

Grassland Society of Southern Africa

59th Annual Congress

Gariep Forever Resort, Gariep, Free State, South Africa

22 - 26 July 2024



PROGRAMME OVERVIEW

59th Annual Congress of the Grassland Society

Monday, 22 July 2024

RESEARCH SKILLS WORKSHOP

USING ARTIFICIAL INTELLIGENCE
RESPONSIBLY IN DATA ANALYSIS,
WRITING, AND RESEARCH

08h00	RESEARCH SKILLS WORKSHOP DELEGATE REGISTRATION	
08h30	Welcome and Introductions	Justin du Toit
08h40	Overview of AI and Research	Justin du Toit
09h10	Using AI in Research and Academia	Guy Midgley
09h30	R Coding and AI	Victoria Goodall
10h00	TEA	
10h30	AI Tutorials & Interactive Sessions Part 1	Justin du Toit, Kevin Kirkman, Susi Vetter, Victoria Goodall
12h30	LUNCH	
13h30	AI Tutorials & Interactive Sessions Part 2	Justin du Toit, Kevin Kirkman, Susi Vetter, Victoria Goodall
15h00	Closure	
15h30	TEA	
16h00 - 17h15	CONGRESS 59 DELEGATE REGISTRATION	



GRASSLAND SOCIETY
OF SOUTHERN AFRICA

OPENING OF THE 59TH ANNUAL CONGRESS

59th Annual Congress of the Grassland Society

Monday, 22 July 2024

17h30 Welcome Justin du Toit

17h40 Presidential address Susi Vetter

18h00 **MEET & GREET COCKTAIL DINNER**

Tuesday, 23 July 2024



SESSION 01 | CLIMATE CHANGE & CARBON

08h15 Welcoming Justin du Toit

08h30 **KEYNOTE:** Early evidence of the impacts of current and legacy land use on arid ecosystem carbon balance Guy Midgley

09h15 Soil flux measurements, fire, and warming experiment at the Brotherton plateau, uKhahlamba Drakensburg Park, South Africa Sibusiso Trevor Dlamini

09h30 Fire exclusion and aspect influences seasonal dynamics and temperature sensitivity (Q10) of soil respiration in Afromontane grasslands, Drakensberg, South Africa Lindokuhle Dlamini

09h45 Long Term vegetation monitoring using SEOSAW protocols at EFTEON sites in KwaZulu-Natal Sachin Doarsamy

09h50 Effect of rainfall reduction and resting period on residual soil water content and selected soil chemical properties of semi-arid grassland Thabo Patrick Magandana

09h55 Livestock farmers' perception on climate change and adaptation practices: Case of Chris Hani District, in Eastern Cape Province, South Africa Siza Mthi

10h00 Growth and adaptive characteristics of tagasaste (*Chamaecystis palmensis*) tree seedlings in response to varying water availability Sipehelele Takata

10h05 Discussion

10h30 **TEA**

59th Annual Congress of the Grassland Society

Tuesday, 23 July 2024



SESSION 02 | BIODIVERSITY & CONSERVATION

11h00	National Vegetation Map 2024: A summary of updates	Anisha Dayaram
11h15	Spatial and temporal changes in the riparian vegetation of the Olifants River system over a 25 year period, Mpumalanga	Peter Mashaba
11h30	Estimating fraction of bare ground for the Nama-Karoo Biome in South Africa	Wataru Tokura
11h45	Fine-scale variation in montane grass species cover and occurrence patterns: Environmental drivers and their consistency across a 1000 m elevational gradient	Bridgette McMillan
12h00	Rehabilitation of old potato production circles in the Leipoldtville Sand Fynbos, South Africa - What happened to the chickens?	Nelmarié Saayman
12h15	Ways to improve the Red List of Ecosystems in the Grassland biome South Africa	Maphale Monyeki
12h30	Discussion	
13h00	LUNCH	



SESSION 03 | INVASIVE SPECIES

14h00	Monitoring the re-establishment of <i>Seriphium plumosum</i> post herbicide control using machine learning and UAV technology	Debbie Jewitt Michelle Keith
14h15	Can satellite remote sensing be used to measure the water-use impacts of invasive alien trees in the grasslands of southern Africa?	Liam Cogill
14h30	Trade-offs between spatial and spectral resolution in mapping woody invasive alien trees in the grasslands of the uMzimvubu Catchment, South Africa	Thandeka Skosana

59th Annual Congress of the Grassland Society

Tuesday, 23 July 2024

14h45	Controlling invasive alien European rabbits (<i>Oryctolagus cuniculus</i>): Limited recovery of natural vegetation on a small, ecologically degraded South African offshore island indicates a shift to an alternative stable state due to prolonged herbivory	Thabisisani Ndhlovu
15h00	Impact of invasive Rosaceae on plant diversity along elevation gradients in the Maloti-Drakensberg	Lesego Malekana
15h15	Fleshy-fruited invasive alien shrubs population change over time along roadsides of South African grasslands	Lehlohonolo Adams
15h30	Cactus invasions in the North West Parks and Nature Reserves	Thulisile Jaca
15h45	Alien and Invasive Plants: Distribution and changes in the Olifants River system in 25 years, Mpumalanga	Peter Mashaba
15h50	Beyond Ornamental: Unveiling the Economic Significance and Ecological Impact of Cortaderia Species Worldwide	Moleseng Moshobane
15h55	Discussion	
16h00	TEA & POSTER VIEWING @GrasslandSocSA #GSSACongress59	
16h30	ANNUAL GENERAL MEETING of the Grassland Society of SA	
19h00	DINNER	

Wednesday, 24 July 2024



08h30	KEYNOTE: Flexible grazing management to balance the nutrition needs of livestock and sustained rangeland production - evaluating the evidence	Richard Fynn
09h15	Stocking intensity: the forgotten parameter in grazing management	Kevin Kirkman
09h30	Ambiguity about grazing intensity: A novel index for quantifying this metric to address conflicting outcomes of grazing systems comparisons	Urs Kreuter
09h45	Spatial and social attributes are usually neglected in grazing research and documentation of commercial practice, but they can make a difference to the accuracy of assessment of grazing impacts	Brien Norton

59th Annual Congress of the Grassland Society

Wednesday, 24 July 2024

10h00	The Expanded Freshwater and Terrestrial Environmental Observation Network (EFTEON) – An Environmental Research Infrastructure in South Africa	Helga Knoetze
10h05	Agronomic and Morphological Characteristics of Five Grass Species at Different Growth Stages under Tillage and No-Till in the Sourish Mixed Bushveld	Mantji Tshenolo Mirriam Kgama
10h10	Assessing different fodder processing methods and seed recovery after ingestion of various encroaching tree species	Matome Nelson Maila
10h15	Discussion	
10h30	TEA & POSTER VIEWING @GrasslandSocSA #GSSACongress59	



11h00	Sward state and nutritional characteristics of rotationally grazed pastures supporting beef cattle in agroforestry and silvopastoral systems in Jamaica varies with farm and season	Martin Hughes
11h15	Ethyl methanesulphonate induced genetic variation in selected tef (<i>Eragrostis tef</i>) genotypes	Patrick Rakau
11h30	Nutritional quality of fodder and seeds from various encroaching tree species	Matome Nelson Maila
11h45	Germination and early seedling growth responses of Lucerne (<i>Medicago sativa</i> L.) genotypes to aluminium toxicity and acidic soils.	Sesethu Sokoko
12h00	Biomass production of selected perennial C4 grasses harvested at different phenological stages – potential for climate-smart fodder banks for extensive livestock farmers	Lesego Motshekga
12h15	The different roles played by Italian and Westerwolds types in <i>Lolium multiflorum</i> pastures on Cedara Research Station, KwaZulu-Natal	Donna Berjak
12h20	Planting date and varietal effect on morphology, agronomy, nutritive value and ruminal fermentation of selected lupin varieties (research proposal)	Kgomotso Lekgetho

59th Annual Congress of the Grassland Society

Wednesday, 24 July 2024

12h25 Determining the impacts of increased temperatures and reduced water-availability on the agronomic performance and nutritive value of different indigenous forage grass ecotypes Nothando Ngcobo

12h30 Evaluation of cover crops in selected land care areas of South Africa Fortune Manganyi

12h35 Morphological, physiological, and nutritional quality responses of *Chamaecytisus palmensis* plants when subjected to heat stress treatments Nhlonipho Mhlongo

12h40 Discussion

13h00 **LUNCH**



SESSION 06

LIVESTOCK AND GAME MANAGEMENT

14h00 The Ecological Impact of Native Herbivores on Vegetation of Rietkuil Wildlife Conservation Farm, Parys, Free State South Africa. Makoshane Seloana

14h15 Diet Mixing and Supplementation Increased Consumption of the Encroaching Woody Plants by Goats Ntuthuko Mkhize

14h30 Effect of supplementing barley fodder sprout on ruminal modulation and metabolic function of meat-master lambs Thamsanqa Mpanza

14h35 Ecological preferences and seasonal dynamics of ticks (Acari: *Ixodidae*) from bovine hosts in the Eastern Cape Province, South Africa Mandla Yawa

59th Annual Congress of the Grassland Society

Wednesday, 24 July 2024



SESSION 07 | COMMUNAL RANGELANDS

14h45	Rangelands supporting people: A review of the contribution of the African Journal of Range and Forage Science to advancing knowledge on the human dimensions of African rangelands	Wayne Twine
15h00	Exploring Sustainable Grassland Management in the Umhlabuyalingana Area: A Community-Centred Approach.	Londiwe Gule
15h15	Hydroponic barley fodder: Bridging the fodder gap in arid rangelands of South Africa	Imanathi Kekaya
15h30	Evaluation of communal rangeland condition: Case study of Santombe village in Mount Ayliff, Umzimvubu Local Municipality, Eastern Cape Province	Sive Tokozwayo
15h35	Discussion	
16h30	POSTER SESSION WITH CHEESE AND WINE DINNER	
18h00	FREE EVENING	

POSTERS ONLY

Impala seasonal habitat utilisation and movement patterns in Sourish Mixed Bushveld	Boitumelo Mongale
How to use iNaturalist and CarryMap as tools for field vegetation data	Kagiso Mogajane
The evaluation of digestate valorization as biofertilizer on growth performance of <i>Phaseolus vulgaris</i> (sugar bean legume) as compared to chemical fertilizer	Dikonketso Matjuda
The composition of anaerobically digested cattle manure from smallholder biogas digesters in North-West Province, and its quality as a potential biofertilizer	Dikonketso Matjuda

59th Annual Congress of the Grassland Society

Wednesday, 24 July 2024

Drought tolerance in *Brachiaria* hybrid cultivars Mulato II and SABIA Francuois Müller

Temporal changes in plantain forage quality during regrowth Dalena Lombard

Arbuscular mycorrhizal fungi and raw cattle slurry determine the growth, forage yield and nutritive value of perennial rye grass (*Lolium perenne*) Bethwell Moyo

Comparative grazing capacity and veld condition status of LRAD beneficiaries' farms in the Eastern Cape Province Sindisile Goni

RESEARCH PROPOSAL POSTERS ONLY

Ecological condition mapping in South Africa: help us to assess ecological condition in the grassland biome. Stephni van der Merwe

Thursday, 25 July 2024



SESSION 08 | FIRE ECOLOGY

08h30	KEYNOTE: Oops, I lit it again: Effects of wildfire vs intentional burns on grazed grassland	Devan McGranahan
09h15	An introduction to veldfire investigations, conducted, inter alia, in preparation for litigation	Matthew Danckwerts
09h30	The effect of time of day on factors that affect fire intensity in Southern African savanna	Nothando Ngobeni
09h45	Life and death in an arid savanna: Effects of rainfall variation and fire on acacia demographics in Tswalu Kalahari Reserve	Susanne Vetter
10h00	Effect of annual burning on diversity and vegetation composition of Golden Gate Highlands National Park	Andri Van Aardt
10h15	Investigating the response of forb and grass belowground regeneration traits to disturbance in a semi-arid savanna	Tsumbedzo Ramalevha
10h30	TEA	

59th Annual Congress of the Grassland Society

Thursday, 25 July 2024



SESSION 09 | RANGELAND ECOLOGY AND MANAGEMENT II

11h00	Exploring threats and opportunities to the Maputaland Wooded Grassland: A community-centred approach	Susan Janse van Rensburg
11h15	Evaluating the capability and use of rangelands on South Africa's land redistribution (PLAS) farms	Siphe Zantsi
11h30	Grass species composition and distribution patterns across the three ecological zones of Mpumalanga Province	Matome Collen Rabothata
11h45	Megacarcasses: a unique disturbance type adding to the spatial complexity of semi-arid rangelands	Helga Knoetze
12h00	An application of multi-scale remote sensing in estimating grass nutrient limitation as measured by a ratio of Nitrogen and Phosphorus in a savanna ecosystem	Nasiphi Ngcoliso
12h15	Discussion	
13h00	LUNCH	
14h00	AJRFS Discussion	Urs Kreuter
16h00	TEA	
19h00	GALA DINNER	

GALA DINNER & AWARD CEREMONY

59th Annual Congress of the Grassland Society

ADJUDICATION



Session 1



Session 2



Session 3



Session 4



Session 5



Session 6



Session 7



Session 8



Session 9



Posters

59th Annual Congress of the Grassland Society

Friday, 26 July 2024

POLICY & PRACTICE WORKSHOP

WOODY RANGE-EXPANDING SPECIES IN SOUTHERN AFRICAN MOUNTAINS: TRENDS, PREDICTIONS & MITIGATIONS

07h30 POLICY & PRACTICE WORKSHOP DELEGATE REGISTRATION

08h00	Welcome, announcements, housekeeping, outline of the programme and summary of intended outcomes.	Ralph Clark Grant Martin
08h30	Plenary on Bush Encroachment in southern African mountains	William Bond
09h00	Elevation patterns of non-native invasions in South African mountains	Kim Canavan
09h15	State of knowledge of <i>Leucosidea sericea</i> in southern Africa	Peter Le Roux
09h30	Overview of HydroVeg programme and subsequent developments	Michele Toucher
09h45	Invasive temperate <i>Rosaceae</i> in southern African mountains and highlands	Grant Martin
10h00	TEA	
10h30	The impacts on small mammals of >100 years of bush encroachment in the Soutpansberg, Limpopo Province.	Peter Taylor
10h45	Legislation governing the management of invasive alien woody plants in South Africa	Brian Van Wilgen
11h00	Legal aspects around listing of and management of indigenous bush encroaching species in southern Africa	Ralph Clark Grant Martin

59th Annual Congress of the Grassland Society

Friday, 26 July 2024

11h15 Q&A including Plenary

12h00 LUNCH

13h00 Summary of the Mountain Invasion Research Network (MIREN) and “RangeX” Global Consortium Ralph Clark

13h15 Outcomes of *Rosaceae* management at different elevations in the western Maloti-Drakensberg Grant Martin Lesego Malekana

13h30 Alpine warming scenarios in the northern Maloti-Drakensberg using Open Top Chambers for the first time in this context Onalenna Gwate

13h45 Outcomes of pollination interactions and wildlife camera by-catch across elevations in the northern Maloti-Drakensberg Stephanie Payne-Smith

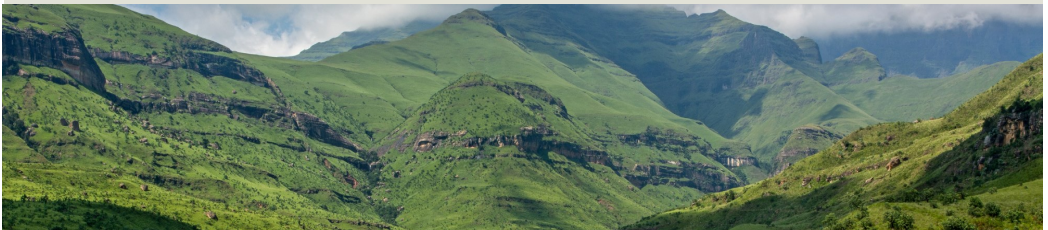
14h00 Synthesis of implications / Q&A

14h30 Discussions

15h00 TEA

15h30 Discussions

16h00 CONGRESS END



59th Annual Congress of the Grassland Society

CONGRESS 59 SCIENTIFIC COMMITTEE

Sindiso Nkuna CHAIR	University of KwaZulu-Natal
Susi Vetter CO-CHAIR	Rhodes University
Sigrun Ammann	Western Cape Dept of Agriculture
Justin du Toit	Dept of Agriculture Land Reform & Rural Development
Andiswa Finca	Agricultural Research Council - API
Craig Morris	Agricultural Research Council
Francois Müller	Agricultural Research Council
Khululiwe Ntombela	Agricultural Research Council - API
Jamie Poulse-Ross	University of the Free State
Melvin Swarts	Dept of Rural Development and Land Reform
Michelle Tedder	University of KwaZulu-Natal
Janke van der Colf	Western Cape Dept of Agriculture
Erika van Zyl	KZN Department of Agriculture and Rural Development

59th Annual Congress of the Grassland Society

CONGRESS 59 ORGANISING COMMITTEE

Justin du Toit CHAIR	Dept of Agriculture Land Reform & Rural Development
Kevin Kirkman	University of KwaZulu-Natal
Sindiso Nkuna	University of KwaZulu-Natal
Jamie Pause-Ross	University of the Free State
Susi Vetter	Rhodes University
Linda Kleyn	Spesfeed Consulting (Pty) Ltd
Phillip Nengwenani	Dept of Agriculture Land Reform & Rural Development
Loraine van den Berg	Dept of Agriculture Land Reform & Rural Development
Percy Sekwadi	Dept of Agriculture Land Reform & Rural Development
Minette van Lingen	Grassland Society of Southern Africa

Thank you to our generous sponsors



NATIONAL CONVENTION BUREAU



Home of:

Veeplaas
STOCKFARM



biodiversa+
European Biodiversity Partnership



