, Prof Maurice Stephen Onyango</p> <p>Tshwane University of Technology</p>
<p>13:55-14:15</p> <p>Risk-based 'Fitness for Purpose' Industrial Use Water Quality Guidelines – Supporting resilient and adaptive Water Quality Management</p> <p><u>Priva Moodley</u>, Peter Wille, Cherante Paredes, Youlita Vemblanathan</p> <p>Golder Associates Africa</p>	<p>13:55-14:15</p> <p>The Role of Diversity in Flood Management through Green Infrastructure. A Research Report of Lusaka Informal Settlement in Inanda, eThekweni</p> <p><u>Jerit Dube</u></p> <p>University of The Free State</p>	<p>13:55 - 14:15</p> <p>Msunduzi Municipality's Revenue Collection Initiative</p> <p><u>Vishal Poona</u>, <u>Brenden Sivparsad</u></p> <p>Vuselela Engineers</p>	<p>13:55-14:15</p> <p>Water quality evaluation of potable water sources from Bongani Regional Hospital</p> <p><u>Tshepo Makhadi</u>, <u>Dr Maleke Maleke</u></p> <p>Central University of Technology Free State, Bongani Regional Hospital</p>	<p>13:55-14:15</p> <p>VIRTUAL</p> <p>Assessment of Clinoptilolite as an adsorbent for the targeted removal of ammonia during purification from a highly polluted water source</p> <p><u>Sifiso Samba</u>, Dr Savia Marais, Muzi Sibiba</p> <p>Rand Water</p>	<p>13:55-14:15</p>
<p>14:15-14:35</p> <p>Assessing the suitability of constructed wetlands to treat contaminated runoff from informal settlements</p> <p><u>Kalpana Maraj</u></p> <p>University Of Cape Town</p>	<p>14:15-14:35</p> <p>The SADC Revised Protocol: A Tool For an Integrated Climate Action in Southern Africa</p> <p><u>Thomani Manungufala</u></p> <p>Parliament of the Republic Of South Africa</p>	<p>14:15-14:35</p> <p>Asset management: The key strategy for service delivery, stakeholder satisfaction, capable and sustainable institutions</p> <p><u>Siviwe Humelton Bunge</u></p> <p>Erwat</p>	<p>14:15-14:35</p> <p>Performance of new and used mechanical water meters in South Africa</p> <p><u>Fahlani Sibanda</u>, Dr Mthokozisi Ncube, Prof Adesola Ilemobade</p> <p>University of the Witwatersrand, Johannesburg Water</p>	<p>14:15-14:35</p>	<p>14:15-14:35</p>
<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>	<p>14:35-15:00</p> <p>Questions & Answers</p>
<p>15:00-15:30 Refreshment Break</p>					
<p style="text-align: center;">WISA 2022 Closing Address 15:30-16:30 Reflection on WISA2022 16:30-17:00 Prize Ceremony by Dr Sarah Slabbert and Dr Lester Goldman</p>					
<p>17:00-18:00 Farewell Cocktail</p>					
<p style="text-align: center;">SATURDAY 1 October 2022</p>					
<p>08:00 - 16:00</p>	<p>Technical Tours</p>				

** Subject to change - Information correct at the time of publication. Updates are posted as and when further information becomes available.