

WISA 2020 DRAFT PROGRAMME

SUNDAY 6 December 2020

12:00 - 18:00 Registration and bag collection in the Registration Foyer
 17:30 - 20:00 Welcome Function in (TBC)

MONDAY 7 December 2020

07:00 - 17:00 Registration Level 0 foyer

08:00 - 10:45 WISA 2020 PLENARY SESSION
Welcome by Dr Shafick Adams - Chairperson of WISA Organising Committee
Opening by Honourable Minister of Human Settlements, Water and Sanitation

Keynote by Daniele Silke - Director of the Political Futures Consultancy - Title to be confirmed
 Leading analyst and commentator on the South African, African and global political and economic landscapes and future trends.
 Introduced by Prof Mike Muller

PANEL: CALL TO ACTION FOR ALL-HANDS-ON-DECK - WHAT ARE THE KEY PRIORITIES TO BE ACTIONED IN SOUTH AFRICA? - Prof Mike Muller, Mbulelo Tshangana, Desighen Naidoo, Dr Neil McLeod/ Dr Allyson Lawless (tbc)
 WISA Technical Chair, DG Dept. Water & Sanitation; CEO Water Research Commission; Former President of SAICE

WISA 2020 Overview by WISA Technical Committee
 Topic 1: Govern and Regulate the sector - **Dr Inga Jacobs-Mata**
 Topic 2: Reduce water demand and increase supply - **Zama Siqalaba**
 Topic 3: Manage the resource for a capable ecology - **Chris Swartz**
 Topic 4: Develop skills and technology innovations - **Prof Evans Chirwa**
 Topic 5: Manage and monitor effective water and sanitation services - **Dr Marlene vd Merwe-Botha**
 Topic 6: Improve raw water quality and management - **Dr Michele Kruger**

Introduced

<p>Topic: Govern and regulate the sector Session 1: Alternative governance approaches Chair: <i>Leonardo Manus - Dept. Water & Sanitation</i></p> <p>11:15-12:05 Sustainable Development Goal 6 – Optimizing Operations To Deliver Excellence towards 2030 Goal in SA Mark Bannister - Dept. of Water & Sanitation</p> <p>12:05-12:25 Effective management and governance: the critical challenge for a sustainable water business Mr Fred van Zyl - Independent</p> <p>12:25-12:45 Can private public partnerships (PPP) rescue South Africa's water infrastructure Dr Nezar Eldidy - Sobek</p> <p>12:45-13:05 Growing momentum for social franchising partnerships Prof Kevin Wall, Jayant Bhaqwan, Oliver Iwe - Univ. of Pretoria, Water Research Commission</p> <p>13:05-13:20 Questions & Answers</p>	<p>Topic: Reduce water demand and increase supply Session 2: Smart solutions Chair: <i>Diksha Somai - EXXARO</i></p> <p>11:15-12:05 Energy recovery taking the pressure off municipal water supply networks Mr Gideon Bonthuys, Marko Van Dijk - Golder Associates Africa</p> <p>12:05-12:25 Solar irrigation: a smart/risky solution to addressing Africa's water and energy crisis Dr Inga Jacobs-Mata, Dr Manuel Magombeyi, Dr Petra Schmitter - International Water Management Institute</p> <p>12:25-12:45 Towards leakage characterisation of water distribution pipes with a novel pipe condition assessment device Mr Craig Tanyanyiwa, Prof Cobus Van Zyl - Univ. of Cape Town</p> <p>12:45-13:05 Using litres per capita per day as performance indicator to assess water use efficiency Mr Willem Wegelin - WRP Consulting Engineers</p> <p>13:05-13:20 Questions & Answers</p>	<p>Topic: Manage the resource for a capable ecology Session 3: Water Sources Chair: <i>Dr John Dini - Water Research Commission</i></p> <p>11:15-12:05 Leveraging on technological innovation and fusion to foster effective water resource monitoring in South Africa Dr Simphiwe Chabalala, Prof Danny Simatele, Dept. Water & Sanitation, Univ. of Witwatersrand, Rusangu Univ.</p> <p>12:05-12:25 Doing things differently - TMG Aquifer Story Stephan Kleynhans, David Allpass, Mazunda Halwiindi, Jeanne-Louise Wiese - City of Cape Town, Aurecon</p> <p>12:25-12:45 Keeping up with the ever increasing resource demand - the Vaalkop Dam case study Buks Strydom, Leandre Roux, Dean Cloete - Magalies Water</p> <p>12:45 - 13:05 Securing water security in South Africa Richard Holden - Trans-Caledon Tunnel Authority</p> <p>13:05-13:20 Questions & Answers</p>	<p>Topic: Develop skills and technology innovations and disruptors Session 4: Building resilience Chair: <i>Dr Nonhlanhla Kalebaila - Water Research Commission</i></p> <p>11:15-12:05 Challenges facing schools to provide effective water services and promoting water conservation Willem Wegelin - WRP Engineering</p> <p>12:05-12:25 Integrated biogas systems as rural sanitation solutions: Reflections from five institutional interventions in Ndwedwe, KZN Jonathan Oqawana, Dr Marc Kalina, Dr Noredine Mahdjoub, Prof Cristina Trois - Univ. of KZN</p> <p>12:05-12:25 Building a resilient city – the City of Cape Town's groundwater abstraction and MAR scheme Kornelius Riemann, David Allpass, Elizabeth Hay, Rui Hugman, Chris Hartnady, Kabus Botha, Luke Towers, Boris Vassilev, Adrian Coetzee, David McGibbon - iX Engineers</p> <p>12:45 - 13:05 Bridging-The-Water: Co-Creation To Learn & Experience An Orange Knowledge Project Agnes Maenhout - World Water Academy, Netherlands -</p> <p>13:05-13:20 Questions & Answers</p>	<p>Topic: Manage and monitor effective water and sanitation services and infrastructure Session 5: Investment and business models Chair: <i>Dr Johan Lubbe - DBSA</i></p> <p>11:15-12:05 Unlocking investment opportunities in water sector for economic growth, drought resilience and improved environmental health Ashton Mpofo, Raldo Kruger - Green Cape</p> <p>12:05-12:25 Considerations of budgeting to sustain service delivery infrastructure Prof Kevin Wall, Univ. of Pretoria</p> <p>12:25-12:45 The Witwatersrand Acid Mine Drainage (AMD) project: an update based on recent findings Bashan Govender - Dept Water and Sanitation</p> <p>12:45-13:05 Community-driven water services for multiple uses as alternative service delivery model. Evidence from South Africa Dr. Barbara Van Koppen, Dr Inga Jacobs-Mata, Dr M Magombeyi, Virginia Malose - International Water Management Institute, Water Research Commission</p> <p>13:05-13:20 Questions & Answers</p>	<p>Topic: Improve raw water quality and management Session 6: Pollutants of emerging concern Chair: <i>Mr Erin Parenzee - Rand Water</i></p> <p>11:15-12:05 Evaluation of South Africa's water quality and establishment of primary areas of risk Dr Anja Du Plessis - Unisa</p> <p>11:15-12:05 Chemicals of emerging concern as indicators of de facto (unintentional) reuse Cordi Laurens - Chris Swartz Water Utilization Engineers, Edward Archer - Stellenbosch University</p> <p>11:15-12:05 Quantification and mass loading for contaminants of emerging concern from Western Cape wastewater treatment plants Dr. Edward Archer - Stellenbosch Univ.</p> <p>12:45-13:05 Rand Water's approach to managing emerging organic contaminants in drinking water Siphwe Sithole - Rand Water</p> <p>13:05-13:20 Questions & Answers</p>	<p>Workshop Session 7 Chair: <i>Dr Nezar Eldidy</i></p> <p>11:15-13:00 Governance and Sector Restructuring for Efficiency Dr Nezar Eldidy, WISA Management and Institutional Affairs Division</p>	<p>Workshop Session 8 Chair: <i>Michelle Hestermann</i></p> <p>11:15-13:00 Unlocking investment in ecological infrastructure for water security Michelle Hestermann, Alex McNamar, Julie Clarke, Jenifer Zungu, Hessiva Cockburnt, Christin Colvin Water Research Commission, SANBI, DBSA</p>	<p>Workshop Session 9 Chair: <i>Dr Esper Jacob Ncube</i></p> <p>11:15-13:00 Water Reuse in Southern Africa: Strategic Areas Dr Esper Jacob Ncube, Johann L Übbe, Dr Lakesh Maharaj, Benoit Le Roy, Dr Nonhlanhla Kalebaila, Carl Davis, Chris Swartz WISA Water Reuse Division, DBSA, Ugeni Water, SA Water Chamber, Drakenstein Municipality, Chris Swartz Consulting Engineers, and various partners from industry, private sector and government.</p>	<p>Workshop Session 10 Chair: <i>Clara Bochio - Winrock</i></p> <p>11:15-13:00 1. How can Big Data Analytics improve governance and decision-making for transboundary aquifers in Southern Africa? Clara Bochio Big Data Analytics and Transboundary Water Collaboraation for Southern Africa, USAID, WRC, Department of Science and Innovation, SADC Ground water Management Institute, US Geological Survey, Winrock International & Tetrtech</p>
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<p>Workshop Session 11 Chair: <i>Cathy Eales - Independent</i></p> <p>14:15-16:00 Dutch - South Africa building capacity together 1. An entrepreneurial approach for government, industry and research to close the water gap together: experiences from NL & SA Stephanie de Beer 2. Finals Wetskills Water Challenge - South Africa 2020 Johan Oost Embassy of the Netherlands, Dept of Water & Sanitation, Wetskills Foundation</p>	<p>Topic: Reduce water demand and increase supply Session 12: Drought management Chair: <i>Mr Chris Swartz - CSWUE</i></p> <p>14:15-14:35 City of Cape Town's accelerated water demand management measures in response to drought conditions Colin Mubadiro, Linda Siyengo, Pierre Maritz, Mark Shepherd, Lyle Goldman - City of Cape Town</p> <p>14:35-14:55 Drought planning and operational management: Lessons from Cape Town Dr Lloyd Fisher-Jeffes, Michael Killick, Andriette Combrink, Barry Wood, Mazunda Halwiindi, Dr James Cullis - Aurecon</p> <p>14:55 - 15:15 Assessment of Cape Town's spring water quality to augment the City's drinking water supply Mercia Valschenk - City of Cape Town</p>	<p>Topic: Manage the resource for a capable ecology Session 13: Urban Water Management Chair: <i>Bonani Madikizela - Water Research Commission</i></p> <p>14:00-14:35 Pathways to water resilient South African cities - mapping urban water management governance processes Dr Kirsty Cardin, Dr Patience Mguni - Univ. of Cape Town (Future Water Inst), Univ. of Copenhagen</p> <p>14:35-14:55 The assessment and control of polluted stormwater inflow entering the Ashmead channel, Knysna Estuary Calvin van der Merwe, Prof Neil Armitage - Univ. of Cape Town</p> <p>14:00-14:35 Impact of landuse changes on Glendower catchment Tshilidzi Netshitanongi, Joyce Mahotle - SRK Consulting</p>	<p>Topic: Develop skills and technology innovations and disruptors Session 14: Digital technology Chair: <i>Dr Hendrik Brink - Univ. of Cape Town</i></p> <p>14:00-14:35 The global opportunities for water technology innovation Dr Jo Burqess, Caitlin Roeger, Fiona Griffith - Isle Utilities Ltd</p> <p>14:35-14:55 The Big Data and Transboundary Water Management Collaboration for Southern Africa: A new partnership model Clara Bocchino - Winrock International</p>	<p>Topic: Manage and monitor effective water and sanitation services and infrastructure Session 15: Sanitation technology Chair: <i>William Moroka - SALGA</i></p> <p>14:00-14:35 Disrupting the sanitation and water landscape - Reinventing the toilet Jayant Bhaqwan - Water Research Commission</p> <p>14:35-14:55 Life-cycle cost comparison between pour-flush and VIP toilets Siphomandla Majozi - Partners in Development</p>	<p>Topic: Improve raw water quality and management Session 16: Pollutants of emerging concern Chair: <i>Dr Esper Ncube - Rand Water</i></p> <p>14:15-14:35 Microplastics in the source and drinking water of South Africa's largest bulk drinking water supplier Yvonne Lieke, Dr Annelie Swanepoel - Rand Water</p> <p>14:35-14:55 Case studies on the regulation and management of radioactivity in drinking water sources Thato Molokwe, Margaret Mkhosi, Ian Korir - National Nuclear Regulator</p> <p>14:55 - 15:15 Polyfluoroalkyl Substances (PFAS) an Emerging Micro-Pollutant – A Comparison of Removal Techniques Jennifer Falconer, Ed Hardwich - Cwenga</p>	<p>Workshop Session 17 Chair: <i>Dr Barbara van Koppen - IWMI</i></p> <p>14:15-16:00 Hybrid water law in South Africa: a realistic option for the future of water governance or a piped dream? Dr Barbara van Koppen, Dr John Dini International Water Management Institute, Water Research Commission</p>	<p>Workshop Session 18 Chair: <i>Chantal Ramcharan-Kotze - Water Research Commission</i></p> <p>14:15-16:00 Alternate implementation models for improved water supply and sanitation in South Africa Chantal Ramcharan-Kotze, J Ørger Erk Larsen, Noniface Aleabua, Virginia Malose, Johann Lubbe Water Research Commission, Development Bank of Southern Africa, Embassy of Denmark, AFDB</p>	<p>Workshop Session 19 Chair: <i>Gary Brown - Dikubu</i></p> <p>14:15-16:00 Beneficiation and Utilisation of Anaerobic Sludge Processes Gary Brown, Dr Heidi Snyman, Andrea Gysin, Paul Fountain, Karl Juncker, F Burger, A R Lancaster, Annelize Theron Thames Water, Ugeni Water, Innovation Norway</p>	<p>Workshop Session 20 Chair: <i>Dr Kirsty Cardin - Future Water Research Insitute</i></p> <p>14:15-16:00 Expanding and embedding the Water Sensitive Design Community of Practice (WSD CoP) in South Africa Dr Kirsty Cardin, Shanna Nienaber Future Water Research Institute, Univ. of Cape Town, Water Research Commission, Dept of Science & Innovation</p>
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15:15-15:35 The response of different residential suburbs to water restrictions during CT's drought (2016 - 2018): Spatio temporal analysis <i>Birgitt Ouweneel</i> - Univ. of Cape Town	15:15-15:35 Indigenous South African plant species for the phytoremediation of polluted rooftop runoff <i>Dylan Jacklin</i> , <i>Dr Isobel Brink</i> - Univ. Stellenbosch	15:15-15:35 Digital Water – What are potential benefits for South African municipal wastewater treatment plants <i>Zandile Matutu, Zainab Rinquist, Werner Rossie, Kevin Samson</i> - City of Cape Town	15:15-15:35 Uptake and acceptance of pour flush toilets in South Africa, from 2010-2019 <i>Jeanette Neethling, Nokuthula Kubheka, David Still, Siphamandla Majozi</i> - Partners in Development	15:15-15:35 A multi-matrix bio-prospection approach of bacterial species for application in bioremediation of estrogen in wastewater <i>Phumudza Budeli</i> - Tshwane Univ. of Technology
15:35 - 16:00 Questions & Answers	15:35 - 16:00 Questions & Answers	15:35 - 16:00 Questions & Answers	15:35 - 16:00 Questions & Answers	15:35 - 16:00 Questions & Answers

16:00– 16:30 Tea break in the exhibition hall

16:00– 16:30 Poster session

Workshop Session 21 <i>Chair: Kathy Eales</i> - Independent	Topic: Reduce water demand and increase supply Session 22: Drought response <i>Chair: Snenhlanhla Ndlela</i>	Topic: Manage the resource for a capable ecology Session 23: Ecology <i>Chair: Dr Kirsty Carden</i> - Future Water Research Institute, UCT	Topic: Develop skills and technology innovations and disruptors Session 24: Wastewater treatment <i>Chair: Dr Jennifer Balatedi Molwantwa</i> - Commissioner, Office of the President	Topic: Manage and monitor effective water and sanitation services and infrastructure Session 25: Incident management <i>Chair: Mariette Swart</i> - Rand Water	Topic: Improve raw water quality and management Session 26: Raw water quality <i>Chair: Dr Ilunga Kamika</i> - UNISA	Workshop Session 27 <i>Chair: Andy Sambo</i> - Dept. Water & Sanitation	Workshop Session 28 <i>Chair: Sarlet Barnard</i> - YWP	Workshop Session 29 <i>Chair: Mlu Mnguni</i> - Water Research Commission	Workshop Session 30 <i>Chair: Rita Brokstad</i> - Regional Director of Innovation Norway
16:30-18:00 Dutch - South Africa building capacity together Blue Deal in Southern Africa <i>Mmatlala Malatjile</i> - Department of Water & Sanitation, Dutch Water Authorities	16:30-16:50 Stormwater harvesting to increase water supply for cities: Case of Cape Town South Africa <i>Dr John Okedi</i> - Univ. of Cape Town	16:30-16:50 Impacts of climate change in determining the ecological reserve <i>Dr Jane Tanner</i> , <i>Dr Sukhmani Mantel</i> , <i>Dr Neil Griffin</i> , <i>Dr Andre Slaughter</i> , <i>Prof Dennis Hughes</i> - Rhodes Univ.	16:30-16:50 Pre-treatment of coal dump leachate with MgO for pigment recovery <i>Sepobe Letjiane, Johannes Maree, Maurice Onyango, Amos Adeniyi, Lizzy Mpenyana-Monyatsi</i> - Tshwane Univ. of Technology, Univ. of Limpopo	16:30-16:50 The development of stormwater maintenance plans for the City of Cape Town <i>Andrew McDonald, Candice Bouland, Graham English, Linda Rossouw, Simamkele Ntsengwane, Kirsten Jones</i> - Aurecon, City of Cape Town Metropolitan Municipality, Independent Consultant	16:30-16:50 Effect of poor water quality in a harbour on the operation of reverse osmosis <i>Nico-Ben Janse Van Rensburg</i> - Quality Filtration Systems	16:30-18:00 Using the National Integrated Water Information System (NIWIS) to support integrated water resource management <i>Andy Sambo, Magda Smidt, Jason Hollowes, Mxolisi Mukhawana</i> Dept. Water & Sanitation, EkoSource Insight	16:30-18:00 To measure is to know: Water use measurement and monitoring for improved water resource management, efficient use and regulation <i>Sarlet Barnard, S Pezulu, Dr Eldidy, A Nefale, S Mkhalihi, I van der Stoep, T Dormehl</i> Young Water Professionals, WISA Water Distribution, WISA Management and Institutional Affairs Division, Innovation for Water & Sanitation	16:30-18:00 Requirements of a comprehensive resource efficient wastewater treatment plant (WRC Project K5/2807) <i>Mlu Mnguni, Gary Brown, Megan Schalkwyk, Dr Bernelle Verster, Dr Lakesh Maharaj</i> Umgenti Water, Water Research Commission, Dikubu	16:30-18:00 An innovation Norway programme promoting Norwegian solutions to address water scarcity, sludge management and sustainability <i>Rita Brokstad, Roger Blekkan, Trude Margel, Anders Øfsti, Gary Brown, Ilija Radeljic, Kristine Bangstad Fredriksen</i> Innovation Norway, Inrigo, Cinderella Eco, Hias Haw20, Cambi & Environor, PipeLife Norge, Ocean Oasis AS
	16:50-17:10 Fog harvesting: Table mountain area <i>Fortunate Magane, Siphesihle Magazolo, Mercia Volschenk</i> - City of Cape Town	16:50-17:10 The development of a preliminary approach to sediment sampling, site evaluation and associated risk <i>Dr Bridget Shaddock, Dr Khume Mtshweni</i> - Golder Associates, Univ. of Johannesburg	16:50-17:10 Treatment of leachate with ROC process for the recovery of drinking water and saleable products <i>Nhamo Chaukura, Tumelo Monty Mogashane</i> - Univ. of Limpopo, University of South Africa	16:50-17:10 Application of incident management protocol in the City of Cape Town following Blue Drop Principles <i>Melissa de Sousa Alves, Michael Killick, Hennie Kotze, Swastika Surujlal-Naicker</i> - City of Cape Town Metropolitan Municipality	16:50-17:10 Nutrient recovery from wastewater using microalga <i>acutodesmus obliquus</i> for biofuels and fertilizer production <i>Dr Nirma Renuka, Pfano Musetsho, Abhishek Guldhe, Ismail Rawat, Faizal Bux-Institute for Water & Wastewater Technology, Durban Univ. of Technology</i>				
	17:10-17:30 Borehole decentralisation: Application at the University of the Western Cape <i>Annejan Visser</i> - Quality Filtration Systems	17:10-17:30 Assessment and prioritisation of ecological infrastructure for water security: Cacadu Catchment in Eastern Cape <i>Sinetemba Xoxo, Dr Sukhmani Mantel, Dr Jan Tanner, Alta de Vos</i> - Rhodes Univ.	17:10-17:30 CASE & SOLUTION: A low-cost ceramic filter for removal of methyl orange, Cr(VI), and Escherichia coli from water <i>Gerald Katengeza, Nhamo Chaukura</i> - Bindura Univ. of Science Education	17:10-17:30 Optimisation of Rand Water's Water Safety Plan to address climate change challenges <i>Lelethu Bunu, F van Wyk, K Naidoo</i> - Rand Water	17:10-17:30 Wastewater reuse decentralisation: The answer to SA's water shortages <i>Herman Smit</i> - Water Quality Filtration Systems VIDEO (5 min): An innovative approach for the removal of ammonia and other contaminants from raw water <i>Dr Vhahangwele Masindi</i> - Magalies Water				
	17:30-18:00 Questions & Answers	17:30-18:00 Questions & Answers	17:30-18:00 Questions & Answers	17:30-18:00 Questions & Answers	17:15-18:00 Questions & Answers				

TUESDAY 8 December 2020

07:30 - 17:00 Registration
Level 0 foyer

08:30 - 09:15

Plenary keynote by Prof Stefan Uhlenbrook - Title to be confirmed
Leading hydrologist and award-winning academic on river basin modelling, and global changes on water cycle dynamics in Africa, with insight to various international initiatives such as UNESCO-IHP, IAHS-PUB and HELP
Introduction by Dr Shafilek Adams - Chairperson of WISA Organising Committee

09:15 - 10:00

PANEL: KEY ISSUES TO SUSTAIN WATER RESOURCES IN SOUTH AFRICA
Dr Shafilek Adams, Dr Kevin Winter, Dr Karen Surridge, Dr Harrison Plenaar (to be confirmed)
Water Research Commission, Univ. Cape Town, SANED; CSIR

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

<p>Topic: Govern and regulate the sector Session 31: The role of cities in water resource governance Chair: Mr Dumisani Gubuza - City of Tshwane</p>	<p>Topic: Reduce water demand and increase supply Session 32: Water reuse and recovery Chair: Mr Nandha Govender - Eskom</p>	<p>Topic: Manage the resource for a capable ecology Session 33: Wastewater and Waste Pollution Chair: Dr Henry Roman - Dept. Science and Innovation</p>	<p>Topic: Develop skills and technology innovations and disruptors Session 34: Resource measurement and machine learning Chair: Dr Trudi Joubert, Microelectronics - Univ. of Pretoria</p>	<p>Topic: Manage and monitor effective water and sanitation services and infrastructure Session 35: Design and modelling Chair: Dr Werner Rössler - City of Cape Town</p>	<p>Topic: Improve raw water quality and management Session 36: Modelling and analytics Chair: Dr Michele Kruger, Dept. of Water & Sanitation</p>	<p>Workshop Session 37 Chair: Jens Hilbig - IEEM gGmbH</p>	<p>Workshop Session 38 Chair: Dr John Zvimba - Water Research Commission</p>	<p>Workshop Session 39 Chair: Prof Tully Palmer - Rhodes Univ.</p>	<p>Workshop Session 40 Chair: Shanna Nienaber - Water Research Commission</p>
<p>10:30-10:50 Water Resource Management Requires an all hands on deck approach Case study of Boksburg Lake (Ndamphe/Mazwa) - Mondo Hinsh - SRK Consulting (Pty) Ltd</p>	<p>10:30-10:50 Towards a new water reuse normal: A water reclamation and reuse guide for South Africa Chris Swartz - Chris Swartz Water Utilisation Engineers</p>	<p>10:30-10:50 A water footprint for plastic recycling in South Africa Tshiamo Gogo - Prof Harro von Böttich, Prof Kevin Harding Ebrahem Abrahams, Tylrel Flügel, Rui Hugman, Andrew Gemmel, Claudia Ruz Vargas - Umvot, Stellenbosch University, International Groundwater Resources Assessment Centre (IGRAC)</p>	<p>10:30-10:50 Assessment of Machine Learning Approaches for Information Management of a Transboundary Aquifer Ebrahem Abrahams, Tylrel Flügel, Rui Hugman, Andrew Gemmel, Claudia Ruz Vargas - Umvot, Stellenbosch University, International Groundwater Resources Assessment Centre (IGRAC)</p>	<p>10:30-10:50 Biological Nutrient Removal Design Implications for Membrane Bioreactor Application Dr Dion de Villiers, Marco Stabber - Bigen Africa</p>	<p>10:30-10:50 Big data analytics and citizen science for extracting value from datasets for the Ramotswa Aquifer Prof Hlanganani Tutu, Yannick Nuopila, Lindelwa Ndlovu, Anita Etale, Lungiso Ngundu, Phumani Khoza, Ewa Cukrowska - Univ. of Witwatersrand</p>	<p>10:30-12:15 Incentive mechanisms in the context of water governance Jens Hilbig, Dr John Dini, Prof K-U Rudolph IEEM gGmbH, Water Research Commission</p>	<p>10:30-12:15 Sustainable Integrated Wastewater Future Strategy Water Research Commission</p>	<p>10:30-12:15 Transgressive Water Resources Management (t-WRM) - a resilient pathway into a water-scarce, polluted, climate-changed future Prof Tully Palmer, Dr Sharon Pollard, Dr Nelson Odume, Dr Notiswa Libale, Dr Matthew Weaver, Dr Nezar Eldady Institute for Water Research, Rhodes Univ.</p>	<p>10:30-12:15 Securing Skills to Embed Innovation in the Water Sector: Mapping, Synergising & Scaling Skills Initiatives Shanna Nienaber, Manual Jackson, Dr Valerie Naidoo, Dr Henry Roman, Manjusha Sund, Dr John Dini Water Research Commission, Stellenbosch Univ., Hitachi, Dept. of Water & Sanitation, EWSTA</p>
<p>10:50-11:10 Role of county government in water resources management in Nairobi City County Maureen Mlago - Nairobi City Water & Sewerage Company</p>	<p>10:50-11:10 Conversion of stabilisation ponds into reuse water plants with micro-sieve and bio-percolation filter including a professional O&M concept Prof Karl Ulrich Rudolph, Stephanie Kristjens, Faruq Shalizi, Birte Bayers, Aydin Parsa - IEEM gGmbH - Institute of Environmental Engineers</p>	<p>10:50-11:10 Endocrine Disrupting Compounds removal from municipal wastewater sludge by an Innovative Enhanced Hydrothermal Polymerisation Technology Dr Estina Musavoti, Nomsuseliso Mgwanya, Dr Caitlin Swiegelaar, Dr Maria Fernandes-Wholey - Truensee and NMISA</p>	<p>10:50-11:10 Using Satellite Observation to Determine Water Resource Availability in Catchments James Hollowes - Ekosource Africa</p>	<p>10:50-11:10 Autotrophic Bacterial Growth and Process Performance in Three Systems Mediated by Anaerobic Ammonium Oxidation Shantini Rangay, Dr Aneshal Olayomi, Durban Univ. of Technology, Sequencing Core Facility, National Health Laboratory Service, Columbia University.</p>	<p>10:50-11:10 Development of a water quality model for the Vaal dam reservoir & the contributing catchment Francois Van Wyk - Rand Water</p>				
<p>11:10-11:30 City of Johannesburg Stormwater Manual Prof Anne Fitchett - Univ. of Witwatersrand</p>	<p>11:10-11:30 Cape Flats managed aquifer recharge advanced water treatment plant using treated effluent Francois Smuts, Pierre Marais - Water & Wastewater Engineering</p>	<p>11:10-11:30 Organo modified layered double hydroxide clay for phenol removal from wastewater Lehoanolo Labapa, Prof Johan Labuschagne, Dr Shepherd Tichapondwa - Univ. of Pretoria</p>	<p>11:10-11:30 Hippo - Hydro-morphological investigation of Riverbed particle performance on-site: An innovative underwater measurement system Tim Kerlin, Mark Musall, Peter Oberle, Franz Nestmann - Karlsruhe Institute of Technology, Baden-Wuerttemberg, Germany</p>	<p>11:10-11:30 Primary settling tank model development and calibration to resemble reality Janina Hlatshway, Christian Polongeni, Dr David Nkomo Univ. of Cape Town</p>	<p>11:10-11:30 Source Treatment Optimisation and Water Resource Management- Conceptual Decision Support Tool for River Pollution Problems Christopher Mahlotli, Melise Steyn, Josefina Wilms, Farisha Panday - Council for Scientific and Industrial Research (CSIR), Deltaraes</p>				
<p>11:30-11:50 Infrastructure solutions to enhance communities and the environment Namrata Jugwanth - Aecom</p>	<p>11:30-11:50 Wastewater biorefinery: Valorisation of water - borne waste fibres for platform chemical production with concomitant water recovery Charlotté Wessels, Dr A Kotsopoulos, Prof STL Harrison Univ. of Cape Town</p>	<p>11:30-11:50 Toxicity evaluation of the effluent discharged into the Blesbokspruit using Zebrafish (Danio rerio) embryo assay Khalisa Maphahlele, WA Augustyn, S Combrinck, R McCrindle - Tshwane Univ. of Technology</p>	<p>11:30-11:50 Machine Learning Techniques for the Prediction of Groundwater Levels Helen Seyler, Kai Witthueser Delta-h Water Systems Modelling, Delta-h Groundwater Systems</p>	<p>11:30-11:50 A probabilistic approach to scum particle size distribution (est) in modelling of micro-sieve cyanobacteria and cyanotoxins Dr Annelie Swanepoel, Hein du Preez - Rand Water</p>	<p>11:30-11:50 Combining on-line and laboratory generated data in forecasting models for cyanobacteria and cyanotoxins Dr Annelie Swanepoel, Hein du Preez - Rand Water</p>				
<p>11:50-12:15 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>				

12:15- 13:15 Lunch Break in the exhibition hall

<p>A QUIZ WORKSHOP Session 41 Chair: Leonardo Manus - Dept. Water & Sanitation</p>	<p>Topic: Reduce water demand and increase supply Session 42: Wastewater and soil remediation Chair: Mr Themba Nkhuna - Rand Water</p>	<p>Topic: Manage the resource for a capable ecology Session 43: Design and Treatment Chair: Dr Ralph Heath - Golden Associates Africa</p>	<p>Topic: Develop skills and technology innovations and disruptors Session 44: Water Conservation and Leak Detection Chair: Vanessa Weber - WISA Young Water Professionals</p>	<p>Topic: Manage and monitor effective water and sanitation services and infrastructure Session 45: Energy and sludge management Chair: Jayant Bhaagwan - Water Research Commission</p>	<p>Topic: Improve raw water quality and management Session 46: Basin and drainage management Chair: Dr Lizzy Monyatsi - Technical Univ. of Tshwane</p>	<p>Workshop Session 47 Chair: Dr S Pillay - Water Research Commission</p>	<p>Workshop Session 48 Chair: Dr John Zvimba - Water Research Commission</p>	<p>Workshop Session 49 Chair: Prof Evans Chirwa - Univ Pretoria</p>	<p>Workshop Session 50 Chair: Karessa Pilly - WISA Innovation for Water & Sanitation Division</p>
<p>13:15-15:00 REVIVING ENERGY FOR THE DRDPS - A QUIZ ... CALL TO ACTION BY MUNICIPALITIES ... Dept. Water & Sanitation, National Development Initiative</p>	<p>13:15-13:35 Bioremediation of toxic hydrocarbons from contaminated trade effluent and soil Pritha Mondal, Rajesh Laloo, Wendy Masika, Dr Santosh Ramchurn CSIR</p>	<p>13:15-13:35 The link between PICP design and nutrient removal Boyi Liu, Prof Neil Armitage Univ. of Cape Town</p>	<p>13:15-13:35 Piloting of drone technology application in Rand Water's area of service Danny Kwa - Mogan Padayachee - Rand Water</p>	<p>13:15-13:35 New Faecal Sludge Management Facility at Borchards Quarry Wastewater-treatment Plant Akanyang Hottle, John Clayton, Dr Johan Kotze, Dr Werner Rössler, Kevin Samson - Project Assignments SA, City of Cape Town</p>	<p>13:15-13:35 Guidance for attaining regulatory approval of irrigation as a large scale, sustainable use of mine water Dr Gina Pocock, Leanne Coetzee - Waterlab</p>	<p>13:15-15:00 Sanitation Disruption: Creating a new Sanitation Paradigm based on Circular Economy Principles Dr Sudhir Pillay, A Akinsete, Charmaine Twala, Lungi Zuma, Dr Valerie Naidoo Water Research Commission, eThekweni Metro</p>	<p>13:15-15:00 Sustainable Wastewater Resource Recovery and Reuse Dr John Zvimba, David Ikum, Prof Eyob Tesfamariam, Dr Eustina Musvoto, Megan Schalkwyk, Lalitha, Moodley Water Research Commission, Umgweni Water, Truensee, eThekweni Metro, Univ. of Pretoria</p>	<p>13:15-15:00 Advances in Catchment Level Management, Water Quality Monitoring and Pollution Prevention with an Eye towards the Fourth Industrial Revolution and Big Data Management and Analysis Prof Evans Chirwa, Prof Fanus Venter, Dr Trudi Joubert, Dr Dean Brink, and Dr Shepherd Tichapondwa, Marco van Dyk University of Pretoria Water Institute (LPWI), Department of Chemical Engineering, Department of Electrical and Electronics Engineering, Department of Civil Engineering, and Department of Microbiology and Plant Pathology</p>	<p>13:15-15:00 Dragons Den to showcase innovative projects in water and sanitation Karessa Pilly, Manjusha Sunil, Vishnu Mabey, Mthokozisi Ncube, Simon WISA Innovation for Water & Sanitation Division, Water Research Commission, DBSA, eThekweni Metro Rand Water, Du Point Chemicals, Umgweni Water</p>
	<p>13:35-13:55 Assessment of land degradation in the Tsitsa catchment for prioritising rehabilitation Benjamin Mashigane, Sukhmani Mandel, Jane Tanner - Rhodes Univ.</p>	<p>13:35-13:55 Processing of Na₂SO₄ for the formation of Na₂CO₃ and sulphur Lehoanolo Mashigwane, Maunc Omyongo, Prof Janine Maree, Lizzy Monyatsi - ROC Water Technologies, Tshwane Univ. of Technology, Univ. of Limpopo</p>	<p>13:35-13:55 Looking in from space to detect leaks on drinking water pipelines using satellite technology Mogam Padayachee - Rand Water</p>	<p>13:35-13:55 Performance of the largest Hybrid Activated Sludge (HYBACS) plant in Southern Africa Nyika Kilaga, Karabo Nisa Mammon, Brad Groves, Douglas MacFarlan, Aa'Tsha Dolie, Ntseketsi Leratholi, Neggie Bakwunye, Ndivhudza Nengovhelo, Rina Tsvi - Fourth Element, NMA, Greenvision Consulting, Gauteng Dept. Agriculture & Rural Development, Resilience Consulting Engineers, Eco-Pulse, Aqualinks Research and Implementation</p>	<p>13:35-13:55 Sustainable Drainage in Gauteng: Possibilities and Barriers for Implementation Stuart Dunsmore, Marjolein de Groot, Jody Poterson, Nisa Mammon, Brad Groves, Douglas MacFarlan, Aa'Tsha Dolie, Ntseketsi Leratholi, Neggie Bakwunye, Ndivhudza Nengovhelo, Rina Tsvi - Fourth Element, NMA, Greenvision Consulting, Gauteng Dept. Agriculture & Rural Development, Resilience Consulting Engineers, Eco-Pulse, Aqualinks Research and Implementation</p>				
	<p>13:55-14:15 The removal of pollutants from laundry wastewater using NF/RO membranes Bradley Morris, Mujahid Aziz - Cape Peninsula Univ. of Technology</p>	<p>13:55-14:15 Fracturing properties of recirculated water as a diagnostic tool for water quality effects during flotation Dr Mablonqwe Momo - Univ. of Cape Town</p>	<p>13:55-14:15 Leak detection, pressure management and metering training rig for institutional training and efficiency improvements Thulile Mvelase, Noel Ntshweni - Ugu District Municipality, JOAT Consulting Pty Ltd</p>	<p>13:55-14:15 A refined understanding of contaminated surface water drainage from an informal settlement in South Africa Jessica Fells, Kevin Winter - Univ. of Cape Town</p>	<p>13:55-14:15 Energy savings and lessons learnt from the design and installation of new FBDA networks Sharon Jelliman, Mark Morris, Michael Toll, Kevin Sampson - City of Cape Town</p>				

14:15-14:35 The treatment of carwash wastewater for the removal of pollutants using chemical coagulation and adsorption <i>Fabian Roman, Mujahid Aziz - Cape Peninsula Univ. of Technology</i>	14:15-14:35 CASE & SOLUTION: MINTEK'S closure™ process for the treatment of acid mine drainage <i>Kerri du Preez - Mintek</i>	14:15-14:35 GIS-based risk mapping of illegal discharges into stormwater drainage systems in Cape Town <i>Alex Kuhludaj - Cape Peninsula Univ. of Technology</i>	14:15-14:35 Energy optimisation within the South African Municipal Wastewater sector: Building towards self-sustainability <i>Roda Litzhede - ERWAT</i>	14:15-14:35 Developing early warning system support for the Lower Oifants River Sub-basin using a 1D-hydrodynamic model <i>Justin Wiggott, Christian Jolk - Ruhr-Univ. Bochum</i>
14:35-15:00 Questions & Answers	14:35-15:00 Questions & Answers	14:35-15:00 Questions & Answers	14:35-15:00 Questions & Answers	14:35-15:00 Questions & Answers

15:00- 15:30 Tea break in the exhibition hall

15:00- 15:30 Poster session

Topic:	Topic:	Topic:	Topic:	Topic:	Workshop	Workshop	Workshop	Workshop
Session 51 Chair: Dewald van Staden - WISA Process Controller Division	Topic: Improve raw water quality and management Session 56: Raw water quality Chair: Ayesha Laher - AHL Water	Topic: Manage the resource for a capable ecology Session 53: Models and technology in agriculture and irrigation Chair: Bashan Govender - Dept Water & Sanitation	Topic: Develop skills and technology innovations and disruptors Session 54: Water and wastewater treatment Chair: Teboho Mafokeng - Rand Water	Topic: Manage and monitor effective water and sanitation services and infrastructure Session 55: Analytical science Chair: Dr Heidi Snyman - Golder Associates Africa	Session 57 Chair: Dr Nelson Odume - Rhodes Univ.	Session 58 Chair: Dr John Zvimba - Water Research Commission	Session 59 Chair: Jørgen Erik - Danish Royal Embassy	Session 60 Chair: Agnes Maenhout - World Water Academy
15:30-17:15 Water Services Process Controllers - Current and Future Outlook: 1. Occupational Certificate: status and the way forward <i>Dewald van Staden</i> 2. The Water Process Controller: A look into how Process Controllers can prepare themselves for the Water Services Works of the future <i>Fezeka Sotywambe</i> WISA Process Controller Division	15:30-15:50 Challenges to implementing an Environmental Flow Regime in the Luuvhu River Catchment, South Africa <i>Pfananani Ramulifho - Univ. Of Venda</i>	15:30-15:50 Integrated hydrological modelling for ground water drought in South Africa <i>Photsima Ramotsoabana, Jane Tanner, Sukhmani Mantel - Rhodes University</i>	15:30-15:50 Assessing the effectiveness of clarification for the removal of viruses during conventional drinking water treatment <i>Khomotso Setlhare, Veronika Marie, Dr Annelie Swanepeel, Rand Water</i>	15:30-15:50 Multitoxic-based phylogenetic analysis of ESBL E. coli O157 uncovers related strains between agriculture and waterbodies <i>Lesiba Bapatsa - Tshwane Univ. of Technology</i>	15:30-17:15 Tackling Key Vaal River Challenges <i>Dr Nelson Odume, Prof Tally Palmer, Dr Chika Nnadozie, Dr Neil Griffin, Ms Khayo Mgaba</i> Institute for Water Research, Rhodes Univ.	15:30-17:15 Sustainable Mine Closure <i>Dr John Zvimba</i> Water Research Commission	15:30-17:15 Water Utility Adoption of New Knowledge and Best Available Technology: Drivers, Incentives and Solutions? <i>Jørgen Erik, Larsen, Magan Paydashee, Hannahth Kason, Dan Naidoo, Peter Thompson, Wensy Tshawe, Shiram Misra, Petrus van heerden, Claus Hamann</i> Royal Danish Embassy, Rand Water, Umgeni Water, Mbombia Municipality, AA Water Works, Aarhus Water Utility	15:30-17:15 Generation 2 is coming: go with their flow to get #allhandsondeck <i>Agnes Maenhout</i> World Water Academy, Aquadactics
	15:50-16:10 Water quality of the Bloemfontein stream in the outskirts of Bloemfontein, Free State <i>Mabopela Letsoga - Central Univ. of Technology, Free State</i>	15:50-16:10 Growth Based Irrigation (GBI) Technology Improves water use efficiency in agriculture <i>Jannie Willems, AG Levin - Improchem, Nulandis, Supplant LTD</i>	15:50-16:10 Performance evaluation of forward osmosis (FO) process for tannery wastewater treatment <i>Dr Aron Sedraty - Tshwane Univ. of Technology</i>	15:50-16:10 Establishing phylogenetic association of Enteropathogenic bacteria of household stored water and diarrhoeal stool <i>Colette Khoba-Mtshaga, Prof Maggie Mamba - Tshwane Univ. of Technology</i>	16:30-16:50 Kinetic modelling of microbial Pb(II) removal <i>Carla Horstmann, Deon Brink, Evans Chirwa - Univ. of Pretoria</i>			
	16:30-16:50 Contamination of surface water by potentially harmful elements in Matjhabeng mining area, South Africa <i>Gladys Belle, Central University of Technology</i>	16:30-16:50 Water harvesting in Saudi Arabia for sustainable agricultural development <i>Jonathan Schroder, Timothy Hotchkiss O-AECOM</i>	16:30-16:50 Fabrication of a colorimetric paper-based microfluidic sensor for residual poly-dadmac detection in water treatment <i>Dr Phumani Mdulji - Richards Bay</i>	16:30-16:50 Selective extraction of abacavir from aqueous samples using a molecularly imprinted polymer <i>Lawrence Madikizela, Sharoff Qwane - Durban Univ. of Technology</i>	16:50-17:10 Assessing the potential accumulation of chromium(cr) and manganese(mn) in wastewater sludge in a WWTW <i>Lelentle Motung, Machawe Matsa, Talle Leswji, Thabo Ntambule - ERWAT, UNISA</i>			
	16:30-16:40 VIDEO (6min): The Sydney 905 Water Filter: A Global Environment and Community Betterment Initiative - Justin Sadler, Sydney 905 Water Filters. VIDEO (6min) Mzansi Amanzi - monitoring of surface waters - <i>Mark Thompson, Elsie Zwernis - Geoterraimage</i>	16:30-16:50 The role of mining as responsible stewards of water resources in the modern environment <i>Gerardo Pretorius - Sibanye-Stillwater</i>	16:30-16:50 Evaluation of Dextrin as a Coagulant in Removing Turbidity at Various pH Conditions <i>Crispen Mtsvanzwa - Cape Peninsula Univ. of Technology</i>	16:30-16:50 Lateral flow immunoassay for rapid identification of selected enteric bacterial from water <i>Mietia Sumayya, TG Barnard - Univ. of Johannesburg</i>	17:10-17:30 Adsorption properties of exfoliated graphite on Cr (VI) and phenol <i>Sicuelo Tshabasse, Shepherd Tichapondwa - Univ. of Pretoria</i>			
	16:40-17:15 Questions & Answers	16:50-17:15 Questions & Answers	16:50-17:15 Questions & Answers	16:50-17:15 Questions & Answers				

19:00- WISA GALA DINNER

WEDNESDAY 9 December 2020

08:30 - 09:15
Plenary Keynote by Sivuyile Pezulu: Young professionals in the water sector and entrepreneurship.
 A compelling talk with fresh perspectives on the development of young professionals and entrepreneurs in the South African water sector
Introduction by Suvritha Ramphal, National Lead: WISA Young Water Professionals South Africa.

09:15-10:00
PANEL: THE VALUE PROPOSITION OF YOUNG PROFESSIONALS IN SOUTH AFRICA
 Suwritha Ramphal (YWP-SA), Janavi Jardine (Green Matter), Lucky Litelu (ICRD), Dr Henry Roman (DSI)
 YWP-SA, Green Matter, ICRD, DSI

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

<p>Topic: Govern and regulate the sector Session 61: Transboundary water management <i>Chair: Dr Inga Jacobs-Mata - IJWMI</i></p>	<p>Topic: Reduce water demand and increase supply Session 62: Cost and investment <i>Chair: Mr Takalani Mamphitha</i></p>	<p>Topic: Manage and monitor effective water and sanitation services and infrastructure Session 63: Microbial Resistance, Gene Dynamics and Antibiotics in Water and Effluent <i>Chair: Prof TG Barnard - Univ of Johannesburg</i></p>	<p>Topic: Develop skills and technology innovations and disruptors Session 64: Mine water treatment <i>Chair: Prof Craig Shelidan - Univ. of Witwatersrand</i></p>	<p>Topic: Manage and monitor effective water and sanitation services and infrastructure Session 65: Process optimisation <i>Chair: Prof Jannie Maree - Technical Univ. of Tshwane</i></p>	<p>Topic: Improve raw water quality and management Session 66: Advanced analytical methods <i>Chair: Dr Collette Khabo-Mmekoa - Technical Univ. of Tshwane</i></p>	<p>Workshop - Session 67 <i>Chair: Dr Marlene vd Merwe-Botha - WaterGroup</i></p>	<p>Workshop - Industrial effluent Session 68 <i>Chair: Dr Christina Trois - Univ. KZN</i></p>	<p>Workshop - Risk management Session 69 <i>Chair: Priya Moodley - Golder Associates Africa</i></p>	<p>Workshop - YWP forum Session 70 <i>Chair: Dr Lloyd Fisher-Jeffes - YWP</i></p>											
<p>10:30-10:50 Trends in transboundary water management <i>Dr Jonathan Louze - International Water Management Institute</i></p>	<p>10:30-10:50 NRW Quantification of antibiotics and antibiotic resistance genes within WWTP effluent <i>Peter Coetzee, Prof Carlos Bezuidenhout - North West Univ</i></p>	<p>10:30-10:50 Ammonia and nitrate from mine-impacted water using a bench-scale moving bed bioreactor <i>Jivesh Naidu, Sebastian Franzen, Ricky Bonner, Charne Germishuizen, Kevin Harding, Karl Rumbold - Miwatec, Univ. of Witwatersrand</i></p>	<p>10:30-10:50 CASE & SOLUTION: Impacts of process selection and process train in design of water treatment plants in RSA <i>Sandile Ngcobo, Dr Hendrik Brink - Magalies Water</i></p>	<p>10:30-10:50 Improved optical property of conjugated-polymer modified TiO₂ for photocatalytic-degradation of acetaminophen in water under visible-light <i>Olayinka Awofranje - Vaal Univ. of Technology</i></p>	<p>10:30-12:15 NATSURVS: National Surveys of Water and Effluent Management in the Pelagic Fishing, Fruit and Vegetable Processing and Power Generating Industries <i>Dr Gina Peacock, Dr Marlene van der Merwe-Botha, Chris Swartz, Peter Wille, Bertie Steytler</i> <i>Water Research Commission, WaterGroup, Waterlab, Chris Swartz Water Utilization Engineers, Prodramos Technologies UK Ltd</i></p>	<p>10:30-12:30 Considerations of water related aspects in mine closure <i>Richard Garner, Gerardo Pretorius, Prof Solomon - WISA Mine Water Division, Univ. of Cape Town, Dept. of Water & Sanitation, Sibanye, Anglo American, The MSA Group</i></p>	<p>10:30-12:30 A Risk based Philosophy and Approach to Water Quality Guidelines <i>Priya Moodley, Lee Boyd, Dr J Meyer</i> <i>Golder Associates Africa</i></p>	<p>10:30-12:30 SA Young Water Professionals Forum 2020 - Session 1 <i>Dr Lloyd Fisher-Jeffes, Suvritha Ramphal and YWP Rapporteurs</i> <i>Young Water Professionals National Committee and Empowerment Platform</i></p>												
<p>10:50-11:10 WEF Nexus in the Zambezi Watercourse: A Proposed Governance Implementation Framework <i>Mr Ashwin Seetal - CSIR</i></p>	<p>10:50-11:10 The business case of water resilience investing in water resilience <i>Bridget Fundikwa - Greencape</i></p>	<p>10:50-11:10 Systematic review in South Africa reveals antibiotic resistance genes shared between clinical and environmental settings <i>Prof Maggie Momba, Mutsheni Ekwanzala, Prof John Barr, Dr Ilunga Kamika, Univ. of South Africa and Tshwane Univ. of Technology</i></p>	<p>10:50-11:10 A mineralogical investigation of brine and ash encapsulation <i>Shameer Hareersad, Corne Pretorius, Kirk Ellison - Golder (RSA, Canada, USA) -</i></p>	<p>10:50-11:10 The use of process capability indices to measure water treatment process performance <i>Shakera Arendze, Zandile Nonyang, Simon Muzi Sibisi - Rand Water</i></p>	<p>11:10-11:30 Effects of Nonylphenol and Dibutyl phthalate on isolation and growth response of bacterial and protozoan <i>Vision Netsianda - Tshwane Univ. of Technology</i></p>	<p>11:10-11:30 On-line monitoring as a process monitoring tool and early warning sensor for microbial water quality <i>Monique Grundlingh, Heindrick du Preez - Rand Water</i></p>	<p>11:10-11:30 Processing of gypsum sludge for the recovery of CaCO₃ and sulphur via Ca(HS)₂ formation <i>Dr Nsaka Mtumba, Janne Maree, Mahigwana Lehlogonolo, Munyaradzi Mujuru, Lizy Manyatsi - Roc Water Technologies, Tshwane University of Technology, University of Limpopo</i></p>	<p>11:10-11:30 Prevalence of carbapenemase-encoding genes in E. coli in wastewater treatment plants <i>Winile Dlodla, Prof Isaac Dennis, Dr Sheena Kumari, Prof Thor Stenström - Durban Univ. of Technology</i></p>	<p>11:10-11:30 Re-defining water policies in Kenya to achieve optimal delivery of water and sewerage services <i>Hamred Chungani - Nairobi City Water & Sewerage Company Limited</i></p>	<p>11:10-11:30 Prevalence of antibiotic resistant genes in E. coli in wastewater treatment plants <i>Winile Dlodla, Prof Isaac Amoaah, Dr Sheena Kuttan Pillai, Prof Faizal Buz. Prof Poovendree Reddy - Durban Univ. of Technology</i></p>	<p>11:10-11:30 Molecular detection of antibiotic resistant genes in Mycobacterium tuberculosis from wastewater <i>Hlangwe Mtetwa, Dr Isaac Amoaah, Dr Sheena Kuttan Pillai, Prof Faizal Buz. Prof Poovendree Reddy - Durban Univ. of Technology</i></p>	<p>11:30-11:50 VIDEO (5min): Assessment of physicochemical and microbial quality of groundwater of some primary schools in Vhembe District - Ntwanano. <i>Mutlengi, David Khaleh, Kevin Rose, Joshua Edokpayi - 3Rensselaer Polytechnic Institut, Duquesne University of the Holy Spirit, University of Venda</i> VIDEO (5 min): Wet skills movie <i>Jahan Oost - Wetskills Foundation</i></p>	<p>11:30-11:50 Optimization of the membrane fouling of the ultrafiltration system using the factorial design of experiments <i>Simon Muzi Sibisi, Lingum Pillay - Rand Water, Stellenbosch University</i></p>	<p>11:30-11:50 Facilitated discussion: IUCMA operationalisation of the DWS masterplan in a transboundary context <i>Jonathan Louze, Dr Inga Jacobs-Mata - International Water Management Institute</i></p>	<p>11:30-11:50 The true cost of water - An industrial perspective on water sustainability versus profitability <i>Kirshen Naidoo - Royal Haskoning DHV</i></p>	<p>11:30-11:50 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>	<p>11:50-12:15 Questions & Answers</p>

12:15- 13:15 Lunch Break in the exhibition hall

<p>Topic: Develop skills and technology innovation Session 74: Effluent treatment & disinfection <i>Chair: Dr Gina Pocock - Waterlab</i></p>	<p>Topic: Reduce water demand and increase supply Session 72: Assessment and optimisation of water use <i>Chair: Mr Monako Dibetle</i></p>	<p>Topic: Manage and monitor effective water and sanitation services and infrastructure Session 73: Microbial Resistance, Gene Dynamics and Antibiotics in Water and Effluent <i>Chair: Dr Hamanth-Kasan - Rand Water</i></p>	<p>Topic: Develop skills and technology innovation Session 74: Treatment and energy technology <i>Chair: Fortune Mabunda - ERWAT</i></p>	<p>Topic: Manage and monitor effective water and sanitation services and infrastructure Session 75: Data and statistics in water quality control <i>Chair: Jaynat Bhagwan - Water Research Commission</i></p>	<p>Workshop - Public education for water re-use Session 76: <i>Chair: Dr Sarah Slabbert (BHI32) and Dr Nonhlanhla Kalebaila (WRIC)</i></p>	<p>Workshop - MBR design and reuse Session 77 <i>Chair: Taf Mukwena - Bigen Africa</i></p>	<p>Workshop - Water loss management in the mining industry Session 78 <i>Chair: Nivi Juggath - Golder Associates Africa</i></p>	<p>Workshop - Gaming technology Session 79 <i>Chair: Jason Hallows - EkoSource</i></p>	<p>Workshop - YWP forum Session 80 (Continue...) <i>Chair: Dr Lloyd Fisher-Jeffes</i></p>
<p>13:15-13:35 How a water study could potentially save your plant money <i>Melani Loram, Ferdi Hartzenberg, Thabiso Mvuyana - Improchem</i></p>	<p>13:15-13:35 Calibrating the Australian Water Balance Model - A case study <i>Gideon Bonthuis, Priyal Dama-Fakir - Golder Associates Africa</i></p>	<p>13:15-13:35 Genomic and transcriptomic analysis of antibiotic resistance genes in biological wastewater treatment in Durban, South Africa <i>Thobela Canca, Dr Sheena Kumari, Dr Mahmoud Nasr, Dr Arshad Ismail, Prof Thor Stenström, Prof Faizal Buz - Durban Univ. of Technology</i></p>	<p>13:15-13:35 Evaluation of Compact Low Energy Submersible Mixers for Sludge Applications. <i>Thandeka Maphumulo, Kerisha Navager, Naheen Toolee, Laksh Maharaj - Umgeni Water</i></p>	<p>13:15-13:35 Maximizing use of water quality data using R and R markdown: a wastewater case study <i>Leanne Coetzee - Waterlab</i></p>	<p>13:15-15:00 A public education programme for water re-use: let's get all hands on deck <i>Dr Nonhlanhla Kalebaila, William Moroka, Grant Pearson, Nadja Green - Water Research Commission, BHI32, SALGA, Water Wise (Rand Water)</i></p>	<p>13:15-15:00 Technology overview and key aspects in MBR design, implementation and reuse in RSA <i>Dr Gideon de Villiers, Roy Arviv, Rob Holmes, Marco Slabbert, Zandile Motutu, Dr Mias van der Walt, Gerin James</i> <i>Bigen Africa, Suez, Tecroveer, Evoqua/Memcor, WSSA, City of Cape Town,</i></p>	<p>13:30-15:00 Best practices of Water Conservation / Water Demand Management in the SA mining industry <i>Nivi Juggath, Youlita Vemblanathan, Helga van Lochem, Jayson Jacobs - Golder Associates Africa, Tomra AS, Enprotech, Dept. Water & Sanitation.</i></p>	<p>13:30-15:30 Using Serious Gaming Technology to explore the Water, Energy, Food and Environmental Nexus <i>Jason Hallows, Bruce Eady</i> <i>EkoSource</i> <i>Prize Giving: AquaRepublican</i></p>	<p>13:30-15h30 SA Young Water Professionals Forum 2020 - Session 2 <i>Dr Lloyd Fisher-Jeffes, Suvritha Ramphal and YWP Rapporteurs</i> <i>Young Water Professionals National Committee and Empowerment Platform</i></p>
<p>13:35-13:55 Use of ozone for cooling towers <i>Brendan van Wyk - Xylem Water Solutions SA</i></p>	<p>13:35-13:55 Water Conservation/Water Demand Management self-assessment reporting tool for the mining sector <i>Givarn Singh, William Pulles - Golder Associates Africa</i></p>	<p>13:35-13:55 Investigating Sludge Compaction on a Pilot Sludge Hopper System <i>Nkanyiso Shabalala - Umgeni Water</i></p>	<p>13:35-13:55 Energy utilization in Freeze desalination <i>Phalokwane Ramothole, Johannes Maree, Maurice Onyango, Amos Adeniyi - Tshwane Univ. of Technology, University of Limpopo, ROC Water Technologies</i></p>	<p>13:35-13:55 Descriptive statistics in water quality reporting <i>John Mootshie, Zandile Nonyana, Mighty Mahotsi - Rand Water</i></p>	<p>13:55-14:15 Forward Osmosis to concentrate brine streams <i>Tabani Mtombeni, Jannie Maree, Maurice Onyango, Amos Adeniyi - Tshwane Univ. of Technology, University of Limpopo, ROC Water Technologies</i></p>	<p>13:55-14:15 Rethinking desalination: The value proposition of water as an infinitely scaleable, renewable economic commodity <i>David Bosman - TCTA</i></p>	<p>13:55-14:15 Assessing the presence of antibiotic-resistant Enterobacteriaceae in Edendale Hospital and Darvill Wastewater Treatment Plant <i>Siyabonga Thwala, Prof Stefan Schmidt - Umgeni Water and Univ of KZN</i></p>	<p>14:15-14:35 CASE & SOLUTION: GenoTrack, a webtool to geospatially link bacterial genomes from water, food and clinical environments <i>Mutsheni Deogratias, Ekwanzala - Tshwane Univ. of Technology</i></p>	<p>14:15-14:35 Development of quality control system for polymeric coagulants used for potable water treatment <i>Nothando Munqwe, Dr Sigudu Makhasazane, Dr Esper Ncube - Rand Water</i></p>
<p>14:15-14:35 Video (5 min) - Introducing the disruptor filter technology: The science and its application in the South African context <i>Grant Naser, Etienne van der Merwe - Jojo Tanks</i></p>	<p>14:15-14:35 Maximising the yield from a local water source through short-term yield prediction using AI <i>Christo Potajeter, Pieter Cilliers, Koki Mokhaobane, Mlondolozu Ndlovu - Bigen</i></p>	<p>14:15-14:35 CASE & SOLUTION: GenoTrack, a webtool to geospatially link bacterial genomes from water, food and clinical environments <i>Mutsheni Deogratias, Ekwanzala - Tshwane Univ. of Technology</i></p>	<p>14:15-14:35 Development of quality control system for polymeric coagulants used for potable water treatment <i>Nothando Munqwe, Dr Sigudu Makhasazane, Dr Esper Ncube - Rand Water</i></p>	<p>14:35-15:00 Questions & Answers</p>	<p>14:35-15:00 Questions & Answers</p>	<p>14:35-15:00 Questions & Answers</p>	<p>14:35-15:00 Questions & Answers</p>	<p>14:35-15:00 Questions & Answers</p>	<p>14:35-15:00 Questions & Answers</p>

15:00-15:30 Break

WISA 2020 Closing Address
15:30-16:30
Reflection on WISA2020 by
Suvritha Ramphal, Dr Lloyd
Fisher Jeffes and YWP
Rapporteurs - WISA
Young Water Professionals
16:30-17:00
Prize Ceremony by Dr Sarah
Slabbert and Dr Lester
Goldman

17:00-18:00 Farewell Cocktails in the exhibition hall

THURSDAY 10 December 2020

10-Dec 08:00 - 16:00 Technical Tours