

30th SAARMSTE Conference 2022 – PROGRAMME

Tuesday 18th January 2022

<https://mandela.zoom.us/j/5226222022>

Time: 08h30 – 9h30 OFFICIAL OPENING: MC - *Dr Sharon McAuliffe*. Welcome by *Professor Hay-Swemmer (ED:OVC)*, Cape Peninsula University of Technology (CPUT). Address by *Professor Judy Peters*, Director: Strategic Initiatives and Partnerships. Leads into the start of the Conference Programme sessions by *Professor Chukunoye Ochonogor (LOC Chair)*

	Mathematics by Theme	Science by Theme
Theme:	FOUNDATION PHASE MATHEMATICS	CURRICULUM ISSUES AND IMPLEMENTATION ISSUES
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022
Chairs:	<i>Mellony Graven & Lawan Abdulhamid</i>	<i>Loyiso Jita & Fred Lubben</i>
Papers 9h30- 11h00	<p>Sally-Anne Robertson & Mellony Graven Mathematical meaning-making: it's not just all talk LP-M022 - Click here for presentations: ppt1 ppt2 (VERY LARGE FILE)</p>	<p>Mary Nkuna & Eunice Nyamupangedengu Investigating the affordances and limitations of on-campus microteaching as work-integrated learning (WIL) for Post Graduate Certificate in Education (PGCE) students training to teach in Life Sciences in high school. SP-S066 - Click here for presentations: ppt1</p>
	<p>Roxanne Long & Mellony Graven Grade R teachers' institutional identities proposed in policy and narrated in interviews of a teacher's experiences LP-M023 - Click here for presentations: ppt1</p>	<p>Eunice Nyamupangedengu, M, Mosabala & LY Mpaha What pre-service teachers learn about matter and materials: an investigation of first year science pre-service teachers' experiences of a content course in which methods of teaching were integrated SP-S033 - Click here for presentations: ppt1</p>
	<p>Clemence Chikiwa & Taimi N Elifas Teaching number sense in the foundation phase in Kharas region, Namibia SP-M025 - Click here for presentations: ppt1</p>	<p>Sophia M. Majara, Angela James & M Stears Teachers' implementation of the Lesotho junior secondary science curriculum at systemic level in Lesotho SP-S070 - Click here for presentations: ppt1</p>
	<p>Wellington Hokonya, P Vale & M Graven Exploring the relationship between mathematics learner identities and learners' participation in different landscapes of mathematical practice SP-M053 - Click here for presentations: ppt1 ppt2</p>	<p>Christine Mundy A microscale redox experiment as a vehicle for curriculum transformation SN-S035 - Click here for presentations: ppt1 ppt2</p>
	<p>Vuyokazi Mafilika & M Seoloane Working with zero in early grade mathematics - findings from Bala Wandé Grade 1 classes in the Eastern Cape SN-M051 - Click here for presentations: ppt1</p>	<p>Nishaal Bhaw & Jeanne Kriek A comparison of the cognitive complexity between the grade 8 science curricula of South Africa and Singapore in alignment with the TIMSS from 2007 to 2019 SP-S029 - Click here for presentations: ppt1</p>

11h00-11h15 TAKE A BREAK – Coffee / Tea

Theme:	SECONDARY/TERTIARY MATHEMATICS TEACHING & LEARNING	LANGUAGE / IKS AND SCIENCE COMMUNICATION
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022
Chairs:	<i>Benita Nel & Million Chauraya</i>	<i>Angela Stott & Nadaraj Govender</i>
Papers 11h15- 12h45	<p>Nwabisa Mbeki & MO Mbekwa Grade 9 learners' ways of working with algebraic fractions: errors and misconceptions</p> <p>LP-M001 - Click here for presentations: ppt1</p>	<p>Moleboheng Ramulumo & L E Mnguni Molecular biology students' attitudes towards mother tongue instruction and its effect on their interpretation of external representations used to explain MRNA translation</p> <p>SP-S017 - Click here for presentations: ppt1</p>
	<p>Edwin Sibanda & M France Machaba Grade 8 learners' misconceptions in surface area and volume relationships</p> <p>LP-M008 - Click here for presentations: ppt1</p>	<p>Shungu Mupfawa, Marissa Rollnick, K. Padayachee & Anastasia Buma An analysis of teachers' classroom discourse in basic genetics</p> <p>LP-S068 - Click here for presentations: ppt1 (VERY LARGE FILE)</p>
	<p>Benjamin Tatira Analysing undergraduate students' schema development of multivariable limits</p> <p>LP-M046 - Click here for presentations: ppt1 ppt2</p>	<p>Flavia Kigozi, S Dukhan, F Otulaja & I Risenga Teachers' Integration of Indigenous Knowledge in the Teaching and Learning of Life Sciences and Physical Sciences in South African schools</p> <p>SP-S071 - Click here for presentations: ppt1</p>
	<p>Sarah Bansilal An investigation of the functioning of items in a Grade 9 mathematics national assessment tool</p> <p>SP-M049 - Click here for presentations: ppt1</p>	<p>Helena Cacador, Rafael Galupa, Betina Lopes, Mariana Alves, Susana Ambrósio, Olga Santos & Ana Raquel Simões Connecting scientists and students in African Portuguese-speaking countries via letter exchanges: the case of "Cartas com Ciência"</p> <p>SN-S036 - Click here for presentations: ppt1</p>
	<p>Lillias HN Mutambara & M Tsakeni In-service teacher's mental construction of linear independence concepts: a Zimbabwean case study</p> <p>SP-M019 - Click here for presentations: ppt1</p>	

12h45 – 13h30 LUNCH TIME		
	13h30 MATHS SYMPOSIUM 1	13h30 SCIENCE SYMPOSIUM 2
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022
Chairs:	Simphiwe Mlotshwa	Shalini Dukhan
13h30-15h00	S Mlotshwa, S Taylor, F Adam, I Sapire & H Venkat Early grade mathematics: the role of context, language, intervention and pedagogy to improve outcome SYM-M055	Shalini Dukhan, Monde Kazeni, Lydia Mavuru, Angela Stott & Nomfundo Radebe Establishment of a research-writing virtual Community of Practice to promote academic publication SYM-S030
15h00 – 15h15 COFFEE BREAK		
15h15 – 16h30	PLENARY SPEAKER: Professor Nathalie Sinclair: Simon Fraser University, Canada Title: Moving Mathematics	
Link:	https://mandela.zoom.us/j/5226222022	
Discussant:	Professor Sarah Bansilal, University of KwaZulu Natal, South Africa	
	Mathematics by Theme	Science by Theme
Theme:	ARTEFACTS AND REPRESENTATIONS IN MATHEMATICS TEACHING	TEACHING SCIENCE AT THE TERTIARY LEVEL
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022
Chairs:	Anthony Essien & Fraser Gobede	Frackson Mumba & Emmanuel Mushayikwa
Papers:	Given Matengu & Marc Schäfer Revisiting geoboards to teach quadrilaterals within the Van Hiele teaching framework. LP-M014 - Click here for presentations: ppt1 ppt2	Langanani Rakhunwana, M Potgieter, L. A. Pilcher & A Kritzinger Self-regulated learning strategies for first-year chemistry during Covid-19 SP-S013 - Click here for presentations: ppt1
	Fraser Gobede Multiple mediatory roles of artefacts in large classes: A Grade 1 teacher's orchestration of artefacts when introducing the concept of addition LP-M044 - Click here for presentations: ppt1	Marietjie Potgieter Systems thinking in chemistry education: An imperative for addressing sustainability challenges SP-S018 - Click here for presentations: ppt1 (VERY LARGE FILE) ppt2
	Ronald Griqua & Marc Schäfer An investigation into how the use of visualisation strategies enhances the teaching of number sense SP-M017 - Click here for presentations: ppt1 ppt2	Micke Reynders, L.A. Pilcher & M. Potgieter The effectiveness of a systems thinking visualization tool for first-year chemistry SN-S037 - Click here for presentations: ppt1 ppt2

	<p>Tammy Booysen, L. Westaway & P. Vale The use of visual images in multiplication and division in four early years' mathematics textbooks SP-M035 - Click here for presentations: ppt1</p>	<p>Shalini Dukhan The tides of change are at the horizon: Science identity among first-generation and traditional university students entering into first-year biology SP-S028 - Click here for presentations: ppt1 ppt2</p>
	<p>Lorna Sako & T Ndamase Ten frames as a tool to support the development of number sense in Grade 1 students in the Eastern Cape province SN-M050 - Click here for presentations: ppt1</p>	<p>Sanjeev Naras, Doras Sibanda & Sebenzile Ngema Academic success at university rests in student selection criteria: Is it a case of matriculation points or mathematics scores? SP-S031 - Click here for presentations: ppt1</p>
	<p>Abongile Ngwabe & Marc Schafer Exploring the potential of how GeoGebra software can be used as a visual mediator between preservice teachers' mathematical pedagogical content knowledge and teaching proficiency SP-M038 - Click here for presentations: ppt1</p>	<p>Tholani Tshuma & Eunice Nyamupangedengu The identification of the dilemmas one faces when teaching science: A dilemma driven self-study inquiry involving the teaching of evolution LP-057 - Click here for presentations: ppt1</p>
		<p>TK Atlabachew & Jeanne Kriek Undergraduate physics students' variations in understanding the concept of nuclear binding energy SN-S034 - Click here for presentations: ppt1</p>
18h00-18h45	<p>Join us for: Cocktails with 'Memories' from past delegates; Presentation of Stimulator Programme and Virtual 'meet and chat' with MC Dr Zorina Dharsey</p>	
	<p>https://mandela.zoom.us/j/5226222022</p>	

Wednesday 19th January 2022

Time: 08h30 – 10h00

	Mathematics by Theme	Science by Theme
Theme:	PRIMARY MATHEMATICS	PRACTICAL AND COLLABORATIVE WORK IN SCIENCE
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022
Chairs:	Shaheeda Jaffer & Erna Lampen	Marietjie Potgieter & Bette Davidowitz
Papers: 08h30- 10h00	<p>Tarryn Lovemore, Sally-Ann Robertson & Mellony Graven Task design grappings in integrating music and fraction representations LP-M043 - Click here for presentations: ppt1 (VERY LARGE FILE) ppt2</p> <p>Liveness Mwale An investigation of the teaching of standard units of length, capacity and mass in standard 4 in Malawi LP-M040 - Click here for presentations: ppt1</p> <p>Justina Longwe-Mandala The nature of examples and tasks and how mathematics teacher educators help pre-service teachers to learn the practice of selecting examples SP-M034 - Click here for presentations: ppt1 ppt2</p> <p>Ben Shongwe & J. Molebale Exploring grade 3 students' written symbols of mathematical objects: The case of a teacher's experiences in a crisis situation SP-M039 - Click here for presentations: ppt1</p> <p>Nadia Swanepoel & K Luneta Supporting Grade 3 teachers' mathematics word problem solving instruction through PAR: Developing a professional development initiative SP-M013 - Click here for presentations: ppt1 (VERY LARGE FILE)</p> <p>Clement Ayarebilla Ali & Sakina Acquah Knowledge and Context of Indigenous Ghanaian Languages Counting and Place Value SP-M012 - Click here for presentations: ppt1</p>	<p>Christian Bob Nicol, E. Gakuba & G. Habinshuti Effects of inquiry-based experimentation on learning outcomes in Bong County, Liberia LP-S009 - Click here for presentations: ppt1</p> <p>Valenkosini Majola & Lebala Kolobe Developing a context-relevant Instructional Strategy for teaching factors affecting equilibrium position and constant: balancing the teacher-researcher duality SN-S059 - Click here for presentations: ppt1</p> <p>Alberto Boane Integration of Chemical Processes Resulting in Biogas Production in Laboratory Chemistry Classes in General Secondary Schools SP-S045</p> <p>Mpumelelo Gumede & L Kolobe Collaborative learning of key concepts in electric circuits by grade 11 learners using concept mapping SP-S061 - Click here for presentations: ppt1</p> <p>Lintle Maraisane, Loyiso Jita & Thuthukile Jita Teaching "float and sink" concepts in Grade R classes in Lesotho SP-S049 - Click here for presentations: ppt1</p>
10h00 – 10h15 BREAK – Coffee / Tea		

Theme:	TEACHER EDUCATION/PROFESSIONAL DEVELOPMENT in Mathematics	CONCEPTUAL TEACHING AND LEARNING	INTEGRATING ICT INTO THE CLASSROOM
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022	https://mandela.zoom.us/j/4995992022
Chairs:	Craig Pournara & Patrick Barmby	Eunice Nyamupangedengu & Ernest Mazibe	Jeanne Kriek & Umesh Ramnarain
Papers: 10h15- 11h45	Samukeliso Chikiwa & Mellony Graven Exploring the efficacy of the six-lens framework in developing pre-service mathematics teachers' reflective practice LP-M006 - Click here for presentations: ppt1	N. M. Puputla, Malefu Nthathakane & M Qhobela The Nature of High School Biology Learners' Genetic Engineering Misconceptions: A Case of one School in Lesotho SP-S039 - Click here for presentations: ppt1 ppt2	Mamotena Mpeta, Samuel Jere & S Kaheru The effectiveness of computer simulation-based instruction for teaching chemical reaction rates LP-S024 - Click here for presentations: ppt1 ppt2
	Benita Nel Continuous professional development through Video Stimulated Recall by Mathematics teachers SP-M027 - Click here for presentations: ppt1 ppt2	Jayanthi SK Maharaj & N Govender Exploring Alternative Conceptions about Work held by Grade 12 learners in High Schools using Think Aloud Method and Variation Theory SP-S015 - Click here for presentations: ppt1	Mmapaseka M Stephen Using digital platforms to assist in the teaching and learning of physical science in South African schools SP-S065 - Click here for presentations: ppt1
	Maryke la Grange-Taylor & Angela Stott A case study of a mentorship programme to promote low-quintile South African Mathematics teachers' use of social capital SP-M018 - Click here for presentations: ppt1 (VERY LARGE FILE) ppt2	Letisha Lalbahadur, S. Dukhan & K. Padayachee An exploration of first-year medical students' cell biology prior knowledge and its influence on subsequent conceptual understanding. SP-S019 - Click here for presentations: ppt1	Sakyiwaa Boateng, J.K. Alex, T. Sihele, V. Momoti & T. Tshuma Gamma tutor as an emerging pedagogical tool for the teaching and learning of physical sciences in South African schools SB-S053 - Click here for presentations: ppt1
	Carlos A Lauchande, L. F. Afo, A. C. Novela, C. M. Albino, A. Vidade, A. Uache & P. Siteo Entrance examination of Pedagogical University of Maputo- To what extent the exams results are valid and reliable? SP-MST001 - Click here for presentations: ppt1	L Kotoka & Jeanne Kriek Conceptual reasoning and Problem-solving Errors learners make when solving Stoichiometry problems. SP-S042 - Click here for presentations: ppt1 ppt2	Ayodele Ogegbo & Umesh Ramnarain Teachers' experiences of teaching science with technology in Nigerian schools SN-S010 - Click here for presentations: ppt1
	Janice Petersen, Y. Slamdien & B. Nel An exploration of how video-stimulated recall can be used as a tool to enhance mathematics teacher professional development SP-M026 - Click here for presentations: ppt1 ppt2	T Sihele, S Boateng, T Tshuma & V Momoti Uncovering a Presumptive Progression on Electricity and Magnetism: A guide to develop meaningful science teaching and learning SN-S054 - Click here for presentations: ppt1	Katlego Leshabane, C Coetzee & K Moodley Evaluation of a robotics intervention to enhance Newton's Second Law motion concepts LP-S027 - Click here for presentations: ppt1

	<p>Frank K Nkrumah Exploring mathematics teacher educators' knowledge for teaching in pre-service teacher education: A multi-case study in Ghana SN-M036 - Click here for presentations: ppt1 ppt2</p>	<p>Angela Stott South African Physical Sciences Teachers' Stoichiometry Calculation Errors and Epistemological Issues these Errors Expose SN-S020 - Click here for presentations: ppt1 ppt2</p>	
--	---	--	--

11h45-13h00	PLENARY SPEAKER: Professor Elizabeth Mavhunga: Science Education, University of the Witwatersrand, South Africa Title: Unlocking powerful teacher professional knowledge through PCK: an invitation to reflect		
https://mandela.zoom.us/j/5226222022			
Discussant	Dr Angela Stott, University of the Free State, South Africa		
13h00 – 13h30 LUNCH TIME			
	13h15 MATHS SYMPOSIUM 3	13h15 SCIENCE SYMPOSIUM 4	13h15 TECHNOLOGY SYMPOSIUM 5
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022	https://mandela.zoom.us/j/4995992022
Chairs	<i>Craig Pournara</i>	<i>Eunice Nyamupangedengu</i>	<i>Umesh Ramnarain</i>
13h30 – 15h00	Craig Pournara, J Adler, S Takker, L Mwadzaangati, Ratnayake & N Planas A framework for promoting geometric reasoning: Rationale, constitutive elements and initial applications SYM-M041	Eunice Nyamupangedengu, HC Khoza, Anastasia Buma, Mary Nkuna & Nomzamo Xaba Same teaching videos and same object of the study but different theoretical lenses: Studies of a teacher educator’s teaching by postgraduate students SYM-S043	Prof Umesh Ramnarain, S Ramaila, L Mavuru, T Dhurumraj, M Penn, Y Cai & K Rodil Issues and perspectives on Virtual and Augmented Reality in STEM education (VARSTEME) SYM-T008
15h00-15h15 Coffee Break			
Themes:	MATHEMATICS TEACHING & LEARNING in COVID TIMES/ USING TECHNOLOGY	ATTITUDES AND OTHER LEARNING VARIABLES	TECHNOLOGY PAPERS
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022	https://mandela.zoom.us/j/4995992022
Chairs	<i>Karen Brodie & Jogymol Alex</i>	<i>Kenneth Ngcoza & Peter Hewson</i>	<i>Busiswe Alant & Reginald Govender</i>
Papers: 15h15-16h30	Vasuthavan Govender Preparing learners for a Mathematics Olympiad paper during the COVID – 19 Pandemic: A small-scale study SP-M033 - Click here for presentations: ppt1	Sibomana Aimable, Claude Karegeya & John Sentongo Cooperative Learning on Students’ Knowledge Retention and Attitude in Chemistry LP-S001 - Click here for presentations: ppt1	Mokiti Janefeke International Robotics competitions influence on learners’ Science and Mathematics academic performance and their career prospects SP-T004 - Click here for presentations: ppt1 ppt2

	<p>C. A. Lauchande, L. F. Afo, A. C. Novela, C. M. Albino, A. B. Vidade & A. Uache Lucio COVID-19: The life of families and children’s learning during the school closure SP-M002 - Click here for presentations: ppt1</p>	<p>William R. Veal, Anastasia Buma & Doras Sibanda Creativity in African Science Education SP-S052 - Click here for presentations: ppt1</p>	<p>Vojo George Fasino, Nadaraj Govender & P Kumar Teaching and Learning Mathematical Modelling in Antenna Theory and Design Course in Engineering Education SP-T006 - Click here for presentations: ppt1 ppt2</p>
	<p>Shemunyenge T. Hamukwaya Teaching mathematics in the era of COVID-19: a case of a Namibian grade 3 mathematics teacher SP-M029 - Click here for presentations: ppt1 ppt2</p>	<p>Lereko Mohafa & M Qhobela Exploring learner’s self-efficacy in online classes participation and information-seeking as a bench-mark for their online-learning- readiness: case of Biology and physical science classes SP-S023 - Click here for presentations: ppt1 ppt2</p>	<p>Simon Albin Online learning during Covid – 19: experiences of students relying on smartphones. SP-T003 - Click here for presentations: ppt1</p>
	<p>Simpiwe Mlotshwa, Karen Brodie & Renuka Vithal The calculator: A forgotten key technology for mathematics learning and performance SP-M015 - Click here for presentations: ppt1</p>	<p>Edwin Byusa, Edwige Kampire & Adrian Rwekaza Mwesigye Effect of Activity-Based Teaching Technique and Teachers’ Views on Students’ Levels of Engagement in Rwandan Chemistry Class SP-S067 - Click here for presentations: ppt1</p>	
	<p>FM Adelabu, AH Ngwabe, NV Mbeki, B Tatira & Jogymol Alex Creation of innovative teaching spaces with Gamma Tutor: a techno-blended model for rural mathematics SN-M037 - Click here for presentations: ppt1</p>	<p>Belinda vd Westhuizen, C. Harillal & G. Ekol Investigating personality types and academic performance of Bed first year students across science and mathematics subjects. SN-S062 - Click here for presentations: ppt1</p>	

Time: 16h30 – 18h00

SAARMSTE Annual General Meeting (AGM)

<https://mandela.zoom.us/j/5226222022>

Thursday 20 th January 2022			
Time: 08h30 – 10h00			
Theme:	MATHS SYMPOSIUM 6	SCIENCE SYMPOSIUM 7	SCIENCE/TECHNOLOGY SYMPOSIUM 8
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022	https://mandela.zoom.us/j/4995992022
Chairs:	Hamsa Venkat	Nadaraj Govender	Elizabeth Mavhunga
Papers: 08h30 - 10h00	Hamsa Venkat, M. Graven, S. Morrison, P. Vale, M. Askew, L. Bowie, L. Westaway, S. Chikiwa, W. Hlokonya, M. Chetty, D. Mathebe & the South African Provincial Foundation Phase Mathematics Co-ordinators Discussant: Anil Kanjee Going National with the Mental Starters Assessment Project 2021: Model, Outcomes and Provincial Foundation Phase Maths Co-ordinators' experiences SYM-M020	Nadaraj Govender, Ronicka Mudaly, Fawzia Bibi Narod, Doras Sibanda, Tamirirofa Chirikure, Shakeel Atchia, Asheena Singh-Pillay, Lebala Kolobe, Angela James, Ravhee Bholah, & Bhekisisa Maxwell Thabethe STEM Education for the 21st Century: Unpacking Conceptions of STEM Education and Insights from the Global South - The Context of SA and Mauritius SYM-S069	Elizabeth Mavhunga, B Ndlovu, S Khulu, D van der Merwe, F Zondi & Stephen Malcolm Re-calibrating research and practice in science teacher education in a technological environment SYM-S022
Time: 09h45 – 10h00 Coffee Break			
Theme:	MATHEMATICAL LEARNING	ASSESSMENT	
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022	
Chairs:	Ingrid Sapire & Lisnet Mazwangayi	Marissa Rollnick & Washington Dudu	
Papers: 10h00 – 11h15	Robert Wakhata, Dr. Mutarutinyana & Dr Balimuttajjo Relationship between Students' Conceptual Knowledge and Procedural Knowledge of Solving Linear Programming Tasks LP-M031 - Click here for presentations: ppt1	Halalisani Mngomezulu, Thasmai Dhurumraj & Sam Ramaila Embedding formative assessment in classroom practice: Physical Science teachers' perspectives LP-S007 - Click here for presentations: ppt1	
	Cecilia Mmeta & Arne Jakobsen An Investigation on Whether Teaching Using a Problem-Solving Approach Affect Student's Attitude Towards Learning and Performance in Mathematics SP-M016 - Click here for presentations: ppt1 ppt2	Brigitte Solomon & E. Nyamupangedengu An investigation of grade four learners' poor performance in Natural Science and Technology class assessments SN-S064 - Click here for presentations: ppt1	

	Clemence Chikiwa & I. Shimakeleni Multilingual learners' language practices during outdoor learning of measurement in a grade 9 class school, Oshana region, Namibia. SP-M024 - Click here for presentations: ppt1	Lebala Kolobe Teaching Chemical Equilibrium in the High Stakes Examination Era: Experienced Teachers' perspectives in one South African Metropolitan SN-S056 - Click here for presentations: ppt1 ppt2
	Satoshi Kusaka Metacognitive strategies for Rwandan primary school students solving mathematical word problems SN-M009 - Click here for presentations: ppt1	Mamohato Makhechane & M Qhobela Physical Science teachers' knowledge of learners: A case of Lesotho teachers SP-S050 - Click here for presentations: ppt1 ppt2
	Sihlobosenkosi Mpofu & Permie Isaac Double instructions in Grade 1 student activities – findings from Bala Wande Eastern Cape schools SN-M052 - Click here for presentations: ppt1	
11h30 – 12h45	PLENARY SPEAKER: Professor Dick Ng'ambi, University of Cape Town Title: Integrating indigenous games into teaching and learning – decolonise curricula, make learning fun and meaningful	
Link:	https://mandela.zoom.us/j/5226222022	
Discussant	Dr Raymond Moodley, Institute of Artificial Intelligence, De Montfort University, UK	
	12h45- 13h15 LUNCH	
	Mathematics by Theme	Science by Theme
Theme:	TEACHER KNOWLEDGE/TEACHER EDUCATION	TPACK AND EXPERIENCES WITH ICT
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022
Chair:	Nicky Roberts & Qetelo Moloji	Elizabeth Mavhunga & Martin Braund
Papers: 13h15-14h45	Charles Smith, Cyril Julie, Benita Nel & Faaiz Gierdien Mathematics Teachers' preferences regarding continuous professional development activities LP-M007 - Click here for presentations: ppt1	Macheli Mofolo, Sikeme Raphoka & Sechaba Koma Relating Pre-service teachers' Technological Pedagogical Knowledge and their intentions to teach science with ICT SP-S002 - Click here for presentations: ppt1 ppt2
	Qetelo Moloji Using the RASCH model to construct measures for assessing mathematical acting and thinking in initial teacher education SP-M054 - Click here for presentations: ppt1	Dennis Luchembe Distance Students' Experiences of Using WhatsApp to Learn Physics Education LP-S008 - Click here for presentations: ppt1 (VERY LARGE FILE)

	Janne Fanskanger, M Kazima, N Helgevold & A Jakobsen The planning research lessons as a tool for changing views on mathematics teaching SP-M005 - Click here for presentations: ppt1 ppt2	
	Viren Raamdhaney Mathematics teacher knowledge and practice in Johannesburg secondary schools - Click here for presentations: ppt1 ppt2 SN-M032	
	Kayla Willemse, T. Venketsamy & Nadia Swanepoel Support teachers need to assist learners experiencing mathematical learning difficulties LP-M003 - Click here for presentations: ppt1	
14h45 – 15h00 BREAK – Coffee / Tea		
Theme:	CURRICULUM/ASSESSMENT/PEDAGOGIC IDENTITY	PCK
Link:	https://mandela.zoom.us/j/5226222022	https://mandela.zoom.us/j/2882992022
Chairs:	Sarah Bansilal & Patrick Barmby	Fred Lubben & Kennedy Chan
Papers: 15h00 – 16h45	Sarah Bansilal Second chance assessments: intervention to promote equity or lower assessment standards SP-M048 SP-M048 - Click here for presentations: ppt1	K. Samuel, Washington Dudu & M.J. Sebatana Exploring Natural Sciences teachers’ classroom pedagogical competencies in the teaching (and learning) of Particulate Nature of Matter LP-S038 - Click here for presentations: ppt1 ppt2
	Maboi Mphunyane, T. Jita & M. Tsakeni Reciprocity between teachers’ professional identities and their classroom practices: Cases of mathematics teachers in Lesotho SP-M030 - Click here for presentations: ppt1 ppt2	B. P. Ndlovu & Stephan Malcolm Retention of Measured Improvement in Pre-service Teachers’ Knowledge for Teaching Stoichiometry One Year Topic Specific PCK Based Intervention SN-S055
	Chileshe Busaka, S R Kitta & O Umgiraneza The integration of soft skills in secondary school Mathematics in Zambia, Rwanda and Kenya: A comparative review of literature SP-M004 - Click here for presentations: ppt1	Marissa Rollnick & Stephen Malcolm A review of the topic specific PCK of teaching videos on chemical equilibrium SP-S051 - Click here for presentations: ppt1
	Suryakumari Rajah & R Naidoo Re-imagining the teaching of geometry: a pilot study of a multi-dimensional integral approach SN-M045 - Click here for presentations: ppt1 ppt2	Eunice Nyamupangedengu & Portia Kavai Investigating Biology teacher educators’ PCK after moving to Emergency Remote Teaching (ERT) at a South African University and the possible impact on learner outcomes: A case study SP-S063 - Click here for presentations: ppt1 ppt2
	Demi Edwards & P Vale An analysis of rational number word problem types within intermediate phase South African textbooks SP-M042 - Click here for presentations: ppt1	Olutosin Solomon Akinyemi & Elizabeth Mavhunga The place of learner views in examining Pre-Service Teachers’ enacted topic specific pedagogical content knowledge LP-S058 - Click here for presentations: ppt1 ppt2

		<p>Maphole Marake, L. C. Jita & M. Tsakeni The knowledge base used by science teachers to teach force concepts in Grade 11 classrooms SP-S040 - Click here for presentations: ppt1</p>
--	--	---

		<p>Doras Sibanda Post graduate pre-service teachers' topic specific pedagogical content knowledge of the particulate nature of matter SP-S032 - Click here for presentations: ppt1</p>
	<p align="center">GALA EVENT – Awards; President handover; Conference 2023 presentation; Choral Recital and celebration 16h45 – 17h45</p>	
<p><i>Link:</i></p>	<p align="center"><u>https://mandela.zoom.us/j/5226222022</u></p>	