



**KWAZULU-NATAL PROVINCE**

EDUCATION  
REPUBLIC OF SOUTH AFRICA

# **KZND OE MATHEMATICS SUMMIT 2023**

**Mathematics: The Vehicle to  
Foundational Skills for Universal  
Relevance**

 **09H00**  **12 - 14 APRIL 2023**

 **ELANGENI HOTEL, DURBAN**



KZND OE



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The Department of  
Education KZN

**GROWING  
KWAZULU-NATAL  
TOGETHER**

## DAY 1: WEDNESDAY 12/04/2023

### PROGRAMME DIRECTOR:

(A) DDG Curriculum Management and Delivery – **Mr M.J. Mazibuko**

08:30 – 09:50	Registration	<b>All</b>
09:50 – 10:00	Singing of the National Anthem	<b>All</b>
10:00 – 10:15	Opening and Welcome	<b>Programme Director</b>
10:15 – 10:30	Purpose	<b>Mr G.N. Ngcobo</b> Head of Department: Education
10:30 – 11:15	Keynote Address	<b>Ms M. Frazer</b> MEC for Education
11:15 – 11:30	National perspective on the status of Mathematics in the Basic Education Sector	<b>Mr S. Tlhabane</b> DBE
11:30 – 12:15	Overall patterns on learner participation and performance (Gr 1 – 12) including Girl learners	<b>Dr R.C. Penniston</b> Chief Director: Examinations, Assessment and Quality Assurance
12:15 – 12:30	TIMSS performance and Diagnostic Report	<b>Ms A. Juan</b> HSRC
12:30 – 12:45	Content gaps identified by HEIs from learners they receive from DoE	<b>Mr Y. Aungamuthu</b> UKZN
12:45 – 13:00	Mathematics – Learning through play	<b>Mr H. Benson</b> VVOB
13:00 – 13:15	Discussion	<b>All</b>
13:15 – 14:15	<b>LUNCH</b>	
14:15 – 14:30	Demystifying/Decolonising Mathematics	<b>Prof M. Mkhize</b> UKZN
14:30 – 14:45	Reskilling of teachers: Courses offered at UKZN Requirements and curriculum offered for BEd and PGCE students.	<b>Prof S. Bansilal</b> UKZN
14:45 – 15:00	Prerequisites to enter programmes in school of education. Curriculum offered for pre-service training programmes	<b>Dr C.N. Mthiyane</b> DUT
15:00 – 15:15	In-service training for teachers Use of technology in Mathematics classrooms Shortcomings of teachers and subject advisors.	<b>Ms S. Southwood</b> Vula
15:15 – 15:25	Discussion	<b>All</b>
15:25 – 15:40	Shaya Izibalo Maths Institute	<b>Mr P. de Wet</b>
15:40 – 15:55	Statistics on participation of teachers and subject advisors. Benefits of taking part in AMESA activities and strategies to get more involvement.	<b>Mr. C.S. Khanyile</b> AMESA Chairperson
15:55 – 16:10	Statistics from Maths Olympiads. Support for teachers	<b>Mr P. Rasehwete</b> SAMF
16:10 – 16:20	Discussion	<b>All</b>
16:20 – 16:40	<b>TEA BREAK</b>	
16:40 – 17:30	Panel discussion: HEIs, SAMF, AMESA, HSRC, Vula, Shaya Izibalo Maths Institute	<b>Prof M. Khumalo</b> UNISA

## DAY 2: THURSDAY – 13/04/2023

### PROGRAMME DIRECTOR

(A) Chief Director: Curriculum Management – **Dr. B.A. Makhathini**

08:00 – 08:15	Recap on day 1	<b>Programme Director</b>
08:15 – 08:30	Catching up Learning Backlogs in Mathematics	<b>Ms T. Butchart</b> Reflective Learning
08:30 – 09:15	Panel discussion: VVOB, SAICA, PILO, Reading to Learn SA, Siyavula, Count Educational Institute, CASME and Reflective Learning	<b>Prof S. Hansraj</b> UKZN
09:15 – 09:30	Discussions	<b>All</b>
09:30 – 10:30	Break Away – Commissions	
10:30 – 10:50	<b>TEA BREAK</b>	
10:50 – 13:00	Break Away – Commissions	<b>All</b>
13:00 – 14:00	<b>LUNCH</b>	
14:00 – 16:20	Break Away – Commissions	<b>All</b>
16:20 – 16:40	<b>TEA BREAK</b>	
16:40 – 17:40	REPORT BACK BY COMMISSIONS Commission 1: Mathematics, the foundation for learner progression and career pathing	<b>Dr T. Talasi</b> UniZulu
17:40 – 18:00	Discussion	<b>All</b>

## DAY 3: FRIDAY 14/04/2023

### PROGRAMME DIRECTOR

(A) Chief Director: Curriculum Development Programmes – **Mr S.D. Manganye**

08:00 – 08:15	Recap on day 2	<b>Programme Director</b>
<b>REPORT BACK BY COMMISSIONS</b>		
08:15 – 09:15	Commission 2: Praxis in relation to Mathematics teaching and learner attainment.	<b>Mr P. De Wet</b>
09:15 – 09:30	Discussion	<b>All</b>
09:30 – 10:30	Commission 3: Mathematics in a digital era and beyond	<b>Prof A. Msomi</b> MUT
10:30 – 10:50	<b>TEA BREAK</b>	
10:50 – 11:05	Discussion	<b>All</b>
11:05 – 12:05	Commission 4: Monitoring and support for the teaching and learning of Mathematics	<b>Dr P. Mthembu</b> Wits
12:05 – 12:20	Discussion	<b>All</b>
12:20 – 13:00	Way Forward	<b>(A)</b>
13:00 – 14:00	Lunch and departure	<b>All</b>

## Profile

### Mr. Yougan Aungamuthu

Yougan Aungamuthu is a Senior Tutor in Mathematics within the Centre for Academic Success in Science and Engineering (CASSE) at the University of KwaZulu-Natal (UKZN), Pietermaritzburg campus. In his nineteen years at UKZN, Yougan has taught various first year modules in Science, Commerce and Humanities; he has published articles in the areas of:

- i) learning mathematics with ICT, and
- ii) cognitive test anxiety.

A highlight in his career was working with Prof. Iben Christiansen on a Grade 6 mathematics project analysing data related to teacher Pedagogical Content Knowledge and learner misconceptions. Prior to joining UKZN, Yougan taught at various primary and secondary schools.

## Profile

### Mr. Henré Benson

Henré Benson is a Strategic Education Advisor Online and Blended Learning with VVOB in South Africa. He has over 25 years' experience in the mathematics and science education development sector, including digitalisation of professional development programmes for teachers. He serves on the reference group for the National Institute for Curriculum and Professional Development and as a Board member of the National Association of Social Change Entities in Education. Prior to joining VVOB he served as Director of CASME (Centre for the Advancement of Science and Mathematics Education).

VVOB's focus is on system level support in basic education with a particular attention to continuous professional development (CPD) of teachers. In this regard VVOB is supporting the Department of Education to develop and test alternative, scalable and sustainable models including blended CPD. Most recently the BLEND Project provided the opportunity to support 1000 teachers in learning mathematics through play resulting in the development of a short online course which is now open to all teachers and is currently being versioned into IsiZulu.

## Profile

### Professor Msizi Mkhize

Professor Msizi Mkhize is the Dean of Teaching and Learning in the College of Law and Management Studies, University of KwaZulu-Natal (UKZN). Some of his former positions include Accounting education lecturer at the UKZN School of Education; Project manager of Transformation and Growth at South African Institute of Chartered Accountants (SAICA); Head of Commerce at Zwelibanzi High School; and Accounting and Mathematics teacher at Menzi High School, where he developed a turnaround strategy for the school. He holds PhD, MCom (UKZN), BComHons (UNISA), BCom (UZ) and DipEd (Indumiso CoE). His research on transdisciplinary relationship between mathematics and accounting has provided an excellent platform to improve his accounting teaching. Introduction to accounting topics are explained mathematically to make them easier for students to understand. He has published a series of FET Accounting Study Guides: Mathematical calculations made simple (The essential help learners need to master accounting calculations). He has developed a Maths Show that encourages learners to talk Maths, Love Maths and see it as an interesting subject. He is the recipient of UKZN's Distinguished Teacher Award (2018) and CHE/HELTASA National Excellence in Teaching Commendation Award (2019).

### ***Community Engagement Projects – FET Mathematics and Accounting***

Prof Msizi Mkhize, Dean of Teaching and Learning in the College of Law and Management Studies at University of KwaZulu-Natal:

- Has facilitated (with his son and colleagues) numerous accounting and mathematics workshops for high school learners and teachers. Last year (2022), Dr Don Mhlongo, Dr Sivuyile Mgobhozi

(from UKZN School of Mathematics) and Dr Xoli Msomi (from DoBE Umlazi District) were part of his team that conducted the FET Maths and Accounting Teacher Enrichment Programme (TEP) in the uMzinyathi, iLembe, Zululand and uMkhanyakude Districts. Thanks to South African Institute of Chartered Accountants - SAICA (Ms Sister Ntsele) and UKZN (Ms Hazel Langa) for sponsoring the 2022 FET Mathematics and Accounting TEP. Thanks to uMkhanyakude district teachers who purchased 60 copies of my Grade 12 accounting study guides.

- Runs annual Maths and accounting exam preparation workshops for Grade 12 learners
- Has developed (with his son) user-friendly mathematics material for Grade 10, 11 and 12 learners. Material prepared in a step-by-step method and available free of charge on social media and online. We show exciting and fun problem-solving methods. This allows teachers and learners to relearn and unlearn (modify).
- Hosts Maths shows (featuring his son) at various schools and churches in KwaZulu-Natal throughout the year and constantly amazes learners, teachers and parents by showing them how they use Maths in their daily lives and how Bible verses can be linked to Maths.
- Writes opinion pieces in newspapers about reasons to love Maths. An opinion piece on teaching mathematics needs creativity and a touch of magic, was published in the Daily Newspaper. I shared my unique methods of teaching mathematics and methods to encourage different learning skills, for example celebrating “Love Maths Day (not Valentine’s Day)” where learners express their love of maths and display love of maths all day. Learners need to feel the excitement and fun of mathematics and how it informs almost every aspect of their modern lives.

## Profile

### Mrs Sue Southwood

Mrs Sue Southwood has a BSc HDE (Natal). Previously she was a Head of Mathematics at Hilton College. Presently she is in charge of the Vula Mathematics Project at Hilton College. Vula Mathematics offers in-service training for mathematics teachers.

The focus is on practical and modern teaching methods, including technology where appropriate. All courses are residential and there is no charge.

- a) VuMA : 11-week course for FET teachers. A total 2 intakes per year each with a maximum of 20 teachers each, focus on the use of technology
- b) Mini VuMA: 2-week in-service course for Grade 8 and 9 teachers, 4 intakes per year with a maximum of 20 teachers each, focus on basics and ‘hands-on’ experiences for learners
- c) Holidays: 4-day courses for FET teachers, 2 per year with a maximum of 40 teachers each, focus on single topic e.g. trigonometry

## Profile

### Paul de Wet

Paul de Wet is a “born and bred” teacher of Mathematics. He is the son of two teachers, one of them an outstanding Mathematics teacher, so teaching Mathematics is literally “in his blood”. Paul has enjoyed significant privilege in terms of his own education, having attended Hilton College as a schoolboy. He has subsequently taught in several leading Independent Schools. While he occupied a variety of senior leadership roles in these schools, his first passion has always been the teaching of Mathematics. He is highly regarded as an exceptional Mathematics teacher, National Examiner, popular presenter at conferences and a prolific creator of resources. Paul is in his 30th year of teaching Mathematics. He is an avid proponent of using technology to engage learners and to enhance their understanding of concepts. Paul’s deep desire is to use his abilities, experience, and energy to give back and to make a difference to those who have not enjoyed the same opportunities he has.

SIMI (The Shaya Izibalo Maths Institute [www.shayaizibalo.com](http://www.shayaizibalo.com)) provides Mathematics resources and services to secondary schools, particularly in less privileged spaces since we believe that a de-

cent Mathematics education should be a right for all. We use a combination of in-person and online approaches to gain maximum reach and scale.

## Profile

### Professor Melusi Khumalo

Prof Khumalo obtained his BSc with majors in Mathematics and Physics at the University of Eswatini. He then obtained his MSc in Numerical Analysis from Brunel University London, and PhD at Memorial University of Newfoundland in Canada.

Prof Khumalo has over 20 years of post-PhD University teaching experience at the University of Eswatini, University of KwaZulu-Natal, University of Johannesburg and University of South Africa.

- His teaching experience involves all areas of undergraduate Mathematics
- His postgraduate teaching has involved various modules in Applied Mathematics, including Ordinary Differential Equations, Partial Differential Equations, Numerical Analysis and Optimization

### ***Prof Khumalo has participated in various panels and initiatives in Basic Education:***

1. Review of materials for CAPS curriculum
2. Teacher training both in terms of content and pedagogy
3. Community engagement initiatives that seek to improve learner performance and appreciation of Mathematics at the most basic levels

The Department of Mathematical Sciences at UNISA has signed a Memorandum of Understanding (MOU) with Bukho Bami Youth Centre, based in Dobsonville, Soweto. Under the terms of this agreement, we seek to contribute to the course that the Centre is involved in by contributing methods of studying and learning Mathematics. This is also forming part of a scholarly research project that will determine effectiveness of various methods of teaching and learning Mathematics.

## Profile

### Professor Sudan Hansraj

After obtaining a teaching diploma from Springfield College, Sudan Hansraj commenced his working life as a high school teacher of mathematics in 1987. He then obtained a bachelors degree and Honours in pure mathematics from UNISA in minimum time. While serving as a lecturer in Mathematics Education at the Durbanse Onderwyskollege he obtained a Master of Science degree and then the PhD from the University of Natal. In 2002, Sudan Hansraj was appointed as a senior lecturer in Mathematics Education at the Edgewood Campus of the University of Natal. Shortly thereafter he was transferred to the Mathematics department.

He considers the teaching of mathematics to be one of his most important contributions and for several years pioneered the infusion of technology in the teaching of university mathematics. He proudly notes having taught a large variety of mathematics courses from first year to Honours in mathematics including most service courses with huge class sizes in Engineering mathematics. In 2017 he was awarded a Distinguished Teacher award by the College. He rates his teaching achievements as a high school teacher in the matriculation examinations as the highlight of his teaching career at any level since students wrote examinations set by others.

Sudan Hansraj has published some 70 research papers in Einstein's general theory of relativity and its extensions. 50% are in quintile 1 ranked journals; 57% of journals have an impact factor over 3. He is a reviewer for at least 20 international journals, including Mathematical Reviews for the American Mathematical Association and was given an Outstanding Reviewer Award by the journal Classical and Quantum Gravity (IF 3,49) in 2020. To date, he has graduated 5 PhD and 8 Masters students in Applied Mathematics and has supervised three post-doctoral fellows. He has also participated in at least 63 international and local conferences and served Chair of the LOC of Gravtex 2021: International Conference on Gravitation - theory and experiment. Sudan Hansraj is an NRF rated researcher.



He has also made extensive contributions to the wider community of mathematics. He was a founding member of the South African Mathematics Foundation (SAMF) and served on the Olympiads committees for many years and is currently still serving in the capacity of moderator. During his active term on the committee he wrote two books (with co-authors) for use by high school learners in preparing for contests on creative problem solving. The books are also translated into Afrikaans. Additionally, he devised a teacher development programme (3 course levels) which ran for some 15 years training teachers through the SAMF on how to tackle olympiad problems. He also served as organiser/examiner of the Interprovincial mathematics Olympiad (now called SA Mathematics Team Challenge), the South African tertiary mathematics olympiad (SATMO), a coach of the SA math Olympiad team, team leader to the Pan African Mathematics Olympiad and a jury member of the International Mathematics Olympiad hosted by South Africa. Sudan also chaired the Association for Mathematics Education (AMESA) problem solving committee in KZN for over 11 years. He compiled several booklets used by primary and high school children in preparing for these popular competitions. He led three teams to the Hong Kong Olympiad from 1998 to 2000. Additionally Sudan has authored several books under the Turbo series label designed to assist students prepare for their final school examinations. Currently Sudan is a four term member of the Assessments Standards Committee of the UMALUSI Council.

At UKZN, he has served as an academic leader for mathematics for 2 terms. He was elected by the College academics as their representative on the Institutional Forum (IF) where he served for many years. He was elected as Chair of the IF and led many activities such as Executive appointments and increasing the retirement age at UKZN.

## **Profile**

### **Professor Alfred Msomi**

#### **Qualifications**

PhD Mathematics Education (e-Learning Environment) at (UKZN), PhD Pure Mathematics (General Relativity & Cosmology) at (UKZN), MSc Mathematics (General Relativity & Cosmology) (UKZN), BSc Honours Mathematics (UNIZULU), BSc (Education) UNITRA), Grade 12 (KwaMakhutha High School).

#### **Employment History**

Mathematics Educator, Junior Lecturer, Lecturer, Senior Lecturer, Professor of Mathematics and HOD: Mathematical Sciences at Mangosuthu University of Technology (MUT), Dean: Faculty of Natural Sciences (MUT)

Research Areas are Solution of Differential using the method of Lie symmetries and Impact of the use of technology in the teaching and learning of Mathematics in the Higher Education Sector (e-Learning platform)

#### **Publications**

- Published papers in the Journal of Physics A: Mathematical and General.
- Published papers in the Journal of General Relativity and Gravitation.
- Published papers in the Mathematics Education Journals
- Presented papers in Pure Mathematics and Mathematics Education conferences.
- Has given a number of plenary presentations.

#### **Other Educational Involvements**

He has served the mathematics education fraternity as a mediator and facilitator, coordinator, for a number of educational projects in SA, materials developer, etc., for a number of reputable projects and establishments such as the Centre for Advancement of Science and Mathematics Education (CASME) and KZN Science Centre. Organized a number of Teacher and Learner Development work-

shops in the area of Mathematics using traditional and GeoGebra teaching skills. He has also been involved in face to face and online tutoring mathematics students for UNISA. Has collaborated with UKZN Edgewood Campus to develop and offered Mathematical Literacy Programme for the KZN Mathematical Literacy teachers. National Science Week Co-ordinator for MUT

### **Awards Received**

- Received Vice Chancellor Teaching and Excellent Award as the best lecturer in the Faculty of Natural Sciences at MUT in 2014.
- Chairperson: Association for Mathematics Education in South Africa (AMESA) KZN Province in May 2015.
- Received a Teaching Advancement at University Fellowship (TAU) in 2015
- Received Mangosuthu University of Technology Distinguished Community Engagement Award 2016

### **Profile**

#### **Dr Pinkie Mthembu**

Dr Pinkie Mthembu is a Senior Lecturer in the Education Leadership, Policy and Skills Division at the University of the Witwatersrand, Johannesburg. Pinkie holds a PhD in Educational Leadership Management and Policy, focusing on the district leadership role in supporting teaching and learning in South African schools. She teaches and supervises at the Honours, Masters and PhD levels. Before joining Wits University, she worked at the University of KwaZulu-Natal. She also worked for over 19 years in secondary and prevocational school education as Mathematics and Engineering Graphics and Design teacher, a Departmental Head and a Deputy Principal. Pinkie's research interests are School District Leadership and Leading and Managing Teaching and Learning. She is leading a research/partnership project titled: Enhancing Education District Leadership Capacity to Support Principals to Lead Teaching and Learning Improvement. In partnership with UKZN colleagues, Wits is also working with two KZN education districts on Grade 8 and 9 Maths teachers' and Grade 2 Departmental Heads' professional development initiatives.

### **Profile**

#### **Dr Jean Medard Ngnotchouye**

Dr Jean Medard Ngnotchouye is a senior lecturer of Applied mathematics and the academic leader of teaching and learning in the school of mathematics, statistics, and computer science at the University of KwaZulu-Natal. He has been a mathematics academic for the past seventeen years, teaching several modules at undergraduate and graduate levels and supervising students at honours, masters and doctoral levels. His research interest includes numerical analysis, optimisation, optimal control, and financial mathematics. He has participated in many conferences in South Africa and internationally, presenting the results of his research. He is passionate about mathematics and how it is taught from primary school to university. His approach to the subject includes presenting the material dynamically and innovatively to make learners fall in love with mathematics.

We offer a variety of modules at the undergraduate and graduate levels to our learners. Those modules are taught by highly qualified academics with a student-centered education approach. We aim to support our learners to reach their full potential by motivating them and encouraging them to take charge of their learning journey. We offer different support programmes such as supplementary instruction and the so-called "hot seats" designed to help the students, in addition to the time in the classroom with the lecturer.



## **Profile**

### **Tracey Butchart: Head of Research and Learning Design**

Tracey spent twenty years teaching Mathematics and Physical Science before moving into full-time teacher professional development and educational consulting. She created a formative assessment software package for educators called Rubricate which was rolled out across three provinces in South Africa while concurrently setting national Grade 9 Common Tasks for Assessment for both the DBE and IEB. She consulted to institutions such as the Ethiopian Ministry of Education and the Human Sciences Research Council, presented staff workshops at Wits University on innovative assessment practice, and provided monitoring and evaluating services for numerous intervention projects and organisations. In 2012 Tracey devised a system of measuring and catching up learning backlogs in mathematics which has been scaled through Reflective Learning to impact over 100 000 learners across South Africa. She is currently completing her PhD in Mathematics Education, focusing on the use of a metacognitive pedagogical model of learning to catch up backlogs in mathematics.

## **Profile**

### **Elaine Smallbones**

Elaine Smallbones has FDE Mathematics from University of Natal, ACE Computer Integrated Education University of Pretoria and diploma in Blended learning (Coursera)

#### ***Experience:***

- 1965 to 1970 / 1981 to 1989 / 2008 – 2011 Mathematics to Grades 7 – 12 Different Private and Govt Schools
- 1990 to 1995 Pholela High School
- 1995 to 2002 HOD Mathematics Enhlanhleni Combined School near Underberg
- 2004 to 2008 and 2012 to 2014 taught Mathematics in multicultural and multi-language classes in Kenya and South Africa
- 2018 to 2022 Teacher Support Facilitator at Vula Outreach Programme at Hilton College

#### ***Publications***

- Textbooks published by Via Afrika 1996 to 2015
- Mathematics Grades 7 to 9
- Mathematical Literacy contributor Grades 10 -12
- E-Classroom online material Worksheets for Mathematics Grade 7 – 9 CAPS

She has long been aware of and have foregrounded the importance of language and reading for meaning in her Mathematics teaching. Attending a Reading to Learn workshop confirmed her understanding of the importance of reading as a primary skill. Her Mathematics lessons are typically learner based with learner participation in the lesson including verbal, visual and tactile experiences. Specific time is taken to teach learners how to read and interpret the material with which they are working, with particular emphasis on the interpretation and answering of word based questions. In lessons with learners to whom English is a second language, attention has been given to the use of technical words in Mathematics. An extremely successful method to aid conceptual development especially in Grades 7-9 was to replace, for a period of time, an English word with a mother tongue or simpler English alternative. An example e.g. intercept was replaced by crossing (Simple English) or impambane (isiZulu).

## **Profile**

### **Deb Avery**

Deb Avery has Natal Teachers Senior Diploma for Foundation Phase (Natal Training College), HDE in English and Remedial Education (Natal College of Education), HDE in Computer Based Education (Natal College of Education), and BEd Hons -Academic English and Guidance and Counselling (UKZN)

Non-Academic training courses

- ICT integration (SchoolnetSA)
- Reading to Learn (R2L South Africa),
- British Council e-Mentor's course (British Council)

### ***Relevant experience***

- 1975-2011
- Foundation and Intermediate Phases: General subjects
- Senior Phase: English and ICT
- Tertiary
- 2012 – 2022
- Learning technologies and Language across the Curriculum
- Teacher Development
- 2000- 2023
- Schoolnet – ICT integration
- Reading to Learn – Master Trainer in South and East Africa including R2L Maths module
- British Council – Facilitator for various Literacy courses

### ***Publications***

- Author of textbooks and other LTSM for South Africa and International contexts
- While now she is working as a Literacy consultant, her years in the Foundation and Intermediate phases as a generalist has given her insight into the challenges of teaching Mathematics to learners whose home language is different from the Language of Teaching and Learning.
- As a Master trainer for RtL, She has taught the methodology across the curriculum and across phases, including Maths in Primary schools and Mathematical Literacy in Secondary schools.

## **Profile**

### **Professor Delia North**

Professor North holds a BSc degree, majors in Mathematical Statistics and Mathematics, which she took through to a PhD in Measure Theoretic Probability, so she is a Mathematical Statistician in the true sense of the word. She has over 30 years' experience in teaching Statistics and more than 15 years' experience in leadership at university, including Academic Leader (Head) of Statistics and Dean and Head of Mathematics, Statistics and Computer Science.

She has become a leading figure in Statistics Education circles, nationally and internationally, including Chair of the South African Statistical Association Education committee for 18 years. To get back to her roots of Mathematics, she was part of the Dept of Education Workgroup that defined the Data Handling and Probability content of the school curriculum and is currently serving her second term as member of the ASC (Assessment Standards Committee) of UMALUSI.

She is based at UKZN, within the Statistics sector, so her experience in teaching and learning of Mathematics is in the sense of work done for UMALLUSI and the running of advocacy programs for teachers and learners to be aware of the escalation of employment opportunities for school leavers that study in STEM areas at post school level

# COMMISSIONS

## COMMISSION

- 1. Mathematics, the foundation for learner progression and career pathing.**
  - Learner participation
  - Support for Girl learners
  - Interventions
- 2. Praxis in relation to Mathematics teaching and learner attainment.**
  - Human Capital
  - Material resources
  - Learner attainment
- 3. Mathematics in a digital era and beyond.**
- 4. Monitoring and support for the teaching and learning of Mathematics.**

## QUESTIONS

- a) Where are we?
- b) Where do we want to go to?
- c) How do we get there?
- d) What resource are needed?
- e) What are the risks associated in reaching the desired results?
- f) What are your recommendations regarding the topic?

## SPECIAL THANKS TO OUR SPONSORS



# South African National Anthem

Nkosi Sikelel' iAfrika

(God Bless Africa)

Maluphakanyisw' uphondo lwayo,

(Raise high Her glory)

Yizwa imithandazo yethu,

(Hear our Prayers)

Nkosi sikelela, thina lusapho lwayo

(God bless us, we her children)

isiXhosa and isiZulu

Morena boloka setjhaba sa heso,

(God protect our nation)

O fedise dintwa le matshwenyeho,

(End all wars and tribulations)

O se boloke, O se boloke setjhaba sa heso,

(Protect us, protect our nation)

Setjhaba sa South Afrika - South Afrika.

(Our nation South Africa - South Africa)

Sesotho

Uit die blou van onse hemel,

(Ringing out from our blue heavens)

Uit die diepte van ons see,

(From the depth of our seas)

Oor ons ewige gebergtes,

(Over our everlasting mountains)

Waar die kranse antwoord gee,

(Where the echoing crags resound)

Afrikaans

Sounds the call to come together,

And united we shall stand,

Let us live and strive for freedom,

In South Africa our land.

English