

8 OCTOBER 2024

Auditorium 1			Meeting Room 1.6			Meeting Room 1.4			Meeting Room 2.4		
Time	Begin	End	Time	Begin	End	Time	Begin	End	Time	Begin	End
07:30	08:30	Tea (Foyer Auditorium 1)	07:30	08:30	Tea (Foyer Auditorium 1)	07:30	08:30	Tea (Foyer Auditorium 1)	07:30	08:30	Tea (Foyer Auditorium 1)
					<b>Session 2: Process Engineering and Fundamentals</b>			<b>Session 3: Environmental Engineering</b>			<b>Session 4: Materials &amp; Corrosion</b>
08:30	09:10		08:30	09:10	Keynote 2.1 Nitric Acid Plant improvement – Getting back to basics (Elizca Lategan)	08:30	09:10	Keynote 3.1 Broadening the waste horizon: Demonstration of industrial organic waste conversion to ethanol (Eugene van Rensburg, Johann Gorgens)	08:30	09:10	Keynote 4.1 Electric Double Layer (EDL) Repulsive force Being Responsible for the Time-dependent Behavior of Clay Gels in the Structural Rejuvenation Mode: Direct Evidence and Unusual Salt Effects (Yee-Kwong Leong)
09:10	09:30		09:10	09:30	Talk 2.2 Fractionation of 1-alcohol and n-alkane systems via supercritical CO2 (Aida Brown, Cara Schwarz, Neo Motang)	09:10	09:30	Talk 3.2 Effect of Gypsum Addition on Syngas Production During CO2-Assisted Gasification of Pinewood (Athi-ekosi Mavukwana, Kiran Burra, Ashwani K. Gupta)	09:10	09:30	Talk 4.2 Application of Eutectic Salts and Ionic Liquids as sustainable corrosion inhibitors on mild steel surface in acidic medium: Experimental and DFT studies. (Hamed Hashemi, Mogomotsi Leshella, Josias van der Merwe)
09:30	09:50		09:30	09:50	Talk 2.3 Fundamental behaviour and micronisation of Fischer-Tropsch waxes via supercritical CO2 PGSS processing (Andri Swanepoel, O. Hillary Jayeola, Phillip W. Labuschagne, Cara E. Schwarz)	09:30	09:50	Talk 3.3 Valorisation of challenging-to-recycle wastepaper streams through ethanol fermentation and anaerobic digestion (Juliana Naudé, Daneal Rorke, Johann Gorgens, Eugene van Rensburg)	09:30	09:50	Talk 4.3 Synthesis of <60 nm CaCO3 Crystals from Gypsum (Patrick Casserly, David van Vuuren)
09:50	10:10		09:50	10:10	Talk 2.4 Invited Talk TBA	09:50	10:10	Talk 3.4 Steel slag for precipitated calcium carbonate synthesis for carbon capture (Nyasha Chinobva, Paramespri Naidoo, Kuvanesan Moodley)	09:50	10:10	Talk 4.4 REE betadiketonate complexes as corrosion inhibitors for mild steel and Type 304 stainless steel in corrosive media. (Herman Potgieter, David Whitefield, Michael Bodunrin, Johnson Lawal, Thobile Dladla)
10:10	10:15		10:10	10:15		10:10	10:15		10:10	10:15	
10:15	10:45	Tea (Foyer Auditorium 1)	10:15	10:45	Tea (Foyer Auditorium 1)	10:15	10:45	Tea (Foyer Auditorium 1)	10:15	10:45	Tea (Foyer Auditorium 1)
		<b>Session 5: Water</b>			<b>Session 6: Chemical &amp; Biochemical Production</b>			<b>Session 7: Environmental Engineering</b>			<b>Session 8: Green Mining</b>
10:45	11:10	Keynote 5.1 NEWGenerator Off-Grid Non-Sewerage Sanitation: System Performance, Black-Water Recovery, and Lessons Learned from Implementation at a Rural School and Informal Settlement (Timothy Fisher, Gunter Rencken, Aphwe Mapetere, Daniel Yeh, Robert Bair)	10:45	11:10	Keynote 6.1 Bioprocess development and scale-up for cis, cis-muonic acid production from glucose and xylose by Pseudomonasputida (Sekgethe (Charles) Mokwato)	10:45	11:10	Keynote 7.1 Hydrometallurgical recovery of cobalt, nickel, lithium and manganese from spent lithium ion batteries (Jenny Falconer, Lesego Swela, Ed Hardwick, Wesley Rolfe)	10:45	11:10	Keynote 8.1 Rare earth elements and uranium in Minjingu phosphate fertilizer products: Plant food for thought (Nils Haneklaus)
11:10	11:30	Talk 5.2 The Treatment of Poultry Processing Effluent to Potable Water Standard for In-Factory Reuse to Ensure Production Security and Minimise Water Footprint (Pierrie van Zyl, Elspeth Grahn)	11:10	11:30	Talk 6.2 Magnetic field control of heterogeneous catalysis: application to low temperature Fischer-Tropsch synthesis (Durante Naidoo, David Lokhat)	11:10	11:30	Talk 7.2 Modelling of Struvite Recovery from Anaerobically Digested Waste Activated Sludge using Response Surface Methodology. (Charmaine Kgomotso Funani, John Kabuba, Peter Osifo, Benton Onyango)	11:10	11:30	Talk 8.2 The use of amino acids in the green processing of gold (Anthony Tapfuma, Margreth Tadie, Guven Akdogan, Robert Luckay)
11:30	11:50	Talk 5.3 Remediation of Cationic and Anionic Dyes from Aqueous Systems Using Yellow Mozambican Bentonite Clay (Shepherd Tichapondwa, Carol Lupo, Nathan Ndalamba)	11:30	11:50	Talk 6.3 A techno-economic analysis of the steel production process for the production of methanol using top blast furnace gas (Nduvho Makavhule, Paramespri Naidoo)	11:30	11:50	Talk 7.3 Using Coco Peat to Improve the Water Retention Capacity of Petroleum-polluted Soils (Rishen Ropchund, Naadhira Seedat)	11:30	11:50	Talk 8.3 The hazardous waste Management in mining - call to action (Jaco Nel)
11:50	12:10	Talk 5.4 Development of an Odour Monitoring and Geosmin Control Framework for Water Treatment (Mbal Sibiyá)	11:50	12:10	Talk 6.4 Production of Hard wax via Fischer Tropsch Synthesis: Catalyst Design, Activation and stability (Nebogang Thibanyane, Joshua Gorimbo, Mahluli Moyo)	11:50	12:10	Talk 7.4 Development of Process Model for Selective Recovery of Au, Ag, and PGMs from Gold Refinery Waste Water Effluent (Fajmi)	11:50	12:10	Talk 8.4 Facile recovery of polycationic metals from acid mine drainage and their subsequent valorisation for the treatment of municipal wastewater (Henrick Brink and co-authors)
12:15	13:30	Lunch (Collection - Foyer Auditorium 1)	12:15	13:30	Lunch (Collection - Foyer Auditorium 1)	12:15	13:30	Lunch (Collection - Foyer Auditorium 1)	12:15	13:30	Lunch (Collection - Foyer Auditorium 1)
		<b>Session 9: Water</b>			<b>Session 10: Chemical Engineering Education &amp; Profession</b>			<b>Session 11: Environmental Engineering</b>			<b>Session 12: Health &amp; Pharma</b>
13:30	13:50	Talk 9.1 Characterisation and Evaluation of Chlorelia Vulgaris on Brewery Wastewater Treatment (Nikita Singh, Manimagalay Chetty, Sudesh Rathilal)	13:30	14:10	Keynote 10.1 Invited Keynote: Engineering Education for Sustainable Development: A Holistic and Collaborative Approach (Letani Smith)	13:30	14:10	Keynote 11.1 Seaweeds to save the world: An overview of research completed toward establishing a seaweed biorefinery in South Africa (Neill Goosen, Alistair Border, Achinta Borddola, Ryan Cilliers, Johann Gorgens, Zwonaka Mapholi, Matthew Noach, Robert Pott, Marianne Thomsen, Daniel Van Breda, Roelof Van der Merwe, Eugene Van Rensburg, Dylan Van Sittert, Gina Wilkinson, Xueqian Zhang)	13:30	14:10	Keynote 12.1 Invited Talk
13:50	14:10	Talk 9.2 Removal of an array of contaminants of emerging concern from drinking water using biogenic powdered activated carbon (PAC) derived from macadamia nuts: A pilot study (Paki Dikobe)	14:10	14:30	Talk 10.2 Development of an Academia-Industry Collaboration Framework for the WASH Sector (Mbal Sibiyá, Lee-Ann Modley, Nomcebo Mhombeni)	14:10	14:30	Talk 11.3 A nanocomposite of nickel ferrite and polyaniline doped with 2-naphthalene sulfonic acid as an adsorbent for the removal of chromium from an aqueous solution. (Ruth Kasavo & Hendrik Brink)	14:10	14:30	Talk 12.2 The Purification & Characterisation of Fucoidan from the South African Seaweed Ecklonia maxima (Gina Wilkinson, Zwonaka Mapholi, Neill Goosen)
14:10	14:30	Talk 9.3 Utilising Raw Mining-Influenced Water (MIW) Sludge as an Adsorbent for Pb(II) Adsorption: Modelling Mass Transfer Effects (Nokuthula Nchabeleng, Hendrik Brink)	14:30	14:50	Talk 10.3 An enquiry-based learning approach for first-year chemical engineering design (Linda Jewell, Mulenga Ilunga)	14:30	14:50	Talk 11.4 Development of Polybenzimidazole Nanofibrous Catalyst via Electrospinning for VOC Oxidation (Karel Soukup, Pavel Topka, Jana Balabánová, Olga Solcova)	14:30	14:50	Talk 12.3 Exploratory application of the U.S. Pharmacopeia Maritime Pine Extract Monograph to commercial Pycnogenol® samples (Laston Samuwi, Annegret Stark, Geoff Tomlinson)
14:30	14:50	Talk 9.4 Techno-economic analysis of using chlorine dioxide, ozone, and liquid chlorine to treat hyper-eutrophic and algal-rich raw water: A case study in the sub-Saharan region (Simon Mokonyama)	14:50	15:10	Talk 10.4 Enhancing the Delivery of Fluid Mechanics Education Through the Use of Low-Cost Phone-Based Particle Streak Velocimetry (Jeffrey Muriithi, Fabian Nachbur, Josephat Tanui, Godfrey Gakingo)	14:50	15:10	Talk 11.5	14:50	15:10	Talk 12.4 Intermolecular interactions and sorption behaviour of estrogenic compounds in poly(mannuronate): a computational study (Madison Lasich, Victoria Adeleke)
14:50	15:10	Talk 9.5 Adsorption of Methylene Blue Dye onto Carbon Foams Derived from Wheat and Bulrush Bread (Ebrahim Kadwa, David Lokhat)	15:10	15:40	Tea & Poster Session (Foyer Auditorium 1)	15:10	15:40	Tea & Poster Session (Foyer Auditorium 1)	15:10	15:40	Tea & Poster Session (Foyer Auditorium 1)
15:10	15:40	Tea & Poster Session (Foyer Auditorium 1)	15:10	15:40	Tea & Poster Session (Foyer Auditorium 1)	15:10	15:40	Tea & Poster Session (Foyer Auditorium 1)	15:10	15:40	Tea & Poster Session (Foyer Auditorium 1)
		<b>Session 13: Water</b>			<b>Session 14: Health &amp; Safety</b>			<b>Session 15: Energy</b>			<b>Session 16: Other Topics for Sustainability and Beyond</b>
15:40	16:00	Talk 13.1 Adsorption of Tetracycline Using Adsorbents Derived from Fly Ash (Eric Houghton, Shepherd Tichapondwa)	15:40	16:20	Keynote 14.1 Invited talk TBA	15:40	16:00	Talk 15.1 Thermal conversion of macroalgae Macrocystis Pyrifera and Laminaria Japonica for production of carbon-negative hydrogen (Carolina Arias Gallego, Shashank Sakleshpur Nagaraja, Mani Sarathy)	15:40	16:00	Talk 16.1 Towards sustainable chemical synthesis: Metathesis of sunflower-derived ethyl esters for synthesis of value-added oleochemicals (Come Lourens, Neill Goosen, Margreth Tadie, Robbie Pott)
16:00	16:20	Talk 13.2 Efficient Degradation of Organic and Inorganic Contaminants in Water Using ZnO-BiOI Heterojunction Photocatalyst (Darlington Ashiegbu, Herman Potgieter)	16:20	16:40	Talk 13.3 Selectivity Studies of Gold Nanoparticle Bioconjugation for the Detection of SARS-CoV-2 (Charissa de Gouveia, Jean Mulopo, Palesa Diale, Yonela Mkhono, Nkosazana Jameson)	16:00	16:20	Talk 15.2 Solid-state fermentation of whole sugarcane and paper sludge waste for first-and second-generation ethanol production (Janke van Dyk, Johann Gorgens, Eugene van Rensburg)	16:00	16:20	Talk 16.2 Assessing the effects of nano and micro-particles on carbon dioxide gas hydrate formation (Paramespri Naidoo, Phakamile Ndlovu, Saeidh Babae)
16:20	16:40	Talk 13.3 Adsorptive Removal of Carbamazepine from Synthetic Wastewater Using Seed Coat (Exocarp) of Moringa Oleifera (Peace Azeh, Mabafekeng Mashita, Michael Dararama)	16:40	17:00	Talk 14.3 The phytochemical evaluation of the medicinal plant Teucrium polium and the formulation of a healing ointment.	16:20	16:40	Talk 15.3 Pyrolysis of waste polypropylene plastics for energy recovery: study comparisons between bench scale and a commissioned kilogram-scale rotary klin reactor (George Kofl Parku, François-Xavier Collard, Johann Gorgens)	16:20	16:40	Talk 16.3 Aspen Plus® simulation of fractional condensation of lumped oil produced by waste tyre pyrolysis (Matimu Khosa, Cara Schwarz, Johann Gorgens)
16:40	17:00	Talk 13.4 Chlorine disinfectant in water treatment and distribution networks modelling using EPANET and random forest (Talent Moyo, Liberty L. Mguni, Andrew Ndhlovu, Yali Yao, Joshua Gorimbo)				16:40	17:00	Talk 15.4 Sorption-enhanced chemical looping gasification of biomass for hydrogen and transportation fuel production (Motseneng)	16:40	17:00	