

## STEM education in South Africa (SA): academic and vocational

### NSTF-proSET Discussion Forum

17 September 2024 (Day 1)


#### Speakers' Biographies



**11:10-11:35**

*The Integrated National Strategy for Maths, Science and Technology (MST) Education (2019-2030) – progress*

**Ms Elspeth Mmatladi Khembo** is the Director of Mathematics, Science and Technology (MST), Curriculum Innovation and E-Learning at the Department of Basic Education (DBE), and has served on several Ministerial Task Teams; investigating the challenges in the implementation of the National Curriculum Statement (NCS) in 2009; supervising the repackaging of the NCS Mathematics (Grade R-12) and Mathematical Literacy (Grade 10-12) into the Curriculum Assessment Policy Statement (CAPS) from 2010-2012; and investigating the promotion requirements in the NSC (2013-2014). She was appointed by Minister Motshekga in 2014 to establish the MST Office at the DBE and worked with the Department of Higher Education (DHET) and the Department of Science and Innovation (DSI) to review the National Strategy for Mathematics, Science and Technology Education in GET & FET (2001), into *the Integrated National MST Education Strategy (2019-2030)*. Between 2017 and 2018, she coordinated the development of the *Mathematics Teaching and Learning Framework for SA – “Teaching Mathematics for Understanding (TMU)” (2018)*. She has been overseeing the field testing of the TMU Framework since 2019, and is currently supervising the conceptualisation of the

	<p><i>National Mathematics Improvement Programme (NMIP)</i>. Elspeth also served as the national president of the Association for Mathematics Education of South Africa (AMESA), as well as the Chairperson of the Board of the South African Mathematics Foundation (SAMF) (2008 – 2012).</p>
 <p><b>11:35-12:00</b> <i>Programming in school</i></p>	<p><b>Ms Carina Labuscagne</b> retired at the end of September 2023. She used to be the Chief Education Specialist for Computer Applications Technology (CAT) and Information Technology (IT) at the Department of Basic Education (DBE) and is now back at the DBE on contract.</p> <p>Ms Labuscagne taught Computer Studies HG and SG for 23 years as well as Computer Literacy and Mathematics for some time. She led the team writing the new Coding and Robotics CAPS R-9 Vivid Reader and has a special interest in how we learn (Science of Learning).</p>
 <p><b>12:30-13:00</b> <i>Enhancing learning and teaching of technical and technological subjects at TVET Colleges</i></p>	<p><b>Mr Tsoetsi Motlalepula Elias</b> has been an educationist since 1991 at the former Itemoheleng Technical College before the merger of colleges in 2003. He has taught mechanical subjects, Mathematics and Engineering Science at different levels in the current Maluti TVET College. He became the senior lecturer in 2002, Acting Campus Manager from 2004 until appointment in 2008, senior education specialist from 2010 and appointed as Deputy Principal – Academic, from 2011 at the same College. Appointed Acting Principal from 2020 to date at Maluti TVET College with 8 campuses and not less than 8500 headcount per annum. Completed Senior Teacher Diploma in 1990 at Indumiso College of Education in Technical. Studied and obtained National N Diploma through correspondence with DHET. Completed B.Ed degree in Technical with University of the Free State (UFS) in 1997. Completed Post Graduate Diploma in TVET College Leadership and Management in 2020 with the University of Pretoria (UP).</p>
	<p><b>Prof Mary Metcalfe</b> first taught as an unqualified teacher in 1974 in the field of remedial reading,</p>



**13:00-13:30**

*The importance of planning in a resource constrained environment*

before working in teacher education at the Johannesburg College of Education and at the University of the Witwatersrand (Wits) from 1982 to 1994. In the 1980's she was involved in the anti-apartheid work of the mass democratic movement in education and used her sabbatical in 1992/1993 to work on the development and consultation on education policy for the African National Congress (ANC). After the first democratic elections in 1994, she was appointed as the Member of Executive Council (MEC) for education in Gauteng where she served from 1994 – 1999.

She was Head of the School of Education at the Wits from 2005 to 2009 before leaving to establish the new department of Higher Education and Training as Director General.

She is currently leading PILO which has worked on scale in KwaZulu-Natal (KZN), the Free State, Gauteng, Mpumalanga and Northern Cape supporting districts to lead system improvement to improve learning outcomes. She is a Professor of Practice at the University of Johannesburg, and a National Planning Commissioner.



**13:30-14:00**

*Integrating STEM Education with real-world contexts to enhance readiness for tertiary studies*

**Mr Patisizwe Mahlabela** taught mathematics and science at high school for five years. He was a lecturer of mathematics during the era of teacher colleges for 20 years and worked as a mathematics subject advisor for 16 years. Mr Mahlabela has been in the NGO space for almost eight years supporting mathematics teachers in Grades 4 – 9. In addition to that, he has worked for several universities as a part time tutor. Mr Mahlabela holds BA (Hons) and M.ED (Mathematics Education) degrees.