CATSA2025 supports the Sustainable Development Goals

35th Annual Conference of the Catalysis Society of South Africa

"Using Catalysis to solve the UN SDGs"

Day 1: Sunday, 9 November 2025	
14:00-16:00	Registration – Emerald Arena
16:30-18:00	Student challenge
19:00-22:00	Ice breaker - Aquadome

Day 2: Monday, 10 November 2025		
06:00-08:00	**Breakfast - Emerald Arena**	
8:00 – 8:50	**Late registration – Emerald Arena**	
	Session 1- SDG 7: Affordable and Clean Energy	
	Venue: Emerald Arena	
	Session Chair: Prof Yali Yao	
08:50-09:10	Welcome: CATSA conference chair Prof Linda Jewell	
09:10-10:00	**PL1:** Prof Angeliki Lemonidou (UT) Catalysis in a pivotal role for sustainability: The Olefins Paradigm	
10:00-10:30	**Tea break (Emerald Arena/Oryx)**	
	Session 2- SDG 7: Affordable and Clean Energy	**Session 3 – SDG 12: Responsible Consumption and Production**
	Venue: Emerald Arena	**Venue: Oryx**
	Session Chair: Prof Phathutshedzo Khangale	**Session chair: Dr Ntsoaki Mosina**
10:30-11:00	**KN1: Dr. Esna du Plessis** (SASOL) Transforming Sulphur's Role: Mechano-chemical pathways to fused iron catalyst enhancement.	**KN2: Prof. Dean Brady** (WITS) Plant Power: Synthesis of Nootkatone and Carvone by Oxidative Biocatalysis.
11:00-11:20	**OP1: Mr. Samora Buthelezi** (DUT) Spray-dried and attrition resistant iron catalysts for promoting Fischer-Tropsch Synthesis	**OP2: Prof. Dirk Opperman** (UOFS) Selective biocatalytic oxyfunctionalization using unspecific peroxygenases.
11:20-11:40	**OP3: Mr. Keyan Wei** (UNISA) Feasibility analysis of Fischer-Tropsch synthesis tail gas as a fuel for solid oxide fuel cells	**OP4: Mr. Jaco Becker** (NWU) Selective degradation of polyethylene via heterogeneously catalysed dehydrogenation and metathesis
11:40-12:00	**OP5: Ms. Julie-Ann Hoffman** (UCT) Molecular modelling study into the effects of poisons on manganese-promoted cobalt-based Fischer Tropsch catalysts	**OP6: Ms. Rotondwa Mphephu** (WITS) Ruthenium complexes of pyrazolyl-pyridine ligands as catalyst precursors for formic acid dehydrogenation/ Carbon Dioxide/(bi)carbonate Hydrogenation
12:00-12:20	**OP7: Mr. Nicholas Jim** (UNISA) Catalyst Pore Size Effects on the Fischer-Tropsch Synthesis Product Distribution using Co/SiO2	**OP8:** Ms. **Hlengane Precious Mokwena** (UNISA) Sustainable BioFuel Production via One-Pot C-C Coupling and Hydrodeoxygenation of Biobased Compound over Versatile LaNi1-xCuxO3±δ Inorganic Perovskites.
12:20-12:40	**OP9: Mr. Shabaaz Abdullah** (UCT) An in-situ RCR study of model cobalt catalysts: exploring the influence of particle size on titania-coated Stöber silica spheres	**OP10: Ms. Tshegofatso Molapo** (WITS) Ethanol-Enabled Pyridyl-pyrazole Manganese (I) Catalysis: Sustainable Transfer Hydrogenation of Nitriles with Amine Boranes

12:40-13:40	**Lunch – Emerald Arena**	
	Session 4- SDG 7: Affordable and Clean Energy	
	Venue: Emerald Arena	
	Session Chair: Dr Lebohang Macheli	
13:40-14:10	**KN3: Dr. Jairus Lamola (SASOL)** Mn Promotion in Cobalt Fischer–Tropsch Catalysis: State-of-the-Art, Theory and Operando Characterization	
14:10-15:10	**CATSA AGM**	
15:10-15:30	**Tea break (Emerald Arena/Oryx)**	
	Session 5 – SDG 13: Climate Action & SDG 6: Clean Water and Sanitation	**Session 6 – SDG 9: Industry, Innovation and Infrastructure**
	Venue: Emerald Arena	**Venue: Oryx**
	Session chair: Prof. Kwena D. Modibane	**Session chair: Prof Mduduzi Cele**
15:30-15:50	**OP11: Ms. Wavhudi Nevhutalu (UCT)** Mn and Fe promoted Co3O4/CeO2 catalysts for the preferential oxidation of carbon monoxide.	**OP12: Mr. Thabiso Ntlebi (UCT)** In-situ encapsulation of single Pt atoms inside MFI for hydrocracking
15:50-16:10	**OP13: Ms. Noluvuyo Ndila (UCT)** Suppression of CH4 formation in Mn and Fe partially substituted LaCoO3 during the Preferential Oxidation of CO in H2 Streams	**OP14: Ms. Carol Dlamini (UKZN)** Hydrogenolysis of polyolefins into liquid hydrocarbons over a bimetallic silica supported nickel-molybdenum catalyst
16:10-16:30	**OP15: Dr. Potlako John Mafa (UNISA)** Photocatalytic degradation of ciprofloxacin through persulfate activation by NiCo-C catalyst	**OP16: Mr. Bevan George (UCT)** Towards a Sustainable Future–Synthesis, Characterization, and Catalytic Evaluation of Conventional SSZ-13 with Varying Si/Al Ratios
16:30-16:50	**OP17: Mr. Tankiso Johannes Masangane (UNISA)** Degradation of ciprofloxacin and sulfamethoxazole in water using an ozonation/persulfate system under solar irradiation	**OP18: Mr. Kwanele Nene (UCT)** Synthesis of Pd/SAPO-34 catalysts for the conversion of dimethyl ether to green Liquified Fuel Gas for clean cooking in Africa
16:50-17:50	**1st Poster presentation session – Emerald Arena**	
17:50-19:30	**PORETECH CHALLENGE**	
19:30-22:00	**Braai and Pop quiz**	

Day 3: Tuesday, 11 November 2025

06:00-08:00	**Breakfast – Emerald Arena**	
	Session 7 – SDG 7: Affordable and Clean Energy	
	Venue: Emerald Arena	
	Session chair: Prof Cornie van Sittert	
08:10-09:00	**PL2: Dr. Theo Mudzunga (SASOL)** From Energy Security to Sustainability: 75 Years of Fischer-Tropsch Innovation at Sasol	
	Session 8 – SDG 7: Affordable and Clean Energy	**Session 9 – SDG 12: Responsible Consumption and Production**
	Venue: Emerald Arena	**Venue: Oryx**
	Session chair: Dr Veronica Patterson	**Session chair: Prof Agnes Pholosi**
09:10-09:40	**KN4: Dr. Ryan Walmsley (SASOL)** Sasol Fused Iron Catalyst: Teaching an old dog new tricks	**KN5: Prof. Marla Trindade (UWC)** Diversifying aminolipid production through genetic engineering to deliver biotechnological solutions
09:40-10:00	**OP19: Mr. Thomas Neff (UCT)** Quantification of Operando Metal Nanoparticle Morphological Dynamics Using Machine Learning and Digital Image Processing	**OP20: Dr. Lucia Steenkamp (CSIR)** Implementation of Biocatalysis technologies on an industrial scale in South Africa.
10:00-10:20	**OP21: Dr Revana Chanerika (UCT)** Influence of catalyst preparation and Mn promotion on model Co-based FT catalysts for Fischer-Tropsch Synthesis	**OP22: Mr Justin Safari (RU)** Covalent immobilisation of xylanase on carboxyl-activated chitosan-coated magnetic nanoparticles for animal feed treatment

10:20-10:40	**Tea break (Emerald Arena/Oryx)**	
	Session 10 – SDG 9: Industry, Innovation and Infrastructure	**Session 11 - SDG 7: Affordable and Clean Energy**
	Venue: Emerald Arena	**Venue: Oryx**
	Session chair: Prof J Gorimbo and Miss Mookgo Mofokeng	**Session chair: Prof Alex Kuvarega**
10:40-11:00	**OP23: Ms. Noor Zara Hassan (UCT)** Light at the end of the channel: Washcoating of a monolith for photocatalytic hydrogen generation in an optical fibre monolith reactor	**OP24: Dr. Claudelle Sybilline Anensong (NMU)** Green Hydrogen Production via Proton Exchange Membrane (PEM) Water Electrolysis
11:00-11:20	**OP25: Ms. Ruijuan Zhang (UNISA)** Heteropore Conjugated Organic Reticular Subnano-Crystal for Photocatalytic Water Splitting	**OP26: Ms. Makhaokane Paulina Chabalala (UJ)** Pd-NiO-C Triple-Junction Interface Electrocatalyst Supported on Metal-Organic Framework for Efficient Glycerol Oxidation in Alkaline Fuel Cell.
11:20-11:40	**OP27: Ms. Chiamaka Amejuma Amonye (UCT)** From Greenhouse to Green Fuel: Light-Driven Methane-to-Methanol Conversion over Pt/TiO2 and Pt/WO3 Catalysts.	**OP28: Mr. Kabelo Edmond Ramohlola (UWC)** Polyaniline Composites for Electrocatalytic Hydrogen Production
11:40-12:00	**OP29: Mr. Sense Mametja (UNISA)** Construction of oxygen deficient NiAl-LDH-nanocomposites for enhanced photocatalytic hydrogen evolution via water splitting.	**OP30: Mr. Jatin Parbhoo (UCT)** A Direct Catalyst Coated Membrane for Proton Exchange Membrane Water Electrolysis using a Slot-die Coating Method
12:00-12:20	**OP31: Ms. Mamello Maliehe (UCT)** Highly Efficient Ruthenium Based Catalysts Supported on Modified Al2O3 for Ammonia Decomposition for Green Hydrogen Production	**OP32: Mr. Mhlengi Jali (UNISA)** Homojunction of graphitic carbon nitride for efficacious chlortetracycline degradation via peroxydisulfate activation
12:20-12:40	**OP33: Mr. Jiangbo Guo (UNISA)** Macroporous resin grafted with Perylene diimide side-chains for efficient photosynthesis of H_2O_2	**OP34: Mr. Siyabonga Patrick Mbokazi (UJ)** Ultra-stable catalyst for electrocatalytic oxygen evolution reaction: triphenylphosphine derived P modified $NiFe_2O_4$-TiO_2
12:40-13:40	**Lunch**	
	Session 9 – SDG 12: Responsible Consumption and Production	**Session 13 – SDG 13: Climate Action**
	Venue: Emerald Arena	**Venue: Oryx**
	Session chair: Dr Thelma Ngwenya	**Session chair: Prof Alex Kuvarega**
13:40-14:00	**OP35: Dr. Athi-enkosi Mavukwana (UNISA)** Automotive Paint Slugde Ash: A potential catalyst to carbonaceous materials pyrolysis	**OP36: Dr. Lebohang Macheli (UNISA)** Advanced HEA Catalysts for CO_2 Hydrogenation: Unlocking Methanol Selectivity through Catalyst Engineering
14:00-14:20	**OP37: Ms. Mithayelanga Mazitshana (CPUT)** Parametric optimization of a catalytic lab-scale pyrolysis system for enhanced hydrogen generation from pine wood residue	**OP38: Mr. Nick Herrmann (UH)** Influence of Phase Transitions in Indium-based catalysts for the catalytic performance in CO2 hydrogenation to methanol
14:20-14:40	**OP39: Ms. Beatice Makasi (UNISA)** Adsorptive desulfurization of diesel fuel using activated carbon from waste biomass (Carica papaya-PVA).	**OP40: Mr. Tumelo Sethosa (UCT)** Alkaline Earth Metal Promotion of Cu Surfaces for CO_2 Hydrogenation to Methanol: Structure–Phase–Function Relationships for Selective Catalysis
14:40-15:00	**OP41: Mr. Simnikiwe Nogqala (RU)** A sustainable and efficient mechanochemical protocol for the synthesis of Schiff base derivatives	**OP42: Mr. Tani Jan Monene (NWU)** Thermocatalytic activity of UiO-66 on CO2 hydrogenation to methanol
15:00-15:20	**OP43: Dr. Dewald van Heerde (UCT)** The nitrilase mechanism: A proposal based on experimentally determined structures and molecular modeling	**OP44: Mr. Nicholas Featherstone (UCT)** The effect of copper in iron-based CO2-hydrogenation catalysts
15:20-15:40	**Tea break (Emerald Arena/Oryx)**	
15:40-16:40	**2nd Poster presentation session**	
19:00-22:00	**Conference dinner – Emerald Arena**	

Day 4: Wednesday, 12 November 2025		
06:00-08:00	**Breakfast – Emerald Arena**	
	Session 14 – SDG 7: Affordable and Clean Energy	
	Venue: Emerald Arena	
	Session chair: Prof Celestin Sempuga	
08:10-09:00	**PL3: Panel Discussion "Using Catalysis to solve the UNSDGs"**	
	Session 15 – SDG 12: Responsible Consumption and Production	**Session 16 - SDG 9: Industry, Innovation and Infrastructure**
	Venue: Emerald Arena	**Venue: Oryx**
	Session chair: Prof Yali Yao	**Session chair: Miss Mookgo Mofokeng**
09:10-09:30	**OP45: Dr. Mudzuli Maphupha (WITS)** A Chemoenzymatic Synthesis of Amide-Containing Quinazolin-4(*3H*)-one Derivatives	**OP46: Dr. MOUADILI Habib (UNISA)** Hydrogen permeability of reinforced polyamide 12 composites modified with CNTs as a hydrogen permeation barrier lining in pipelines and tanks
09:30-09:50	**OP47: Dr. Kelebogile Olga Mmelesi (UNISA)** Microwave synthesis and characterization of cobalt ferrite for application in photocatalysis	**OP48: Dr. Shaista Ali (UCT)** Impact of Support on the Performance of Platinum Catalysts in Methane Oxidation
09:50-10:10	**OP49: Dr. Motlokoa Khasu (UCT)** Microwave-assisted catalytic decomposition of plastic waste: catalyst evolution, magnetite-driven heating, and dual-product valorization	**OP50: Dr. Cassiem Joseph (SU)** Unravelling Anion Effects in the Structure of Ruthenium(II) Arene Pyridyl-Triazole Complexes: Implications for Transfer Hydrogenation Catalysis
10:10-10:30	**OP51: Dr. Lydia Christoph (SU)** Biphasic Hydroaminomethylation of Olefins Catalysed by Pyridyl-triazole Ruthenium Complexes	**OP52: Dr. Ludwe Luther Sikeyi (UNISA)** Manganese-cobalt-oxide constructed in hybrid nitrogen doped carbon nanotubes-carbon nano onions as cathode electrocatalysts for rechargeable zinc-air battery
10:30-10:50	**Tea break (Emerald Arena/Oryx)**	
	Session 17 – SDG 9: Industry, Innovation and Infrastructure	**Session 18 - XPS Workshop**
	Venue: Emerald Arena	**Venue: Oryx**
	Session chair: Dr. Kelebogile Olga Mmelesi	**Session chair: Mr Zama Duma**
10:50-11:10	**OP53: Dr. Liberty Mguni (UNISA)** Identification of High-Entropy Alloy Descriptors for CO_2 Methanation: Catalyst design using Machine learning	**Prof. Bryan Doyle** **(10:50 – 12:10)** Prof. Bryan Doyle **(University of Johannesburg),** a leading expert in surface science and synchrotron techniques, will present an introductory workshop on **X-ray Photoelectron Spectroscopy (XPS).** The session will cover core principles, instrumentation, and applications in catalysis and materials science, offering practical insights for researchers and students alike.
11:10-11:30	**OP54: Dr. Ngonidzashe Masunga (UNISA)** Approaching photocatalysis from a different angle: Low energy waves a game changer.	
11:30-11:50	**OP55: Dr Aldo Conti (AC Scientific)** From Black Box to Profiles: Advancing Catalysis Research with the Profile Reactors	
11:50-12:10	**OP56: Dr Bongokuhle Sifundo Xaba (UNISA)** The development of Cu-based perovskites for application in CO2 hydrogenation to methanol	
12:10-12:40	**Closing remarks – Emerald Arena**	
12:40-13:40	**Lunch**	

ID	1st Poster presentation session
Poster 1-1	**Nzimeni Anele,** Claudelle Anansong, Shawn Gouws. Synthesis and Characterisation of OER Electrocatalysts for Green Hydrogen Production
Poster 1-2	**NT Nkala,** J Darkwa and TA Tshabalala Visible-light-driven reductive carboxylation of unsaturated hydrocarbons and 1,3-dicarbonyl compounds with CO_2 catalyzed by Nickel(II) complexes
Poster 1-3	**Zibusiso Nhachengo**, Sinqobile V.L. Mahlaba and Eric van Steen CuPt nanoparticles in the selective, aerobic oxidation of methane
Poster 1-4	**Hlengane Precious Mokwena**, Sithandile Ngxangxa, Isaac N. Beas, Nangamso Nathaniel Nyangiwe, Hui Li, and Ndzondelelo Bingwa.

	Sustainable BioFuel Production via One-Pot C-C Coupling and Hydrodeoxygenation of Biobased Compound over Versatile $LaNi_{1-x}Cu_xO_{3\pm\delta}$ Inorganic Perovskites.
Poster 1-5	**Tinyiko Baloyi**, James Darkwa and Thandeka Tshabalala Photocatalytic C-H carboxylation of unsaturated hydrocarbons and dicarbonyl compounds with CO2 promoted by Ru(II)-bodipy complexes
Poster 1-6	**Chen Liu**, Yusheng Zhang and Yali Yao The Effects of Different Supports over Co-Based Catalysts on the Ethylene Secondary Reaction in Fischer-Tropsch Synthesis condition
Poster 1-7	**Jiangbo Guo**, Xinying Liu, Yali Yao and Xudong Yu Macroporous resin grafted with Perylene diimide side-chains for efficient photosynthesis of H_2O_2
Poster 1-8	**Godfrey Mpho Lelaka**, Baraka Celestin Sempuga, Linda Zikhona Linganiso and Yali Yao Dual Optimization of Biogas Technology for Gas Production and Biofertiliser Generation.
Poster 1-9	**Ursula Nyambi**, Francois Van Schalkwyk and Darija Susa The Development of a High Performing and Durable MEA for PEMFCs.
Poster 1-10	**Onesimo Ntingana**, Banothile Makhubela, and Banele Vatsha Design and Synthesis of Low-Valent Node Metal-Organic Frameworks for Carbon Dioxide (CO2) Capture and Hydrogenation
Poster 1-11	**JTR Raphotle,** M Ngcobo and T.A Tshabalala Fine-tuning the physical and chemical properties of zeolitic catalysts for ethanol dehydration to form ethylene
Poster 1-12	**Lungelo Dlamini**, Stephen Roberts and Jack CQ Fletcher Effect of palladium loading on zeolite Beta for light paraffin production from dimethyl ether
Poster 1-13	**Lebohang Kekana**, Kabelo Ledwaba, Jairus L. Lamola, and Ndzondelelo Bingwa Upgrading Biomass-Derived Bio-Oil using Ni-containing Spinel Oxide: A cost-effective low-carbon pathway to biofuel production
Poster 1-14	**Arryn L. Michaels**, Coleen E. Grobler, Alaric Prins, Marilize Le Roes-Hill, and Brett I. Pletschke Production of Alginate Oligosaccharides by Commercial and Recombinant (Flammeovirga AL2) Alginate Lyases for Potential Anti-Obesity Activity
Poster 1-15	**Keabetswe Raphoto**, Mduduzi. N. Cele Hydrogenation of CO2 to methanol over Fe modified Ce-MOFs
Poster 1-16	**Praise Chikwadze**, Lebohang Macheli, Joshua Gorimbo, Celestin Sempuga, Linda Jewell Recovery of Rare Earth Elements from coal ash
Poster 1-17	**H.D. Neethling**, S.P. du Preez, I.V. Pushkareva, and D.G. Bessarabov Establishing a slot-die coating operational procedure with alternative materials for proton exchange membrane water electrolysis
Poster 1-18	**Ketshepile Baabua**, Manoko-Maubane Nkadimeng, Siziwe Gqoba, Cebisa Linganiso SYNTHESIS OF CONDUCTIVE POLYMER/ONION-LIKE CARBON COMPOSITES GAS SENSOR FOR THE DETECTION OF NH3 AT ROOM TEMPERATURE
Poster 1-19	**A Dlodlo**, MN Cele Catalytic activity of Ni modified ZIF-8 catalyst for methanol production from CO_2
Poster 1-20	**Muhleujehovah Mabuza**, James Keaveney and Patricia J. Kooyman Synthesis and Characterisation of CdS and CdSe quantum dots for PET scanners.
Poster 1-21	**Mr. H Brink**, Dr A.S. Pushkarev, Dr I.V. Pushkareva, Mr C. Martinson, Mr S. Mamathuntsha, Prof D. Bessarabov HySA Infrastructure Research Electrolysis Test Station: Advanced Research on Pilot Scale Water Electrolysis
Poster 1-22	**Kgabo Zwane**, and Prof. Banothile C. Makhubela N-Formylation of Amines by CO_2 and H_2
Poster 1-23	**Keneilwe Khoza**, Grace Ngubeni and Manoko Maubane-Nkadimeng Electrochemical Properties of KOH-Activated Onion-like Carbons Towards the Iodide/Triiodide Electrolyte for Application in DSSCs
Poster 1-24	**Kwanele Ngubane**, Adedapo Adeyinka, and Mafereka Mosoabisane Computational Investigation of Methane Oxidation Using a Single-Atom Catalyst of Transition Metals on C24N24 Fullerene
Poster 1-25	**N. Moyo**, B.C. Sempuga, L. Jewell, Y. Yao Thermodynamic Analysis of the Reducing Agent Effect on Calcium Carbonate Calcination and In-Situ Conversion
Poster 1-26	**Constatia Moyana**, Machodi Machaba, Orebotse Botlhoko and Phumlani Msomi Poly (acrylic acid-co-vinyl sulfonic acid)-Polyether sulfone hydrogel immobilized with sulfonated graphene oxide as Proton Exchange Membrane.
Poster 1-27	**Kudzai Mutisi** Baraka Sempuga and Mabatho Moreroa Anaerobic digestion of abattoir wastewater: A review of current practices, prospects for biochar-amended anaerobic digestion, and opportunities for upscaling
Poster 1-28	**Ancois Huysamen**, Cassiem Joseph, Prinessa Chellana and Selwyn F. Mapolie Pyridinyl-imine Rh(I) catalysts for the hydroformylation of long chain alkenes
Poster 1-29	**Rapelang Patala,** and Ndzondelelo Bingwa Perovskites in Thermal Catalytic Organic Chemical Conversions
Poster 1-30	**Sandile Langa,** Mpfunzeni Raphulu, Mabuatsela V Maphoru and Letlhogonolo F Mabena Photocatalytic degradation of ciprofloxacin on Bi_2S_3-CeO_2, Bi_2S_3-Fe_2TiO_5 and CeO_2-Fe_2TiO_5 photocatalysts

ID	2nd Poster presentation session
Poster 2-1	**Tumelo Seadira**, Thabelo Nelushi Photocatalytic Butanol Reforming to Hydrogen Production Using Ag_2O/TiO_2 Composite Catalysts: Effects of Ag_2O Loading, Calcination Temperature, and Reaction Parameters
Poster 2-2	**Dube Sakhile,** Qwabe Lindelani, & Friedrich Holger, Combination of basic and amphoteric (Mg-Zn) catalysts for glycerol conversion to form glycidol and glycerol carbonate using transesterification.
Poster 2-3	**Emile D Maggott**, Filippo Bossola and Vladimiro Dal Santo Clean hydrogen production from ammonia decomposition reactions using metal-supported carbon-based materials as catalyst precursors.
Poster 2-4	Kokoti Leshabane, **Mabuatsela Maphoru**, Benjamin Shotholo, Themba Ntuli Photo-mediated catalytic degradation of antibiotics in water with Ag_3VO_4, $BiVO_4$ and TiO_2-based heterojunction photocatalysts
Poster 2-5	**Christina Kannigadu**, Alexander Whaley A Century of Fischer-Tropsch Chemistry: Evolving Applications in Aviation Fuel
Poster 2-6	**Oluwasegun E Olaoye**, Jodi van der Merwe, Daniel P Otto, Hermanus CM Vosloo, and Frans J Smit Hydroformylation of Internal Alkenes: Sensitivity to Reaction Conditions
Poster 2-7	**Zondi Nate**, Thobane Godlo and Philani Mpungos Nanostructured Cu-BDC MOFs for the detection of the antiretroviral drug Nevirapine in wastewater
Poster 2-8	**R Mhlaba** Effects of La on the structure and activity of Co3O4 based catalysts in preferential oxidation (PROX) of carbon monoxide
Poster 2-9	**N. Mosina**, C. van der Westhuysena L. Steenkamp and P. Steenkamp A green pathway to 2,5-furandicarboxylic acid using whole-cell bioconversion and green chemistry.
Poster 2-10	**Agnes Pholosi**, Saheed Sanni and Hua-Jun Shawn Fan Fe3O4 coupled to MIL-100(Fe)@PDA for the preparation of composites with enhanced photo-Fenton degradation of ciprofloxacin
Poster 2-11	**Tendai O. Dembaremba**, Adeniyi S. Ogunlaja and Zenixole R. Tshentu Catalyst design vs feedstock pre-treatment vs process conditions: towards sustainable fuels
Poster 2-12	Nokubonga Velaphi, Zondi Nate, Irene Mabuda, and **Philani Mpungose** Design and Synthesis of PdZnAl Hydrotalcite-like Catalyst for Efficient Sonogashira Cross-Coupling Reactions
Poster 2-13	**Seiso Seheria**, Y. Yao, Joshua Gorimbo. Hydrogenation of carbon oxides CO/CO2 into long chain olefins
Poster 2-14	**Pamela. S. Moyo**, and Andrew. J Swart Efficient Ruthenium(II) complexes as pre-catalysts for the dehydrogenation of formic acid: Insights into catalytic strategies and mechanistic insights
Poster 2-15	**Ndumiso Mkhonza**, Lindelani Q. Qwabe, Masikan M. Mdleleni, Ebrahim. Mohiuddin, and Pinkie Ntola Hydrogenation of carbon dioxide to methanol over supported copper-based catalysts
Poster 2-16	**Mookgo Mofokeng**, Baraka Sempuga, Linda Jewell, Yali Yao Extraction of moringa extract from moringa powder using organic solvents for the synthesis of NZVI nanocomposite
Poster 2-17	**David. M Mabena**, Mabuatsela. V Maphoru, Letlhogonolo. F Mabena, and Lerato Hlekelele Fabrication of ZnO and BiOCl heterojunction nanoparticles for the photodegradation of rhodamine B xanthene dye.
Poster 2-18	**Yuvna Nirel Bridglall**, Patricia Jane Kooyman Cracking Heavy Waxes with Smart Pores: Hierarchical Pt/MOR for Fischer-Tropsch Wax Upgrading
Poster 2-19	**Nita Olive van Wyk,** Ana Ebrecht, Martha Sophia Smit, and Diederik Johannes Opperman Semi-rational design of an unspecific peroxygenase for the regioselective hydroxylation of fatty acids
Poster 2-20	**Sinèad Suter**, Ana Ebrecht, Martie Smita and Dirk Opperman Biocatalytic Production of Chiral Sulfoxides using Unspecific Peroxygenases
Poster 2-21	**Mamaru Alem** and Patricia J. Kooyman Template free Synthesis and Characterization of ZSM-5 Zeolite
Poster 2-22	**Mihlali Fatyela** and Juanita van Wyk Co (II) complexes derived from phenoxyimine ligands as catalyst precursors for the coupling of carbon dioxide and propylene oxide.
Poster 2-23	**Wakhiwe M. Mthiyane**, Alisa Govender and Mzamo Shozia Synergism between Ni-W in the hydrogenolysis of erythritol to value-added chemicals over zirconia-supported catalysts.
Poster 2-24	**J. Adolphs,** Y. Konishi Influence of Water Vapor Treatment for NH3-TPD on Solid Acid Catalysts
Poster 2-25	**Dimakatso Makwakwa**, Makgatho Seshibe and Mabatho Morero The hydrolysis approach towards the pre-treatment and biodegradability of red meat abattoir effluent
Poster 2-26	**Sabelo C. Xaba**, Touhami Mokrani, Phumlani F. Msomi Suppressing zinc dendrite formation using a conductive polymer as capping agent in zinc-air batteries
Poster 2-27	**Nobuhle B. Mthethwa**, Nozipho Gumbi, Phumlani F. Msomi Nitrogen functionalized carbon nanotubes/ quaternized poly (p-phenylene oxide) composite anion exchange membrane for fuel cell application
Poster 2-28	**Amogelang G. Metseeme**, Shidong Song, Phumlani F. Msomi Fabrication of Composite Nanofiber Anion Exchange Membrane for Application in Zinc-Air Batteries.
Poster 2-29	**Rosshique Farmer,** Martha Sophia Smit, Diederik Johannes Opperman, Ana Ebrecht Engineering of Komagataella phaffii for the production of δ-dodecalactone
Poster 2:30	**Mantsopa Koena Zamisa**, Tumelo Seadira and Jeffrey Baloyi Synthesis of Pillared Clay Catalysts for Water Treatment