

STEMI Community of Practice Conference

20 – 22 July 2021

Draft Programme

Day 1: Tuesday, 20 July 2021		
Programme Director: Mr Steve Sherman		
09:00 – 09:05	Welcome	
09:05 – 09:20	Overview of STEMI Community of Practice: Mr Moloko Matlala	
09:20 – 09:25	Introduction of Deputy Minister: Dr Jabulani Nukeri	
09:25 – 09:45	Conference opening: Mr Buti Manamela (Deputy Minister: Higher Education, Science & Innovation)	
09:45 – 10:05	Message from NRF CEO: Prof Fulufhelo Nelwamondo	
10:05 – 10:10	Introduction of Keynote Speaker: Mr Steve Sherman	
10:10 – 10:30	Keynote Address: Dr Kristof Fenyesi Researcher of STEAM (Science, Technology, Engineering, Arts and Maths) and founder of Global STEAM network, Finnish Institute of Educational Research, University of Jyväskylä, Finland	
10:30 – 10:50	Questions & Discussion	
10:50 – 11:00	Break	
11:00 – 12:15	<i>Transformation and inclusivity in STEMI Olympiads and related competitions</i> Mr Isaac Ramovha	
12:15 – 12:45	Break	
Programme Director: Dr Gillian Arendse		
12:45 – 12:50	Welcome and Session Brief	
	Room 1 Session Chair: Dr A Binneman <i>Note: Papers are delivered consecutively</i>	Room 2 Session chair: Mr Elijah Nkosi
		Room 3 Session chair: Mr J de Vries

12:50 – 13:40	<u>Paper 1 (Non-Academic)</u> (15min) Collaboration is more than working together towards the same goals. Mr A Schlemmer (Eskom Expo) Mr F Mashate (Scifest)	<u>Paper 2 (Non-Academic)</u> (15min) Beyond the Rhetoric: Rethinking Reach and Access of Olympiads and Competitions for Rural Learners Ms K Naidoo (Eskom Expo) Mrs N Dookie (Eskom Expo) Mrs D Mlambo (Christof Meyer Maths and Science Centre)	<u>Paper 3 (Non-Academic)</u> (15min) Extending the reach of STEMI Olympiads and Competitions through systemic interventions: Reflecting on the collaboration between the North West Provincial Department of Education and Eskom Expo for Young Scientists Ms Moloedi (Eskom Expo) Ms Mekgwe (NW DoE)	<u>Demonstration</u> (50 min) GeoGebra Classroom for post-COVID Mathematics learner support over distance Prof W Olivier (Nelson Mandela University)	<u>Demonstration</u> (50 min) Rural robotics clubs are possible Mr F Spies (Split Second Science)
13:45 – 14:35	Room 1 Session Chair: Dr Maria Kekana <i>Note: Papers are delivered consecutively</i>			Room 2 Session Chair: Mr A Mashakeni	Room 3 Session Chair: Ms K Selepe
	<u>Paper 1 (Academic)</u> (20 min) An exploratory analysis of the potential for the use of MOOCs in support of STEM engagement Dr P Gouws (UNISA) Prof H Lotriet (UNISA) Dr M Katumba (UNISA)	<u>Paper 2 (Non-Academic)</u> (15min) How mathematical challenges can improve non-routine problem solving in learners from lower quintile schools. Ms M Trichardt (MG Analytics)	<u>Workshop</u> (50 min) Topic: Coding Unplugged Facilitator: Dr J Greyling (University of Nelson Mandela)	<u>Workshop</u> (50 min) Topic: Cyber Safety for Educators Facilitator: Prof E Kritzinger (UNISA)	
	Discussion on presentations (15 min)				
14:35 – 15:00	Plenary discussion – Q&A				
15:00 – 15:15	Networking Briefing and Ice Breaker: Mr Steve Sherman				
15:15 – 15:45	Room 1 Networking Facilitator: Ms Catherina Steyn	Room 2 Networking Facilitator: Mr Steve Sherman	Room 3 Networking Facilitator: Mr Daniel Maubane	Room 4 Networking Facilitator: Danie Heymans	

Day 2: Wednesday, 21 July 2021

Programme Director: **Dr Gillian Arendse**

09:00 – 09:10	Welcome and Session Brief				
	Room 1 Session Chair: Dr Anton Binneman <i>Note: Papers are delivered consecutively</i>		Room 2 Session Chair: Mrs Buzani Khumalo	Room 3 Session Chair: Ms Ellie Olivier	
09:10 – 10:00	<u>Paper 1 (Academic)</u> (20 min) The response of low quintile South African learners to a problem-based programme for developing skills relevant to the Expo for Young Scientists competition Dr A Stott (University of Free State)	<u>Paper 2 (Academic)</u> (20 min) A comparative analysis of approaches to the assessment of problem-solving activities Dr C Long (University of Johannesburg) Dr A van der Nest (UNISA)	<u>Demonstration</u> (50 min) Workshop on the process, and value, of geocoding schools participating initiatives or programmes Ms M Trichardt (MG Analytics)	<u>Demonstration</u> (50 min) When Mathematics meets Art Ms C Steyn (NMU) Prof W Olivier (NMU)	
	Discussion on presentations – 10 min				
10:05 – 10:55	Room 1 Session Chair: Dr A Bissessur <i>Note: Papers are delivered consecutively</i>		Room 2 Session Chair: Mr S Manxoyi	Room 3 Session Chair: Mr V Naidoo	
	<u>Paper 1(Non-Academic)</u> (15min) Do STEMI Olympiads and competitions enhance inquiry learning in the curriculum and prepare learners with C21 skills?	<u>Paper 2(Non-Academic)</u> (15min) Using environmental education to prepare learners for STEMI Olympiads and competitions in a transformational manner Mr A Schlemmer (Eskom Expo)	<u>Paper 3(Non-Academic)</u> (15min) Exploring Gender and Robotics - A case study of the I-SET Robotics, a community engagement project Dr T Dirsuweit (UNISA) Dr P Gouws (UNISA)	<u>Demonstration</u> (50 min) A framework for designing and communicating experimental investigations for the Expo for Young Scientists competition Dr A Stott (Angela Stott)	<u>Demonstration</u> (50 min) Toys from Trash - using online platforms to prepare learners for competitions Dr T Reinhardt (UKZN – Science and Technology)

	Mr D Haripersad (Western Cape Education Department) Mr L Manas (Eskom Expo)	Ms CL Cloete (Wildlife & Environment Society of SA -WESSA)		Learning & Teaching Aids)	Education Centre) Mr C McCartney (Eskom Expo)
10:55 – 11:15	Plenary Discussion – Q&A				
11:15 – 11:30	Morning Break				
Programme Director: Mr Steve Sherman					
Panel Discussion: Inclusivity in the digital era: How to bridge the digital divide					
11:30 – 11:35	Introduction of Panellists Dr Derek Fish (Director, UniZulu Science Centre) Dr David Johnson (Adjunct Senior Lecturer, ICT4D, Computer Science Department, University of Cape Town) Mr Daniel Johnson (Masters student in Astrophysics, UCT)				
11:35 – 12:10	Panel Presentations				
12:10 – 12:45	Discussion & Questions				
12:45 – 13:30	Lunch Break				
Programme Director: Mr Daniel Matsapola					
13:30 – 13:35	Session Brief				
13:35 – 14:25	Room 1 Session chair: Mrs S Veldsman <i>Note: Papers are delivered consecutively</i>			Room 2 Session Chair: Mr Lyndon Manas	Room 3 Session Chair: Ms K Naidoo
	<u>Paper 1(Non-Academic)</u> (15min) Preparing learners for STEMI competitions: A case study of a collaborative online	<u>Paper 2(Non-Academic)</u> (15min) The Role of Print and Digital media in transforming Olympiads and competitions: A report on the significance of the reach	<u>Paper 3(Non-Academic)</u> (15min) Developing a language of Science through cooperative learning in a rural grade 11 Life Science classroom Mr A Obilana (PRAKIS Educational Services)	<u>Educator Workshop GET</u> (50 min) Digital tools to level up your STEM teaching (online and off-line) Mr S Sherman	<u>Educator Workshop FET</u> (50 min) Physics Dr D Fish

	approach Dr T Reinhardt Ms N Dookie	by Eskom Expo for Young Scientists' activities Mr I Marume (Eskom Expo) Mr JeVanne Gibbs (Eskom Expo)			
14:25 – 14:45	Plenary Discussion – Q&A				
14:45 – 15: 05	STEMI Support and Development Framework: Final inputs and adoption Mr B Lesch				
15:05 – 15:15	Closure & Briefing for the 22 July				

Day 3: Thursday, 22 July 2021

Programme Director: Mr Parthy Chetty			
09:00 – 09:10	Welcome & Guest Speaker Introduction		
09:10 – 09:30	<p>Dr Mmaki Jantjies - Head of Innovation Telkom (previously from University of Western Cape) Topic: The role of youth in technology, reshaping our digital future</p> <p><u>Profile:</u> Mmaki Jantjies holds a PhD in Computer Sciences and is one of Africa's foremost thought leaders in technology for development particularly in education technology. Having led two academic departments, she has published research on local and international academic journals and conferences as well as on several public platforms such as Popular Mechanics, Fast Company and CNBC.</p>		
09:30 – 09:45	Questions and Discussion		
09:45 – 09:55	Thematic Discussions Brief: Programme Director		
10:00 – 10:50	<p>Room 1 Facilitator: Mr Tsepo Majake Scribe: Ms Nalini Dookie</p> <p><u>Topic:</u> Contemplated impact of STEMI</p>	<p>Room 2 Facilitator: Ms Thandeka Mhlanga Scribe: Mr Lyndon Manas</p> <p><u>Topic:</u> The reach objective of STEMI</p>	<p>Room 3 Facilitator: Mr Daniel Matsapola Scribe: Mr Chris McCartney</p> <p><u>Topic:</u> Collaborations, partnerships and</p>

	Olympiads and competitions	Olympiads and competitions	cooperative opportunities necessary for successful STEMI Olympiads and competitions
10:50 – 11:05	Morning Break		
11:05 – 11:15	Report back on Theme 1: Contemplated impact of STEMI Olympiads and competitions – Mr Tsepo Mojake		
11:15 – 11:30	<i>Discussion & Questions</i>		
11:30 – 11:40	Report back on Theme 2: The reach objective of STEMI Olympiads and competitions – Ms Thandeka Mhlanga		
11:40 - 11:55	<i>Discussion & Questions</i>		
11:55 – 12:05	Report back on Theme 3: Collaborations, partnerships and cooperative opportunities necessary for successful STEMI Olympiads and competitions - Mr Daniel Matsapola		
12:05 – 12:20	<i>Discussion & Questions</i>		
12:20 – 13:20	Conference Resolutions: Mr Moloko Matlala		
13:20 – 13:25	Announcement of the 2023 Theme: Mrs Erna Taljaard		
13:25 – 13:35	Vote of Thanks and Closure: Ms Krishnie Naidoo		