

# SAEES WINNERS

Category	Prize	Sponsor	Winner	Topic	Supervisor
ORAL					
SAEES Oral 3 <sup>rd</sup>	R5000	CAES	Emmanuel Valentine	Effect of municipal wastewater supplementation on growth, leaf gas exchange, and chlorophyll fluorescence of <i>Lycopersicum solanum</i> in non-circulating hydroponics	Professor Alfred Odindo
SAEES Oral 2 <sup>nd</sup>	R10000	CAES	Thando Mthembu	Developing a Machine Learning Meta-Model Trained on AquaCrop Simulations to Predict Taro ( <i>Colocasia esculenta</i> L. Schott) Yield in Southern Africa	Dr Shaeden Gokool and Mr Richard Kunz
SAEES Oral 1 <sup>st</sup>	R15000	CAES	Glen Mkhonta	Evaluating the Predictive Accuracy of Coupled HEC-HMS–HEC-RAS Models for Flood Simulation in the Lowest Sub-Catchment of the uMngeni River, KwaZulu-Natal, South Africa	Dr Daniel Kibirige
FLASH					
SAEES Flash 3 <sup>rd</sup>	R3000	CAES	Mxolisi Shangase	THE EFFECT OF MOISTURE CONTENT ON THE SENSORY PROPERTIES OF RABBIT BILTONG: ADVANCING SUSTAINABLE MEAT INNOVATION	Dr Zikhona Rani
SAEES Flash 2 <sup>nd</sup>	R5000	CAES	Tholoana Mofurutsi	Host-Plant Mediated Selection of Beneficial Microbes in the Presence of Plant Resistance Inducers	Dr Kwasi Yobo and Dr Stuart Rutherford
SAEES Flash 1 <sup>st</sup>	R10000	CAES	Thobani Ngwazi	An Assessment of Radon ( <sup>222</sup> Rn) Levels in Aquifers Along the Umgeni Catchment: Health and Geohydrological Significance	Prof Seifu Kebede Gurmessa

BIGGEST CATEGORY IMPACT					
SAEES Oral	R5000	CAES	Emmanuel Valentine	Effect of municipal wastewater supplementation on growth, leaf gas exchange, and chlorophyll fluorescence of <i>Lycopersicum solanum</i> in non-circulating hydroponics	Professor Alfred Odindo
SAEES Flash	R3000	CAES	Faith Sibiya	Drivers of Eutrophication and Algal Proiferance in the Umngeni- Midmar, Albert Falls, Nagle and iNanda.	Professor Seifu kebede gurmessa

#### SCP WINNERS

Category	Prize	Sponsor	Winner	Topic	Supervisor
ORAL					
SCP Oral 3 <sup>rd</sup>	R5000	CAES	Kwanele Mazibuko	Development of the atmospheric monitoring system for a balloon-borne system.	Dr Marco Mariola
SCP Oral 2 <sup>nd</sup>	R10000	CAES	Asanda Ngwenya	Synthesis and structural characterization of O <sup>N</sup> O-donor Zn and Mn complexes as catalysts for the production and depolymerization of PLAs	Prof Stephen Ojwach
SCP Oral 1 <sup>st</sup>	R15000	SASOL	Ngonidzashe Ruwizhi	Novel piano-stool pyrazolyl-functionalized Ru(II)-NHC complexes: synthesis, characterization, antibacterial and theoretical studies	Prof Muhammad Bala and Prof Thishana Singh
FLASH					
SCP Flash 3 <sup>rd</sup>	R3000	CAES	Keleish Pillay	DEVELOPMENT OF A SUITABLE AND SENSITIVE BIOMARKER FOR THE DETECTION AND PREVENTION OF FUEL ADULTERATION	Dr Ajay Bissessur

SCP Flash 2 <sup>nd</sup>	R5000	CAES	Dipika Gobind	SYNTHESIS OF REDUCED GRAPHENE OXIDE AND GRAPHITIC CARBON NITRIDE FOR SOLAR ENERGY APPLICATIONS	Prof Vincent Nyamori and Prof Bice Martincigh
SCP Flash 1 <sup>st</sup>	R10000	SASOL	Mariam Hajee	COMPARISON OF GRAPHENE AND REDUCED GRAPHENE OXIDE-CHITOSAN COMPOSITES FOR THE ELECTROCHEMICAL DETECTION OF LAMIVUDINE	Prof Olatunde Olatunji
<b>BIGGEST CATEGORY IMPACT</b>					
SCP Oral	R5000	CAES	Mary Akano	Boron nitride doped graphitic carbon nitride nanocomposites for the photocatalytic degradation of PFAS	Prof Olatunde Olatunji and Dr Bhekumuzi Gumbi
SCP Flash	R3000	CAES	Saheed Jimoh	Evaluation of Energy Potential Estimation Using Modified Multi-Component Weibull Mixture Functions.	Professor Naven Chetty

#### SEng WINNERS

Category	Prize	Sponsor	Winner	Topic	Supervisor
<b>ORAL</b>					
SEng Oral 3 <sup>rd</sup>	R5000	CAES	Dikeledi Monyetware	EXTRACTION AND CHARACTERIZATION OF CHITIN BIOPOLYMER FROM MOPANE WORM (IMBRASIA BELINA)	Professor Tilahun Seyoum Workneh
SEng Oral 2 <sup>nd</sup>	R10000	CAES	Wamashudu Netshirungulu	MODELLING THE POST-HARVEST LOSSES OF UNDERUTILISED CROPS: A LITERATURE REVIEW	Ms Khuthadzo Mugodo Ntsowe
SEng Oral 1 <sup>st</sup>	R15000	SASOL	Elijah Joseph	DESIGN AND DEVELOPMENT OF A METAMATERIAL-BASED MIMO ANTENNA FOR UWB APPLICATIONS	Prof Pradeep Kumar and Prof Thomas Afullo
<b>SENG &amp; SMSCS COMBINED FLASH</b>					

SEng & SMSCS Flash 3 <sup>rd</sup>	R3000	CAES	Amna Ibrahim	Stability and Optimal Control Analysis of an HCV Model with Immune Response	Dr Hermane Mambili-Mamboundou
SEng & SMSCS Flash 2 <sup>nd</sup>	R5000	ENTELECT	Sandile Dladla	Enhancing Design Flood Estimation through Copula-Based Joint Modelling of Flood Peak and Volume in South Africa	Prof Jeff Smithers
SEng & SMSCS Flash 1 <sup>st</sup>	R10000	FNB	Slungile Tshibase	Classification of equations using $\lambda$ -symmetries.	Prof Keshlan Govender
<b>BIGGEST CATEGORY IMPACT</b>					
SEng Oral	R5000	CAES	Elijah Joseph	DESIGN AND DEVELOPMENT OF A METAMATERIAL-BASED MIMO ANTENNA FOR UWB APPLICATIONS	Prof Pradeep Kumar and Prof Thomas Afullo
SEng & SMSCS Flash	R3000	CAES	Olayinka Onifade	INERTIAL SELF-ADAPTIVE ALGORITHM FOR SOLVING NON-LIPSCHITZ MONOTONE VARIATIONAL INCLUSION PROBLEMS.	Dr Ojen Kumar Narain

#### SLS WINNERS

Category	Prize	Sponsor	Winner	Topic	Supervisor
<b>ORAL</b>					
SLS Oral 3 <sup>rd</sup>	R5000	CAES	Valencia Ndlangamandla	Genome-wide Single Nucleotide Polymorphism (SNP) Discovery, Genetic Variation, and Population Structure of South African and Eswatini <i>Cannabis sativa</i> L. Varieties	Dr Fikisiwe Gebashe
SLS Oral 2 <sup>nd</sup>	R10000	CAES	Sphamandla Ndlovu	The Role of Histidine 382 on the Stability and Ligand Binding of the E2 Domain of Amyloid Precursor Protein	Prof Raymond Hewer and Dr Alexandre Delport

SLS Oral 1 <sup>st</sup>	R15000	CAES	S'thandiwe Magwaza	<i>Chaetomorpha linum</i> Extract Enhances Glucose Uptake, Modulates Polyol Pathway and Glucose Metabolic Enzymes in Glucotoxic Adipose Tissue <i>Ex Vivo</i>	Prof Shahidul Islam
SLS Flash 3 <sup>rd</sup>	R3000	CAES	Saiesha Harpal	Mini-barcodes improve species detection rates in DNA metabarcoding of marine zooplankton	Prof Sandi Willows-Munro
SLS Flash 2 <sup>nd</sup>	R5000	CAES	Ayesha Hussan	Cytotoxicity and Cellular uptake of Co-polymer-Functionalized Gold Nanoparticle: siRNA nanocomplexes in Breast Cancer Cell models	Prof Moganavelli Singh
SLS Flash 1 <sup>st</sup>	R10000	CAES	Arvish Maharaj	ANTIOXIDANT, ANTIBACTERIAL, AND CYTOTOXIC PROPERTIES IN CRUDE EXTRACTS OF BOUGAINVILLEA GLABRA LEAVES, STEMS, AND FLOWERS	Professor Yougasphree Naidoo
<b>BIGGEST CATEGORY IMPACT</b>					
SLS Oral	R5000	CAES	S'thandiwe Magwaza	<i>Chaetomorpha linum</i> Extract Enhances Glucose Uptake, Modulates Polyol Pathway and Glucose Metabolic Enzymes in Glucotoxic Adipose Tissue <i>Ex Vivo</i>	Prof Shahidul Islam
SLS Flash	R3000	CAES	Vunene Chabalala	Exploring <i>Dichotomaria diesingiana</i> 's Protective Effects towards Oxidative Stress and Enzyme Regulation in Pancreatic Dysfunction	Professor Shahidul Islam

#### SMSCS WINNERS

Category	Prize	Sponsor	Winner	Topic	Supervisor
<b>ORAL</b>					
SMSCS Oral 3 <sup>rd</sup>	R5000	CAES	Ntuthuko Zuma	Perfect Compactifications of Frames	Dr Cerene Rathilal
SMSCS Oral 2 <sup>nd</sup>	R10000	CAES	Lethukuthula Ndebele	A Block Hybrid Method for Nonlinear Boundary Value Problems: Application to Casson Fluid	Dr Hloniphile Sithole Mthethwa
SMSCS Oral 1 <sup>st</sup>	R15000	FNB	Sarah Ogutu	A COMPARATIVE ANALYSIS OF IMPUTATION TECHNIQUES FOR HIGH-DIMENSIONAL LONGITUDINAL BIOMARKERS: UTILIZING THE COX-SHARED FRAILTY MODEL TO ESTIMATE TIME-VARYING EFFECTS IN HIV INCIDENCE	Prof Henry Mwambi & Dr Mohanad Mohammed
<b>BIGGEST CATEGORY IMPACT</b>					
SMSCS Oral	R5000	CAES	Ntuthuko Zuma	Perfect Compactifications of Frames	Dr Cerene Rathilal