



UNAM
UNIVERSITY OF NAMIBIA

**DEPARTMENT OF COMPUTING,
MATHEMATICAL & STATISTICAL SCIENCES
FACULTY OF AGRICULTURE,
ENGINEERING & NATURAL SCIENCES**

***SOUTHERN AFRICA MATHEMATICAL SCIENCES ASSOCIATION (SAMSA)
ANNUAL CONFERENCE, 26 – 29 NOVEMBER 2024***

The Department of Computing, Mathematical and Statistical Sciences will host the annual SAMSA conference from the 26th to the 29th of November 2024 at the Windhoek Main Campus, University of Namibia. The city of Windhoek, being Namibia's capital, hosts all foreign embassies and high commissions to Namibia. It is also a major academic centre of research, that is home to two public universities, one private university, colleges, and training institutions. It is served internationally by the main international airport in Namibia. The objectives of SAMSA include fostering research and the teaching of Mathematical Sciences in Southern African countries and beyond. This conference will present an avenue for upcoming and established researchers to learn, network and present new provoking ideas and problem-solving techniques.

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Useful Information

Contact Information

For further information about the conference, please contact
Dr Samuel Nuugulu (Chair) and Dr Josiah Mushanyu (Deputy-Chair) at samsa2024@unam.na

Wi-Fi

WIFI Login Credentials:

UNAM Guests

Password: srZWUcu6

Abstracts and titles of talks

All abstracts and titles of talks can be found on the conference
website: <https://unam.edu.na/samsa2024/book-of-abstracts/>

Social events

- Welcome Cocktail and Poster Session: Tuesday 26 November 18:30 – 20:00.
- Conference Dinner: Wednesday 27 November 19:00 – 21:00 at Roof of Africa.
- Excursion: Thursday 28 November 14:00 – 18:00.

Local Organising Committee

For any other questions, please find one of the members of the local organising committee:

Dr. S.M. Nuugulu (Chair)
Dr. J. Mushanyu (Deputy-Chair)
Mr. T. Haiduwa (member)
Dr. A. Shipepe (member)
Prof. O. Oyedele (member)
Prof. L. Pazvakawambwa (member)
Dr. V. Hasheela-Mufeti (member)
Dr. P. Nangolo (member)
Dr. R. Gnitchogna (member)
Mrs. E. Lazarus (member)
Mr. A. Limbo (member)
Mr. N. Ndahangwapo (member)
Mrs. A. K. Nkandi-Hauwanga (member)
Mr. S. S. Amukugo (member)
Mr. S. Namhindo (member)

Acknowledgements

Thank you to our sponsors for your kind generosity.



Committee
for Women
in Mathematics

CWM

Pick n Play



Map and Venues

Location

University of Namibia, Windhoek Main Campus,
340 Mandume Ndemufayo Avenue, Pioneerspark, Windhoek

Venue

Peter Katjavivi Lecture Hall 1 (**PK1**),

Breakout rooms: School of military science building, Lecture Hall 1, 2, 3.

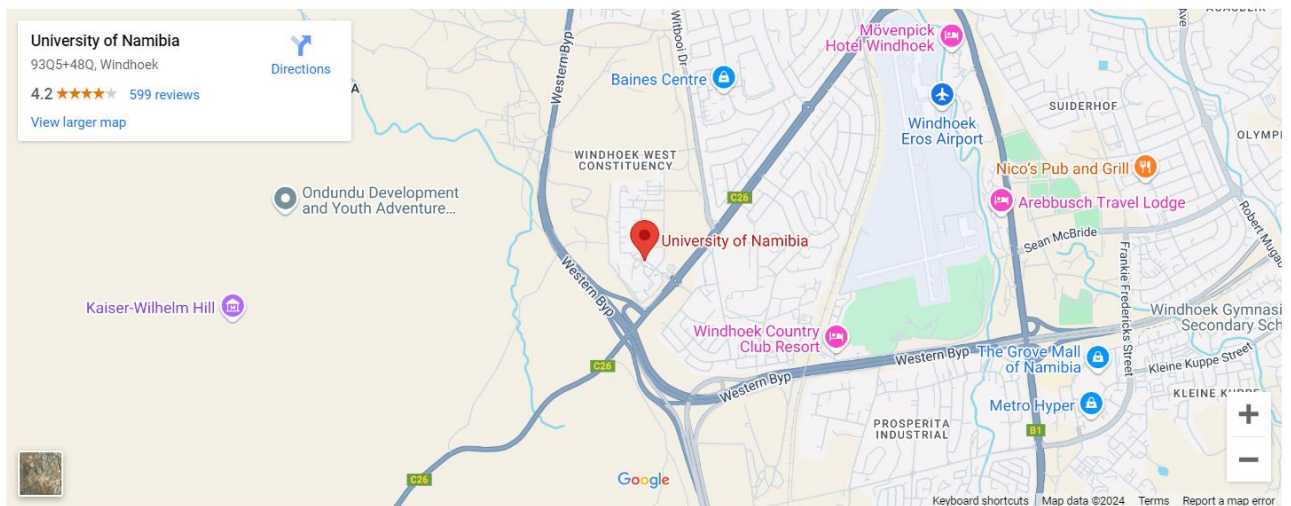
Virtual: <https://zoom.us/j/99990072972?pwd=lqdZ9vXdRBd0A9VZ0Js9KaGpV9abMg.1>

Meeting ID: 999 9007 2972

Passcode: SAM2543

For Virtual Tour of the campus: ([Location and Venue - SAMSA 2024 \(edu.na\)](#))

Google Map (Main Campus)



Virtual Tour (Main Campus)



Local transport (Hosea Kutako International Airport (HKIA) to Main Campus)

Most hotels provide transport upon request.

Transport for registered SAMSA delegates will be arranged as follows:

- From HKIA to your accommodation within Windhoek, on Monday 25 November for arrival at the HKIA between 1pm and 6pm.
- From Main Campus immediately after the closure of the conference and lunch to the HKIA on Friday 29 November.
- Delegates are responsible for their own transport from their hotels to UNAM main campus, except from Avani hotel, Arebbusch travel lodge, Mercure hotel, Casa Blanca guest house.

Please note that presenters who chose to give their presentations online are indicated by asterisks next to their names, while students are indicated by bolded names. If your name is not bolded and you are a student, kindly inform the session chair so that your presentation can be evaluated for the student awards.

Conference Block Schedule

Tuesday, November 26

07:30 - 08:15	Registration			
08:15 - 08:35	Official conference opening: Prof. Ferdinand Gideon, Pro-vice chancellor for academic affairs, University of Namibia			
08:35 - 08:55	Prof Farai Mhlanga, SAMSA President			
08:55 - 09:00	Housekeeping: Dr. Samuel Nuugulu			
09:00 - 09:10	Entertainment: Musical item			
09:10 - 09:40	Tea/Coffee			
09:40 - 10:20	Plenary: Prof. Raymond Greenlaw			
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
10:25 - 10:45	Lesiba Charles Galane	James Malele	Obert Mutabani	*John Matuya
10:50 - 11:10	Siboniso Nkosi	Faraimunashe Chirove	Immanuel Shipanga	Nduduzo Tedius Twala
11:15 - 11:35	* Darlington Hove	Kgomotshwana Thosago	* Selma Gideon	Olivier Olela-Otafudu
11:40 - 12:00	Silas Namhindo	Adewunmi Gideon Fareo	*Fungai Hamilton Mudzengerere	Pinkie Shikweni
12:05 - 12:25	Phyonah Mokoka	* Fernando Mucomole	Douglas T. Mashonganyika	Patrick Mbambo
12:30 - 12:50	Oteng Keganneng	Mandidayingeyi Hellen Machingauta	Alphonce Bere	Langson Kapata
12:50 - 14:00	Lunch			
14:00 - 14:40	Plenary: Prof. Samuel Manda			
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
14:45 - 15:05	Prof. Esco Turunen Lecture	Richard Kagisho Mahlakwana	Saara Shigwana	
15:10 - 15:30	Prof. Esco Turunen Lecture	Dimakatso Raesibe Seroka	Rikuvera Hikuama	*Brian Simasiku Kabuku
15:35 - 15:55	Prof. Esco Turunen Lecture	S.S. Motsa	Tuyakula Shifidi	Phumlani Zondi
16:00 - 16:30	Tea/Coffee			
16:30 - 17:10	Plenary: Prof. Jan Dhaene			
17:15 - 17:55	HoD Meeting			
18:00 - 20:00	Welcome Function (PK1) and Poster presentations			

Wednesday, November 27

	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
08:20 - 09:00	POLLS	POLLS	POLLS	POLLS
09:00 - 09:20	POLLS	POLLS	POLLS	POLLS
09:20 - 09:40	POLLS	POLLS	POLLS	POLLS
09:40 - 10:00	POLLS	POLLS	POLLS	POLLS
10:00 - 10:20	POLLS	POLLS	POLLS	POLLS
10:20 - 10:50	Tea/Coffee			
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
10:50 - 11:30	POLLS	POLLS	POLLS	POLLS
11:30 - 11:50	POLLS	POLLS	POLLS	POLLS
11:50 - 12:10	POLLS	POLLS	POLLS	POLLS
12:10 - 12:30	POLLS	POLLS	POLLS	POLLS
12:30 - 12:50	POLLS	POLLS	POLLS	POLLS
12:50 - 13:55	Lunch			
14:00 - 14:40	Plenary: Dr. Mesias Alfeus			
14:45 - 15:25	Plenary: *Prof. Verdiana Grace Masanja			
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
15:30 - 15:50	Hakoilonga Hamalwa	Farai Nyabadza	Tendai Makoni	José Pedro
15:55 - 16:15	Silvanus Absalom	Markus Mandume	Evaristar Kudowa	Tshikhudo Lukoto
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
16:20 - 16:40	AGM			
16:45 - 17:05	AGM			
17:10 - 17:30	AGM			
17:30 - 18:00	Tea/Coffee			
18:00 - 18:30	BREAK			
18:30 - 19:00				
19:00 - 20:00	Gala Dinner (Roof of Africa)			
20:00 - 21:00				

Thursday, November 28

Plenary: Prof. Alfredo Terzoli				
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
07:40 - 08:20	Plenary: Prof. Alfredo Terzoli			
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
08:25 - 08:45	Calisto Guambe	Phindile Dumani	*Fungai Mudzengerere	Musawenkosi Mkhathshwa
08:50 - 09:10	Prins Abraham	S. Y. Tchoumi	Stefano Bonnini	Rekha Panicker
09:15 - 09:35	Bentse Chun	Winter Sinkala	Evelina Sakeus	Yusuf Lawal Haruna
09:40 - 10:00	Sansao A. Pedro	Molahlehi Charles Kakuli	Helena Miranda	Willem P. Nashidengo
10:05 - 10:25	Zion Hefty	Pere Diaz Lozano	Jesca Batidzirai	Benard Okelo
10:25 - 10:55	Tea/Coffee			
11:00 - 11:40	Plenary: Prof. Esko Turunen			
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
11:45 - 12:05	STEM ROUND TABLE DISCUSSION	Jessica Kingsley	ROBOTICS WORKSHOP	Lazarus Rundora
12:10 - 12:30	STEM ROUND TABLE DISCUSSION	Matthews Sejeso	ROBOTICS WORKSHOP	Stanford Shateyi
12:35 - 13:00	STEM ROUND TABLE DISCUSSION	Maria Shaale	ROBOTICS WORKSHOP	Fernando Mucomole
13:00 - 14:00	Lunch			
14:00 - 15:00	Excursion			
15:00 - 16:00				
16:00 - 17:00				
17:00 - 18:00				

Friday, November 29

07:40 - 08:20	Plenary: Prof. Eunice Gogo Mphako-Banda			
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
08:25 - 08:45	Paul Horn	Regent Retrospect Musekwa	Hazel Sekgothe	Raseelo Moitseki
08:50 - 09:10	Valisoa Rakotonarivo	Daniel Maposa	Granny Lehaha	Elise Lazarus
09:15 - 09:35	Sufiyan Mallu	Emmanuel Adeyefa	Mbeki Shorn Monashane	Edward Inyangala
09:40 - 10:00	Peter Dankelmann	Isaac Takaidza	Stanford Shateyi	Melusi Khumalo
10:05 - 10:25	Shalin Singh	Mapundi Banda	Richard Akinola	Oteng Maphane
10:30 - 10:50	Clarence Mokalapa	Mirjam Haimene	Luke Joel	Thekiso Seretlo
10:50 - 11:20	Tea/coffee			
11:20 - 12:00	Plenary: Prof. Roberto Fontana			
	PK2	Lecture Hall 1	Lecture Hall 2	Lecture Hall 3
12:05 - 12:25	Student Award Ceremony			
12:30 - 12:50	Student Award Ceremony			
12:55 - 13:15	Student Award Ceremony			
13:20 - 13:30	Closing			
13:30 - 14:30	Lunch			
14:30 - 18:00	Departure			

Full Scientific Programme

Tuesday, November 26

07:30 - 08:15	Registration:PK2	
	<i>Official opening session chair: Prof. Faraimunashe Chirove (Venue: PK2)</i>	
08:15 - 08:35	Opening address: Prof. Ferdinand Gideon, Pro-vice chancellor for academic affairs, University of Namibia	
08:35 - 08:55	Prof Farai Mhlanga, University of Limpopo	
08:55 - 09:00	Housekeeping: Dr Samuel M. Nuugulu	
09:00 - 09:10	Entertainment: Musical item	
09:10 - 09:40	Tea/Coffee	
09:40 - 10:20	Venue:PK2	<i>Session Chair: Samuel Nuugulu</i>
	Plenary 1: Prof. Raymond Greenlaw	Guidelines for Managing and Utilizing Generative Artificial Intelligence Writing Tools
10:25 - 10:45	Venue:PK2	<i>Session Chair: Phyonah Mokoka and Oteng Keganneng</i>
10:50 - 11:10	LESIBA CHARLES GALANE	Stochastic Differential Game Formulation on the Reinsurance and Investment Problem
11:15 - 11:35	Siboniso Nkosi	Zero-coupon bond pricing when short rates are driven by skew geometric Brownian motion
11:40 - 12:00	Darlington Hove	Pathwise local times for deterministic cadlag deterministic paths as normalised numbers of interval crossings
12:05 - 12:25	SILAS NAMHINDO	OPTIMIZING RUIN PROBABILITY THROUGH REINSURANCE WITH INCLUSION OF INVESTMENT AND DIVIDEND PAYMENTS
12:30 - 12:50	Phyonah Mokoka	OPTIMAL INVESTMENT DECISION MAKING UNDER TWO FACTOR UNCERTAINTY USING LEVY PROCESSES
	Oteng Keganneng	Two pension fund managers that compete in a Nash equilibrium portfolio game under the jump diffusion model
10:25 - 10:45	Venue: Lecture Hall 1	<i>Session Chair: James Malele and Mandidayingeyi Hellen Machingauta</i>
10:50 - 11:10	James Malele	Solving Lane–Emden equations with boundary conditions of various types using high-order compact finite differences
11:15 - 11:35	Faraimunashe Chirove	A COVID-19 modelling infection modelling framework incorporating community pathogen load
11:40 - 12:00	Kgomotshwana Thosago	Optimization of Spectral Hybrid Method for Unsteady Reactive MHD Flow of Third-Grade Fluid through a Porous Medium with Asymmetrical Convective Cooling
12:05 - 12:25		
12:30 - 12:50	Adewunmi Gideon Fareo	Hydraulic fracturing with leak-off: Mathematical models and solutions
	Fernando Mucomole	Predictive estimation of solar energy over the Mid region of Mozambique using machine learning models
	Mandidayingeyi Hellen Machingauta	Seasonal Malaria Chemoprevention and operational paradigm: A mathematical modelling approach.
10:25 - 10:45	Venue: Lecture Hall 2	<i>Session Chair: Immanuel Shipanga and Douglas Masinganyika</i>

10:50 - 11:10	Obert MUTABANI	UNDERSTANDING THE DIVERSE FAMILIES OF NAMIBIA: AN APPLICATION OF A GROWTH CURVE MODEL OF THE STRUCTURAL EQUATION MODELS
11:15 - 11:35	Immanuel Shipanga	Namibia's Women's Empowerment Index as a Measure of Development: A Structured Equation Modelling Approach
11:40 - 12:00	Selma Gideon	Investigation on the Effects of Marital Status Among HIV-positive Individuals in Namibia: "A Time to Event Analysis"
12:05 - 12:25	Fungai Hamilton	Latent class analysis of risk factors for acquiring HIV among adolescent girls and young women: A case of DREAMS program in Zimbabwe.
12:30 - 12:50	Mudzengerere	
	Douglas T. Mashonganyika	Development of an AI – assisted web application for detecting and classifying brain tumours in scanned images
	Alphonse Bere	Comparison of the discrimination and calibration performance of the Logit-power and Pareto families of link functions in discrete survival models: A Bayesian Approach.
	Venue: Lecture Hall 3	<i>Session Chair: Patrick Mbambo and Langson Kapata</i>
10:25 - 10:45	JOHN MATUYA	On $k+n$ -D-Operator.
10:50 - 11:10	NDUDUZO TEDIUS TWALA	Some notes on countable strongly annihilated ideals of the pointfree function ring RL
11:15 - 11:35	Olivier Olela-Otafudu	Some aspects of asymmetric structures
11:40 - 12:00	Pinkie Shikweni	Aspects of Connectedness in Pointfree Topology
12:05 - 12:25	Patrick Mbambo	Properties of Bishop - Phelps cone on a Banach spaces
12:30 - 12:50	Langson Kapata	Constructing Fischer-Clifford Matrices of a maximal subgroup of Fischer group.up Fi22 from it's quotient
12:50 - 14:00	Lunch	
	Venue:PK2	<i>Session Chair: Paulina Nangolo</i>
14:00 - 14:40	Plenary 2: Prof. Samuel Manda	Nonparametric Methods in Survival Data Analysis

14:45 - 15:05 15:10 - 15:30 15:35 - 15:55	Venue:PK2	<i>Session Chair: Esco Turunen</i>
		Prof. Esco Turunen Lecture
		Prof. Esco Turunen Lecture
14:45 - 15:05 15:10 - 15:30 15:35 - 15:55	Venue: Lecture Hall 1	<i>Session Chair: Richard Kagisho Mahlakwa and Dimakatso Raesibe Seroka</i>
	Richard Kagisho Mahlakwa	Modelling, analysis and simulation of a Mechanobiochemical model for 2D and 3D cell migration
	Dimakatso Raesibe Seroka	A Lie symmetry analysis of the Wave equation
	S.S. Motsa	Demonstrating the Capabilities of ChatGPT o1-Preview in Extending Block Hybrid Methods to Higher-Order Boundary Value Problems
14:45 - 15:05 15:10 - 15:30 15:35 - 15:55	Venue: Lecture Hall 2	<i>Session Chair: Tuyakula Shifidi and Saara Shigwana</i>
	Saara Shigwana	AN APPLICATION OF SURVIVAL ANALYSIS AND RISK FACTORS FOR DEATH IN TUBERCULOSIS PATIENTS ON DIRECT OBSERVED TREATMENT IN NAMIBIA
	Rikuvera Hikuama	Patterns, Prevalence and Determinants of Low Birth Weight among Newborns in Namibia: Evidence from the 2013 NDHS
	Tuyakula Shifidi	Trend and Epidemiological Analysis of Coronavirus in Namibia
14:45 - 15:05 15:10 - 15:30 15:35 - 15:55	Venue: Lecture Hall 3	<i>Session Chair: Shalin Singh</i>
	Brian Simasiku Kabuku	The role of Algebra in the effective teaching and learning of trigonometric identities in Grade 12 Advanced Subsidiary level
	Phumlani Zondi	Properties of Quadratic Variations in Stochastic Calculus For Deterministic Paths With Jumps
16:00 - 16:30	Tea/Coffee	
16:30 - 17:10	Venue:PK2	<i>Session chair: Samuel Nuugulu</i>
	Plenary 3: Prof. Jan Dhaene	Decentralized risk sharing: pooling risks without a central insurer
17:15 - 17:55	HoD Meeting	
18:00 - 20:00	Welcome Function (PK1) and Poster Session	

Session

Wednesday, November 27

08:20 - 10:20	Venue:PK2	<i>Session Chair: X</i>
		Polls
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08:20 - 10:20	Venue: Lecture Hall 1	<i>Session Chair: X</i>
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08:20 - 10:20	Venue: Lecture Hall 2	<i>Session Chair: X</i>
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08:20 - 10:20	Venue: Lecture Hall 3	<i>Session Chair: X</i>
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10:20 - 10:50	Tea/Coffee	
10:50 - 12:50	Venue:PK2	<i>Session Chair: X</i>
		Polls

		Polls
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10:50 - 12:50	Venue: Lecture Hall 1	<i>Session Chair: X</i>
		Polls
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10:50 - 12:50	Venue: Lecture Hall 2	<i>Session Chair: X</i>
		Polls
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		Polls
10:50 - 12:50	Venue: Lecture Hall 3	<i>Session Chair: X</i>
		Polls
		Polls
		Polls
12:50 - 13:55		Polls
	Lunch	
14:00 - 14:40	Venue:PK2	<i>Session Chair: Josiah Mushanyu</i>
	Plenary 4: Dr. Mesias Alfeus	Top-10 South African Fine Wines: To drink or to invest?
14:45 - 15:25	Plenary 5: Prof. Verdiana Grace Masanja	Plenary Talk on Mathematical Modeling and AI-Driven Solutions for Advancing Sustainable Development Goals
15:30 - 15:50	Venue:PK2	<i>Session Chair: Hakoilonga Hamalwa and Nelson Ndahangwapo</i>
	Hakoilonga Hamalwa	AI-Driven Derivatives Pricing Models in Fintech
15:55 - 16:15	Silvanus Absalom	House prices and Economic Growth in Namibia
15:30 - 15:50	Venue: Lecture Hall 1	<i>Session Chair: Josiah Mushanyu</i>
	Farai Nyabadza	Targeting Melanoma: Predictive Mathematical Models with the Potential to Transform Cancer Treatment
15:55 - 16:15	Markus Mandume	Dynamics of Gambling Information diffusion and Its Impacts on Consumer Behaviors
15:30 - 15:50	Venue: Lecture Hall 2	<i>Session Chair: Anna Shipepe and Tendai Makoni</i>
	Tendai Makoni	Quantifying the impact and recovery of South Africa's manufacturing sales from the COVID-19 pandemic using a time series intervention model
15:55 - 16:15	Evaristar Kudowa	Data Integration Method in the Regression Analysis of Vaccine Efficacy in Pneumococcal Colonisation Studies from

		Malawi and the UK
15:30 - 15:50	Venue: Lecture Hall 3	<i>Session Chair:</i> Tshikhudo Lukoto and Elise Lazarus
	José Pedro	Fluid-Structure Interaction: From Basic Theory Concepts to Specific Model Problemas
15:55 - 16:15	Tshikhudo Lukoto	Radical Characterization of the Weyl and Browder Elements in Banach Algebras
16:20 - 17:30	Venue:PK2	<i>Session Chair: X</i>
		AGM
		AGM
16:20 - 17:30	Venue: Lecture Hall 1	<i>Session Chair: X</i>
16:20 - 17:30	Venue: Lecture Hall 2	<i>Session Chair: X</i>
16:20 - 17:30	Venue: Lecture Hall 3	<i>Session Chair: X</i>
17:30 - 18:00	Tea/Coffee	
18:00 - 19:00	BREAK	
19:00 - 21:00	Gala Dinner	

Thursday, November 28

07:40 - 08:20	Venue:PK2	<i>Session Chair: Josiah Mushanyu</i>
	Plenary 6: Prof. Alfredo Terzoli	How did we get here? A brief history of AI (and its ups and downs)
08:25 - 08:45 08:50 - 09:10 09:15 - 09:35 09:40 - 10:00 10:05 - 10:25	Venue:PK2	<i>Session Chair: Calisto Guambe and Zion Hefty</i>
	Calisto Guambe	Stochastic optimal control of a domestic islandic Microgrid management system equipped with solar panel, battery storage and a generator
	Prins Abraham	The Character Table of a Maximal Subgroup of the Chevalley simple group $G_2(4)$
	Bentse Chun	On the Isomorphism of the Eulerian graph models due to the Algebraic Properties of the (132)-Avoiding class of AUNU Permutation Patterns
	Sansao A. Pedro	The role of interprovincial mobility in the dynamics of COVID-19 epidemic in Mozambique: Insights from a stochastic metapopulation model
	Zion Hefty	Word-Representing the Hypercube
	Venue: Lecture Hall 1	<i>Session Chair: Winter Sinkala and Pere Diaz Lozano</i>
	Phindile Dumani	Spatial patterns in microbial communities within hostile environments
08:25 - 08:45	S. Y. Tchoumi	Impact of imported cases in the dynamics of malaria transmission in KwaZulu-Natal: A meta-population modelling
08:50 - 09:10	Winter Sinkala	Lie symmetry analysis; Differential equations; Symmetry group; Algorithmic solution methods
09:15 - 09:35	Molahlehi Charles Kakuli	Symmetry Reductions of the $(1+1)$ -Dimensional Broer-Kaup System Using the Generalized Double Reduction Method
09:40 - 10:00	Pere Diaz Lozano	Deep Operator BSDE: a Numerical Scheme to Approximate the Solution Operators
10:05 - 10:25	Venue: Lecture Hall 2	<i>Session Chair: Evelina Sakeus and Habtamu Yadeta</i>
08:25 - 08:45	Fungai Mudzengerere	Latent class analysis of risk factors for acquiring HIV among adolescent girls and young women: A case of DREAMS program in Zimbabwe
08:50 - 09:10	Stefano Bonnini	PERMUTATION ONE-SIDED MULTIVARIATE TEST FOR CATEGORICAL VARIABLES: A BIOMEDICAL CASE STUDY.
09:15 - 09:35	Evelina Sakeus	Predictability and Prevalence of Tuberculosis (TB) Diagnosis Using Machine Learning Approaches in Namibian Public Hospitals
09:40 - 10:00	Helena Miranda	The Impact of Algebra Tiles on Grade 10 Learners' Understanding of and Ability to Present and Manipulate Algebraic Expressions
10:05 - 10:25	Jesca Batidzirai	A Spatial Competing Risks Analysis of Mortality before CD4 Count Recovery in Patients on ART in South Africa

08:25 - 08:45 08:50 - 09:10 09:15 - 09:35 09:40 - 10:00 10:05 - 10:25 10:25 - 10:55 11:00 - 11:40	Venue: Lecture Hall 3	<i>Session Chair: Willem Pendukeni Nashidengo and Benard Okelo</i>
	Musawenkosi Mkhathshwa	Thermal and computational analysis of MHD dissipative flow of Eyring-Powell fluid: Non-similar approach via overlapping grid- based spectral collocation scheme
	Rekha Panicker	Stability results for a sequence of G´ornicki type contraction mappings
	Yusuf Lawal Haruna	Viscosity Approximation Method for Mean Valued Iteration and Split Monotone Variational Inclusion Problem in Hilbert Spaces
	Willem Pendukeni Nashidengo	Theoretical analysis of the effect of binding Schiff based ligand on Ruthenium benchmark Dye on Photo - response properties for DSSCs potential
	Benard Okelo	AI Techniques Approach to Solving Fixed Point Problems for Nonexpansive Mappings in Hilbert Spaces
	Tea/Coffee	
Venue:PK2	<i>Session Chair: Josiah Mushanyu</i>	
Plenary 7: Prof. Esco Turunen	GUHA Reveals Secrets of Data	

	Venue:PK2	<i>Session Chair: Farai Mhlanga</i>
11:45 - 12:05		Stem round table discussion
12:10 - 12:30		
12:35 - 13:00		Stem round table discussion
		Stem round table discussion
	Venue: Lecture Hall 1	<i>Session Chair: Nelson Ndahangwapo and Silas Namhindo</i>
11:45 - 12:05	Jessica Kingsley	Modeling the Spread of Crimean Congo Hemorrhagic Fever accounting for Tick Co-feeding
12:10 - 12:30	Matthews Sejeso	The Bregman dynamical system for solving sparse recovery problems
12:35 - 13:00	Maria Shaale	A typhoid epidemic model with resistance and antibiotic switching
	Venue: Lecture Hall 2	<i>Session Chair: Anna Shipepe</i>
11:45 - 12:05		Robotics workshop
12:10 - 12:30		Robotics workshop
12:35 - 13:00		Robotics workshop
	Venue: Lecture Hall 3	<i>Session Chair: Stanford Shateyi and Lazarus Rundora</i>
11:45 - 12:05	Lazarus Rundora	Lie group methods for solving reaction-diffusion equations
12:10 - 12:30	Stanford Shateyi	Magnetohydrodynamics Williamson nanofluid flow over a stretching surface with chemical reaction and thermal radiation
12:35 - 13:00	Fernando Mucomole	Predictive estimation of solar energy over the Mid region of Mozambique using machine learning models
13:00 - 14:00	Lunch	
14:00 - 15:00	Excursion	
15:00 - 16:00		
16:00 - 17:00		
17:00 - 18:00		

Friday, November 29

07:40 - 08:20	Venue:PK2	<i>Session Chair: Josiah Mushanyu</i>
	Plenary 8: Prof. Eunice Gogo Mphako-Banda	A Glance at the Landscape of Contemporary Graph Theory
08:25 - 08:45	Venue:PK2	<i>Session Chair: Peter Dankelmann and Paul Horn</i>
08:50 - 09:10	Paul Horn	Guarding ortho-unit polygons
09:15 - 09:35	Valisoa Rakotonarivo	Characterization of binary trees with maximal security
09:40 - 10:00	Sufiyan Mallu	Remoteness of graphs and digraphs with given size and connectivity constraints
10:05 - 10:25	Peter Dankelmann	Edge-connectivity of the square of a
10:30 - 10:50	Shalin Singh	Ramsey-type theorems for semigroups in pointfree topology
	Clarence Mokalapa	Designs From The Maximal Subgroups And Conjugacy Classes Of PSp(4,q)
08:25 - 08:45	Venue: Lecture Hall 1	<i>Session Chair: Daniel Maposa and Mapundi Banda</i>
08:50 - 09:10	Regent Retrospect Musekwa	A new flexible generalized family for generating continuous models
09:15 - 09:35	Daniel Maposa	Statistics of extremes with applications to financial markets and wind speed data
09:40 - 10:00	EMMANUEL ADEYEFA	DEVELOPMENT OF A BLOCK METHOD FOR SOLVING MULTIPLE ORDER ODES
10:05 - 10:25	Isaac Takaidza	Modeling and Control of Unemployment Dynamics
10:30 - 10:50	Mapundi Banda	Numerical optimal control approach for a hyperbolic system of conservation laws
	Mirjam Haimene	Maximality and resolvability among locales
08:25 - 08:45	Venue: Lecture Hall 2	<i>Session Chair: Stanford Shateyi and Richard Akinola</i>
08:50 - 09:10	Hazel Sekgothe	Bulk-surface finite element methods for non-linear semi-parabolic partial differential equations of reaction-diffusion type
09:15 - 09:35	Granny Lehaha	Lie symmetry methods for obtaining exact solutions of nonlinear diffusion equations.
09:40 - 10:00	Mbeki Shorn Monashane	Conservation laws and analytic solutions of the generalized geophysical Korteweg-de Vries equation
10:05 - 10:25	Stanford Shateyi	Magnetohydrodynamics Williamson nanofluid flow over a stretching surface with chemical reaction and thermal radiation
10:30 - 10:50	Richard Akinola	A SEVENTH-ORDER COMPUTATIONAL ALGORITHM FOR THE SOLUTION OF STIFF SYSTEMS OF DIFFERENTIAL EQUATIONS
	Luke Joel	Solving the Lane-Emden Equation Using Physics-Informed Neural Networks (PINNs)
08:25 - 08:45	Venue: Lecture Hall 3	<i>Session Chair: Raseelo Moitsheki and Edward Inyangala</i>
08:50 - 09:10	Raseelo Moitsheki	Application of Lie symmetry methods to some applied differential equations
09:15 - 09:35	Elise Lazarus	EQUIVARIANT MOTIVES VIA THE BOREL CONSTRUCTION
09:40 - 10:00	Edward Inyangala	Crossed modules and higher dimensional algebraic structures
10:05 - 10:25	Melusi Khumalo	ITERATED FUNCTION SYSTEM OF GENERALIZED CYCLIC CONTRACTIONS IN PARTIAL METRIC SPACES
	Oteng Maphane	Rational homotopy of a map of projective quaternions and their relative Gottlieb groups

10:30 - 10:50	Thekiso Seretlo	nX-Complimentary generations of the group PSL(3,7)
10:50 - 11:20	Tea/Coffee	
11:20 – 12:00	Venue:PK2 <i>Session Chair: Anna Shipepe and Lillian Pazvakawambwa</i>	
12:05 - 12:25	Plenary 9: Prof. Roberto Fontana Title: Classes of high dimensional Bernoulli distributions with given identical margins	
12:30 - 12:50	Venue:PK2	<i>Session Chair: Samuel Nuugulu and Anton Limbo</i>
12:55 - 13:15		Student Award Ceremony
		Student Award Ceremony
		Student Award Ceremony

12:05 - 12:25 12:30 - 12:50 12:55 - 13:15	Venue: Lecture Hall 1	<i>Session Chair: X</i>
12:05 - 12:25 12:30 - 12:50 12:55 - 13:15	Venue: Lecture Hall 2	<i>Session Chair: X</i>
12:05 - 12:25 12:30 - 12:50 12:55 - 13:15	Venue: Lecture Hall 3	<i>Session Chair: X</i>
13:20 - 13:30		
13:30 - 14:30	Closing	
	Lunch	
14:30 - 18:00	Departure	

Posters

18:30 - 20:00	Venue:PK2
Thakhani Ravele	Estimating Concurrent Probabilities of Compound Extremes: An Analysis of Temperature and Rainfall Events in the Limpopo Lowveld Region of South Africa
X	Title of poster
X	Title of poster
X	Title of poster
X	Title of poster