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## Water Desalination, RO/Membrane & Wastewater Reuse Hybrid Conference 2023

"The future of clean water"

Date: 25<sup>th</sup> – 27<sup>th</sup> October, 2023

Venue: Premier Hotel, Sea Point, Cape Town South Africa

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August

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# Water Desalination, RO/Membrane & Wastewater Reuse Conference 2023

## Meet The SPEAKERS



**Prof. Leslie Petrik** – Professor of Chemistry at University of the Western Cape. Prof. Petrik is a leading & well-established expert in the field of material science, nanotechnology, chemistry, environmental remediation, water treatment & beneficiation of industrial wastes.



**Dr. Randy Ncube** – Desalination, Water purification, Process Optimization & Renewable Energy enthusiast; Mechanical Engineering (Ph.D Candidate - UJ); Mechanical Engineer (MSc. - UKZN); Industrial and Manufacturing Engineer (Hon. - NUST)



**Dr. Aphiwe Jikazana**  
Process Engineer | Water & Wastewater | Desalination | ZLD | Membrane Distillation Crystallisation.



**Prof Hamanth Kasan**  
Innovative Water and Sanitation Solutions , Thought Leader, Independent Consultant/Coach and Advisor locally, Continentally and Globally.



**Herman Smit** - Owner, Quality Filtration Systems.

Experienced Managing Director with a demonstrated history of working in the mechanical water treatment industry. Strong business development, professional skilled in Process Optimization and Membrane based water treatment .



**Strover Maganedisa**

Director at National Treasury of South Africa. Strover has 18 years of working experience of which 12 was working with Government and Municipalities, which included coaching and training of Senior and Junior managers



**Maronel Steyn** – Snr Researcher at Council for Scientific and Industrial Research (CSIR). Maronel is a senior researcher at the CSIR with extensive experience in water-related research and development. She is a member of the management committee of the International Water Association's specialist groups for health-related water microbiology, and metals and related substances in drinking water.



**Sean Jordan-Kirwan** South Africa Country Director & Director for Healthcare and Agri- business (Pan-Africa) at the Department of International Trade



**Julius Steyn**

Investor and Finance Specialist in Water Sector | CEO at H2O Securities



**Dr. Jeremiah Mutamba**

Senior Manager for Strategic Programs at TCTA



**Lloyd Govender**

Civil Engineering Project Engineer, BORDA (Bremen Overseas Research and Development Association) South Africa.



**Bruce Hendry** Consultant focused in Water Desalination, Waste-water Treatment



**Dr. Patrick Hlabela** CSIR senior researcher and competence area manager for hydraulic infrastructure engineering.



**Mr. T. F. N Madzimbamuto**

Chemical Engineer, Lecturer / Researcher at the Cape Peninsula University of Technology. Specialist Areas: Process Design, Separation Processes.

### A Circular Economy

The way the world currently uses resources is best characterized as a cradle-to-the-grave approach: take resources from the Earth, use them, and throw them away. A circular economy approach, however, rethinks this pattern. It adds three principles: eliminate waste and pollution, circulate products and materials, and regenerate nature.

The need for such a re-think is nowhere more evident than in how we use water. Most people do not realize it, but freshwater availability is dramatically changing around the world. Fresh water management is becoming a crucial challenge throughout the world. The impact of climate change is now being felt exponentially. Shortages, droughts—with increasing severe weather patterns, it is expected this problem will become even more significant. But it is not all doom and gloom, our response to it can move at that rate as well. Technology has turned the tables around in all industries including in the water sector too. Question is, can water change exponentially?

If our planet is going to survive the 21<sup>st</sup> century, there are some things that will need to change exponentially rather than linearly, including water reuse, the cost of effective sanitation, urban water resilience, utility productivity, and water infrastructure investment.

Water is the one resource that touches everything in our lives, no matter where we are on the planet — and it is high time that we start to appreciate this valuable resource. It's critically important to have clean water availability, especially in low-resource areas.

### Application of Artificial Intelligence on the Water Infrastructure

“It seems that in today's market, there are buzzwords in process automation like Industry 4.0, AI and Machine learning – but without industry knowledge, these new technologies and concepts cannot add value unless the correct application can be identified. This session will look at the issues around water treatment and desalination, and where Artificial Intelligence can bring meaningful improvements to an aged industry.”

### Potential for micro-hydro generation in South Africa

Hydropower is an underutilized resource in Africa, which accounts for about 10% of the global hydropower potential. People are always expecting the power to go out in South Africa due to rolling blackouts. Every time it happens, the possibilities of alternative power generation are discussed, usually with a focus on wind and solar power. Question is: What about water?

This session will look at the potential role of micro hydropower from water treatment plants, in establishing access to electricity and eradicating energy poverty.

### Sponsorship & Exhibition

Zambezi Pride has been hosting events developed for senior executives for more than 6 years. Our client list includes corporations such as EWSETA, The City of Cape Town, eThekweni Municipality, Umgeni, Sasol, Eskom, Rossing Uranium Ltd of Namibia, Hach, Aqua Resources, Project Assignments, DuPont, PCM Consult, WaterIcon, PUC from Seychelles, MEB Energy, Twesco from Tanzania, WUC from Botswana, Purolite, Buckman, DraGlobal, Universities, Rand Water, to name a select few. Senior executives travel from around the world to our events looking to garner best practices and concrete solutions to assist them in improving their organisations. The conference provides many different platforms for you to increase your market share, stay ahead of your competition, increase awareness to your target audience and position yourself as a key supplier to the South African and African wastewater industry.

### OVERVIEW

It seems that in today's market, there are buzzwords in process automation like Industry 4.0, AI and Machine learning – but without industry knowledge, these new technologies and concepts cannot add value unless the correct application can be identified. This conference will look at the issues around water treatment and desalination, and where Artificial Intelligence can bring meaningful improvements to an aged industry.

The sixth annual Water Desalination, RO/Membrane and Wastewater Reuse Conference aims to bring together leading academic scientists, researchers, engineers from membrane desalination, wastewater treatment associated industries as well as representatives of government organizations to exchange and share their experiences and research results on all aspects of Desalination and Water Treatment. It also provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Desalination, Water Sources and Water Treatment.

The aim of this Conference is to provide an overview of both the theoretical and practical aspects of desalination, membrane technology, advanced oxidation processes, natural treatment systems, and wastewater reuse. This Conference will highlight innovative ways of tackling water shortages and government initiatives across the continent. Major players from government, industry, academia and commerce will meet to discuss the way forward, to find out if Public Private Partnerships are the solution to the water crisis in Africa. We will also echo the digital age terminology: Speed and agility, "big data", cyber security, transparency and optimization, all global vectors of change that should be leading the modern water industry mindset. The conference scope will include theoretical and applied research, technological and industrial development.

This conference is also open to the representatives of government organizations, international agencies and aid organizations to inform governments and stakeholders on key progress, research findings and newest development for strategic and policy reference.

### Conference Sponsor and Exhibitor Opportunities

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- **The broad areas proposed to be covered include but not limited to:**
- Advanced desalination techniques
- Desalination using renewable energy
- Energy & sustainability
- Energy efficiency in water production & treatment
- Desalination for sustainable development
- Small scale desalination systems
- Brine disposal management
- Water treatment by advanced methods.
- Economics for desalination & water treatment.
- Financing desalination projects.
- Environmental impacts considerations.
- Novel membranes & fabrication methods.
- Membranes for water & wastewater treatment.
- Membrane fouling & control.
- Membrane processes & energy.
- Solar, wind, wave, osmotic power
- Desalination and water in industries: Oil and gas/Mining/Food and beverage
- Overview on Wastewater Reuse in South Africa: Present and Future.
- Cutting-edge technology and systems for water treatment and reuse
- PPP'S
- Circular economy approach in the water and wastewater sector
- Alternative Water Sources in the Future.
- Storm water/Wastewater Reuse
- Use of biochar for Wastewater
- EDC in Wastewater
- Low-cost water purification for remote and disaster areas
- Case Study on PPP's
- Hydropower
- Inter basin transfer scheme used as mitigation during drought.
- Water security and resilience.
- Innovative startups
- Case Studies: Exploring best practices in wastewater reuse and management – The South African experience

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### Dear Delegate,

Water covers 70% of our planet, and it is easy to think that it will always be plentiful. However, the freshwater we drink, bathe in, irrigate our farm fields with—is incredibly rare. Only 3% of the world's water is fresh water, and two-thirds of that is tucked away in frozen glaciers or otherwise unavailable for our use. Faced with this crisis, several countries are increasingly turning to non-conventional water resources, notably the reuse of treated wastewater and the desalination of sea water in coastal countries. The market for water desalination is growing. The sixth Water Desalination, RO/Membrane and Wastewater Reuse conference is a continuation of Zambezi Pride conferences held in Cape Town and Durban in South Africa.

The changing climate and increasing urbanization require increasing freshwater supply and the sustainable water usage for industries and agriculture is of top priority. One of the most viable solutions is to tap from seawater and wastewater. Membrane technologies have been established as the golden standard for desalination to address the global deficit for clean water. However, it is still expensive, which is one of the main obstacles for prevalent adoption of membranes.

Innovation is key to reduce the energy consumption and total cost. This can be advanced by developing high performance reverse osmosis and nanofiltration membranes, robust module and process design, as well as other novel desalination technologies. We have seen promise in breaking the perm selectivity trade-off using state of the art nanomaterials.

The sixth Water Desalination, RO/Membrane and Wastewater Reuse conference is the dedicated forum to disseminate the cutting edge research and development in this regard. The conference will overview the most recent developments in desalination and wastewater reuse technology, the cost and extent of application, including socio-economic and environmental issues.

We are excited to host this important water event again in one of Africa's most beautiful cities - the City of Cape. It will be a key platform for scientists and professionals in the membrane section of water research/industry to share the latest findings, exchange thoughts, and enlighten more ideas to advance membrane technologies for water purification, wastewater reuse, and desalination.

This is an incredible business platform for developing effective strategies, sharing experiences, presenting new investment projects and innovations, consolidating efforts of governments and business to implement desalination projects and to increase water supplies all over South Africa and Africa.

### Who Should Attend?

CEO's  
Project & Investment Managers  
Heads of Development & Sustainability  
Finance Directors Corporate Affairs Directors  
Product Innovation & Development Managers  
Operations Directors CSR/CSI Executives Asset Managers  
Investment Houses  
Finance Houses Banks  
Municipality Water Heads Department of Water Affairs Water Boards  
Food Manufacturers  
Research Institutes  
Membrane Technology Companies Water Organizations/ Institutes/ NGO's  
Innovation Hubs Hydrologist  
Consulting Engineers Chemical Engineers /Process Engineers / Civil Engineers  
Water Resource Engineers  
Hydropower plant operator  
Water Scientists/Technologists/Technicians  
Water Management Advisors  
Water & Wastewater Operators/Plant Managers/Superintendents  
Planning Managers/Engineers  
Project Managers  
Project Engineers  
Wastewater Utility Managers  
Academia  
Media(Print & Digital) and,  
All those who are involved in water quality management and control, or the operation of water and wastewater treatment plants.

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**DayOne: Wednesday 25 Oct 2023**

**08:30 Registration and Early Morning Refreshments**

**08:50 Opening Remarks and Welcome Address by the Chairperson:** Ms. Janet Du Preez – Master Events Facilitator at Zambezi Pride

**09:00 - 10:00 –**

**Topic: “Desalination – Past, Present and Future”**

**10:00 – 10:15 Tea Break**

**10:15 – 11:00 -**

**Topic: “Cost effective desalination for coastal cities”.**

**11:00 – 12:00 –**

**Topic: “The future of clean water - Turning Vision into Reality “**

**12:00 – 13:00 –**

**Topic: “Desalination technology on the verge of a step change”**

**13:00 – 14:00 Lunch Break**

**14:00 – 15:00 –**

**Topic: “Solving water scarcity through block chain technology”**

**15:00 – 15:15 Afternoon Tea Break**

**15:15 – 16:00 -**

**Topic: “Sustainable treatment and utilization of water resources in arid regions”**

**16:00 – 16:30 –**

**Topic: “Application of Artificial Intelligence on the water infrastructure”.**

**16:30 Close of DayOne**

**Day Two: Thursday 26 Oct 2023**

**08:30 Registration and Early Morning Refreshments**

**09:00 – 10:00 –**

**Topic: “Managing your water resources effectively to ensure long term water security and maximize social, economic and environmental benefits”**

**09:10 – 10:00 –**

**Topic: Utilizing waste to energy technology to develop energy neutral WWTPs**

10:15 – 11:00 –

**Topic: "Navigating towards an innovative and sustainable water industry".**

11:00 – 12:00 –

**Topic: "Decentralized Wastewater treatment systems for small communities"**

12:00 – 13:00 –

**Topic: "Drivers & Strategies of Wastewater Reclamation for Portable Reuse".**

13:00 – 14:00 Lunch Break

14:00 – 15:00 –

**Topic: "Highlighting best practices for design and construction of wastewater treatment facilities to improve plant delivery"**

15:00 – 15:10 Afternoon Tea Break

15:10 – 16:00 –

**Topic: "Exploring New Opportunities for resource Recovery and Reuse in Wastewater Management".**

16:00 – 16:30

16:30 Close of Day Two

**Day Three: Friday 27 Oct 2023**

**08:00 Registration and Early Morning Refreshments**

09:00 – 10:00 –

**Topic: "Planned Wastewater Reuse in South Africa: Impediments and Future Prospects."**

10:15 – 11:00 –

**Topic: "Decentralized Wastewater Treatment Systems (DEWATS)".**

11:00 – 12:00 –

**Topic: "South Africa must rethink how to use and reuse of wastewater"**

**Speaking slots available**

12:00 – 13:00 **Networking Lunch**

13:00 – 13:30 **Closing Remarks from the Chairperson**

### **Agenda**

08:30 – 08:50 Registration and morning refreshments

10:00 – 10:15 Tea Break

13:00 – 14:00 Lunch Break

15:15:10 Afternoon Tea Break

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# Water Desalination, RO/Membrane & Wastewater Reuse Conference 2023

By completing this form, Web submission or Booking via email, you are acknowledging that you have read the terms and conditions and that you have committed to attend this event. Please send this registration form or names only once you have obtained approval - as your company will be liable for costs once this information has been received by us. If the minimum number of delegates required is not met, the delegates will be moved to attend the next available confirmed class.

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## Delegate Details

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Position: \_\_\_\_\_

Cell Number : \_\_\_\_\_

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2. Full Names : \_\_\_\_\_

Position: \_\_\_\_\_

3. Cell Number : \_\_\_\_\_

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4. Full Names : \_\_\_\_\_

Position: \_\_\_\_\_

5. Cell Number : \_\_\_\_\_

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6. Full Names : \_\_\_\_\_

Position: \_\_\_\_\_

Cell Number : \_\_\_\_\_

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7. Full Names : \_\_\_\_\_

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**R9,990** – 3Day at Premier Hotel Cape Town Sea Point 25 – 27 Oct, 2023

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**R5,990** Student Price: 3-Day Conference Face to Face

**R6,990** - Virtual Price: 3-Day

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**Account No: 62734429740**

**Branch Code: 254005**

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Position: \_\_\_\_\_

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**I here by acknowledge that I have read and understood all the terms and conditions of registration and have the authority to approve the registration on behalf of the company**

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**ZAMBEZI PRIDE PTY LTD.** The signed registration form is a legally binding contract. Please take note that a booking submission made via email or web submission or Telephonically is considered legally binding and as such, the registered delegates must inform the organizer if they will not be able to attend, failure to which the case will be handed over and penalties apply .

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Non-payment or non-attendance does not constitute cancellation. No show will be charged the full registration fee. Cash alternatives will not be offered, however, substitutes at no extra charge are welcome.

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