

SOUTHERN AFRICAN GEOMORPHOLOGY: PURE AND APPLIED

25 - 28 JULY 2017

University of Swaziland, Kwaluseni. (Manzini) Swaziland

DRAFT CONFERENCE PROGRAMME

Please note that the name of the presenting author only appears in the programme.

Tuesday, 25 July 2017

18:00 -	Meet and Greet cocktail event in the New Wing dining hall, and preconference registration. Welcome by the Vice Chancellor, Prof CM Magagula ; Dean of the Faculty of Science and Engineering, Prof JM Thwala , and the Head of the Department of Geography, Environmental Science and Planning, Dr M Mlipha .
----------------	---

CONFERENCE DAY 1
Wednesday, 26 July 2017

07:00-08:45	Registration and coffee/tea IDE Lecture Theatre
Venue	Opening Session - IDE Lecture Theatre
08:45 – 08:55	Welcome: Prof Heinz Beckedahl , SAAG conference chair, University of Swaziland
08:55 – 09:15	Opening: The Ministry of Tourism and Environmental Affairs, Swaziland
09:15 – 10:00	Keynote address : Geomorphology and ecosystem protection: putting geomorphology into environmental flow assessment - Professor Kate Rowntree , Rhodes University, South Africa
10:00 – 10:30	Morning coffee/tea
Venue	IDE Lecture Theatre
10:30 – 12:00	<ul style="list-style-type: none"> • Biennial General Meeting of SAAG • Discussion: the Erosion Focus Group
12:00 – 12:30	Session 1: Poster Session
	<p>Wetland Geomorphology: Erosion processes shaping the Magnolia Dell Park - Ms Renee Grundling, University of Pretoria, South Africa</p> <p>Soil erosion prevention is better than cure in South Africa's only large river network without a dam – Dr Jay le Roux, University of the Free State, South Africa</p> <p>Investigating the genesis and management of the Gobholo granite cave system, Swaziland - Mr Mthobisi Masilela, Heinz Beckedahl and Paul Sumner, University of Swaziland and University of Pretoria, South Africa</p> <p>Gully erosion rates in the Tsitsa River Catchment, Eastern Cape Province – Mr Lefa Morake, University of the Free State, South Africa</p> <p>Aeolian processes and sediment flux on sub-Antarctic Marion Island - Mr Abuyiselwe Nguna, University of Fort Hare, South Africa</p> <p>Strategic maintenance of engineering structures: a mastermind behind their failures or successes – Mr Phela Nika, Ministry of Forestry Range and Soil Conservation, Lesotho</p>

	<p>The effect of beneficial microbes on plant and soil health - Dine Pretorius, University of the Free State, South Africa</p> <p>Assessing the influence of valley setting and specific stream power on river form and processes – Ms Siviwe Sekese, University of the Western Cape, South Africa</p> <p>Gully development and land use change in the Tsitsa River Catchment, Eastern Cape Province - Ms Lebogang Senokoane, University of the Free State, South Africa</p> <p>Mapping and monitoring the spatio-temporal variations of land degradation using multispectral remote sensing data. A case study of Sekhukhune District – Mr Terrence Sepuru, University of Limpopo, South Africa</p> <p>The effect of rainfall events on gullies in the Tsitsa River Catchment – Mr Johannes Theunissen, University of the Free State, South Africa</p>	
12:30 – 14:00	Lunch – New wing dining hall	
Venue	IDE Lecture Theatre	IDE Seminar Room
Session	Session 2 : Swazi geomorphology	Session 3 : Geomorphological techno-junkies
14:00 – 14:20	Overview of the geology and macro-geomorphology of the Swaziland region – Prof Heinz Beckedahl, University of Swaziland	Implementation of 10-Be and 26-Al AMS at iThemba LABS and first measurements for an erosion study – Dr Stephan Winkler, iThembaLabs, South Africa
14:20 – 14:40	GIS and Remote Sensing for Geomorphological Studies - Dr Sizwe Mabaso, University of Swaziland, Swaziland	Cosmogenic nuclide surface exposure dating: pitfalls and challenges for isolated fieldwork - Ms Elizabeth Rudolph, University of the Free State, South Africa
14:40 – 15:00	Geomorphological heterogeneity and biodiversity in Swaziland – Dr Wisdom Dlamini, University of Swaziland, Swaziland	A bibliometric study of the role of artificial intelligence in geomorphology – Mr Barend van der Merwe, University of Pretoria, South Africa
15:00 – 15:20	Geoheritage and geoconservation as a tourism potential in Swaziland - Prof Thomas Schlüter, University of Swaziland	Unmanned aerial vehicles (UAVs): applications for geomorphological research and use in South Africa – Dr David Hedding, University of South Africa, South Africa
15:20 – 15:40	tbc	A review of equipment and operator protocols for rock temperature studies – Mr Michael Loubser, University of Pretoria, South Africa
15:40 – 16:00	Afternoon coffee/tea	
Venue	IDE Lecture Theatre	
Session	Session 4 : Geomorphological “greenies” (bio-geomorphology) using plants to achieve geomorphic (landscape) objectives	
16:00 – 16:20	Slopes stability improvement with vetiver system technology - Dr Paul Truong, The Vetiver Network International, Australia	
16:20 – 16:40	Restoration of marginal agricultural land using earthworks and plants - Ms Alexandra Kruger, Permaculture Education Africa, South Africa	
16:40 – 17:00	Vertical soil traps and Vetiver system for slope stabilization – Mr Leonel Castro, Vetiver Inc, Guatemala	
19:00 – 24:00	Dinner at Ezibayeni Lodge and networking.	

CONFERENCE DAY 2
Thursday, 27 July 2017

Venue	IDE Lecture Theatre	IDE Seminar Room
Session	Session 5 : Geomorphology matters	Session 6 : Geomorphological “secret” agents (behind soil movement)
08:30 – 08:50	Swaziland Landscape-Based Management Planning Assessment – Mr Gcina Dlamini, United Nations Development Programme, Swaziland	An assessment of global rainfall erosivity – Prof Werner Nel, University of Fort Hare, South Africa
08:50 – 09:10	Assessing geomorphologic disturbances of wetland ecosystem by wildlife and tourism activities. A case study of Dete Vlei in Hwange district, Zimbabwe – Dr Thomas Marambanyika, Midlands State University, Zimbabwe	Southern African dust sources – Dr Frank Eckardt, University of Cape Town, South Africa
09:10 – 09:30	The role of Working for Land in addressing the triple challenges of poverty, unemployment and skills development – Ms Mahuma Ramashala, Department of the Environment, South Africa	Short-term and high-frequency diurnal frost observations for Vesleskarvet, Antarctica – Ms Christel Hansen, Rhodes University, South Africa
09:30 – 09:50	Perceptions on land degradation in South Africa: a national overview – Mr Lehman Lindeque, UNDP, South Africa	tbc
09:50 – 10:30	Morning coffee/tea	
Venue	IDE Lecture Theatre	
Session	Session 7 : Soil erosion and rehabilitation in theory and practice	
10:30 – 10:50	Application of vetiver system technology for stream bank and coastal dike stabilisation in Vietnam - Dr Paul Truong, Vetiver Network International, Australia	
10:50 – 11:10	Rehabilitation of soil erosion in Southern Africa: The good, the bad and the ugly – Prof Heinz Beckedahl, University of Swaziland	
11:10 – 11:30	Integrating sustainable land management into catchment management strategies – Mr Albert van Zyl, Terrasim cc, South Africa	
11:30 – 11:50	Scale: A critical success factor in rehabilitation -- The Langtou River case study – Mr Charl de Villiers, Charl de Villiers Environmental Consulting, South Africa	
11:50 – 12:10	Principles for developing a catchment rehabilitation strategy: the case of the NLEIP in the Tsitsa catchment, South Africa - Dr Benjamin van der Waal, Rhodes University, South Africa	
12:10 – 12:30	Geomorphology applied: Typing river ecosystems and mapping river condition, National Biodiversity Assessment (NBA) 2018 – Dr Lindie Smith-Adao, CSIR, NRE, South Africa	
12:30 – 13:30	Lunch – dining hall	
Session	Session 8 : Geomorphological mapping and modelling: soil erosion and wetlands	
13:30 – 13:50	Comparing Wetland Probability Maps for the Kruger National Park, South Africa – Dr Althea Grundling, Agricultural Research Commission, South Africa	
13:50 – 14:10	Wetland Probability Map for Swaziland – Mr Jason le Roux, University of Pretoria, South Africa	
14:10 – 14:30	Understanding the relationships between land cover dynamics and soil erosion in former homelands of Limpopo, South Africa: A remote sensing perspective – Dr Timothy Dube, University of Limpopo, South Africa	
14:30 – 14:50	Integrating erosion modelling into soil cover optimization in support of rehabilitation design – Mr Albert van Zyl, Terrasim cc, South Africa	
14:50 – 15:10	The application of the SWAT model to identify key sediment sources in the Inxu Catchment, South Africa – Ms Namso Nyamela, Rhodes University, South Africa	
15:10 – 15:30	Afternoon coffee/tea	
Session	Session 9 : Fluvial Geomorphology – crucial research of a crucially limited resource	
15:30 – 15:50	Landuse change and sedimentation on water reservoir in Upper Runde sub-catchment, Zimbabwe – Dr Winmore Kusena, Midlands State University, Zimbabwe	
15:50 – 16:10	Geomorphological sensitivity examined in a recently degraded river: integrating connectivity and Panarchy to understand change – Dr Rebecca Powell, Rhodes University, South Africa	
16:10 – 16:30	The efficiency, effectiveness and precision of a locally appropriate approach to suspended sediment monitoring in the Upper Tsitsa River Catchment, Eastern Cape, South Africa – Mrs Laura Bannatyne, Rhodes University, South Africa	
16:30 – 16:50	The link between the physical river habitat template, aquatic ecology and water quality – Ms Chantel Petersen, CSIR, South Africa	
<ul style="list-style-type: none"> • Optional trip to Gobholo caves • Evening free - Dinner for delegates’ own account 		

DAY THREE
Friday 28 July 2017

Practical course in the use of bio-engineering and Vetiver grass (*Chrysopogon zizanioides*) jointly organised by the Erosion Focus Group of the Land Rehabilitation Society of Southern Africa (LaRSSA) and the Vetiver Network International (TVNI)

Venue	IDE Seminar Room	
07:30 - 08:00	Registration and coffee/tea	Secretariat
Time	Item	Facilitator
08:00 - 08:15	Opening, welcome and outline of the Workshop	<i>Heinz Beckedahl</i>
08:15 - 09:00	Slide show on the use of vetiver grass for phytoremediation applications	<i>Paul Truong and Leonel Castro</i>
09:00 - 09:20	Understanding erosion processes – the key to successful rehabilitation work	<i>Heinz Beckedahl</i>
09:20 - 10:45	<p>Introduction and overview for soil erosion process based rehabilitation using bio-engineering practices and vetiver grass</p> <ul style="list-style-type: none"> • Shaping and trimming of donga and gully side slopes including practical use of A-Frame for setting out contour lines. • Placing and installation of bio-engineering systems (sand bags, rock berms, silt fences and bio-jute erosion control netting). • General overview and introduction to the use of Vetiver grass for soil erosion applications. 	<i>Roley Nöffke</i>
10:45 – 11:00	Mid morning tea and coffee break	

POSTCONFERENCE TOUR		
Depart: 11:00	Bus departs from Kwaluseni for field trips to: <ul style="list-style-type: none"> • The Elangeni erosion site • The Ezulwini sewerage works to view environmental work stabilising side slopes using vetiver grass planted some 13 years ago. 	Facilitators:
Return: 13:00		<i>Heinz Beckedahl, Paul Truong and Roley Nöffke</i>

Delegates depart