

## College of Agriculture and Environmental Sciences

### Research focus areas for 2020: Department of Environmental Sciences - Nature Conservation

Focus area	Researchers in the focus area	Specialisation of researchers in the focus area	Profile of the researcher	Research project themes	Capacity per researcher for 2020
<b>Nature Conservation</b>	Mrs SC Graham	Biodiversity; Climate change; Bankrupt bush; Resource management, Fire; Habitat ecology	Mrs Susannah Graham is a junior lecturer in the Department of Environmental Sciences, Nature Conservation. She obtained her MSc in Nature Conservation looking at how Bankrupt bush densification affects biodiversity. Methodology expertise: Quantitative research & descriptive	<b>Bankrupt bush</b> a. Literature review b. Effective control methods c. Biological control d. Alternative uses of Bankrupt bush e. Allelopathic effects f. Soil health g. Norm (density per ha) h. Causes for the increase of Bankrupt bush densification i. Climate change effect on Bankrupt bush j. High density grazing k. Animal impact l. Mechanical inventions  <b>Climate change</b> a. Phenology of key tree resources for selected trees at LDNR.	Masters: 2

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				<p>b. Altitudinal effects on small mammal presence, abundance and biodiversity at LDNR.</p> <p><b>Habitat ecology</b></p> <p>a. Biodiversity  b. Effect of Bankrupt bush densification  c. Effect of fire  d. Small mammal communities as indicator species  e. Small mammals seasonal use of habitats  f. Effect of climate change  g. Ant species as indicator species</p>	
<b>Wildlife welfare</b>	Ann Wilson	Wildlife welfare and general conservation management	Ann Wilson is a lecturer in Nature Conservation at Unisa and is currently completing her PhD. With the intensive use of or wildlife and natural areas, understanding our impact on their wellbeing is important. This relatively young science has many opportunities for research open to it.	Includes conservation management, wildlife welfare, animal behaviour, policy, ethics, human-wildlife interactions	2020: 2 Masters students
<b>Plant ecology / Vegetation Science</b>	Prof LR Brown lrbrown@unisa.ac.za	Vegetation Science and Management	Leslie R Brown is a Professor in Plant Ecology and Head of the Applied Behavioural Ecology & Ecosystem Research Unit in the Department of Environmental Sciences at UNISA. He holds a PhD in terrestrial plant ecology from the University of Pretoria. He is involved in various collaborative research projects in the field of plant ecology throughout South Africa. Current projects involve vegetation ecology and animal	<ol style="list-style-type: none"> <li>1. The ecology and management of <i>Stoebe vulgaris</i> within the grassland biome.</li> <li>2. Long-term vegetation changes within Nama karoo vegetation of the Mountain Zebra National Park</li> <li>3. The effect of fire and grazing on vegetation composition, production and veld condition.</li> <li>4. Phenology of key tree resources for selected trees at LDNR.</li> </ol>	None

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			behaviour research in Loskop Dam Nature Reserve; Mountain Zebra National Park, Samara Private Game Reserve and North-west Province. His research interests include phytosociology, veld management, fire ecology, restoration, long-term monitoring, wetlands, and plant-animal interactions.	<ol style="list-style-type: none"> <li>5. Altitudinal effects on small mammal presence, abundance and biodiversity at LDNR.</li> <li>6. Ecosystem drivers of the Namaqualand Sand fynbos vegetation within the Namaqua National Park .</li> <li>7. The ecology and habitat utilisation of chacma baboons within the Bankenveld.</li> <li>8. Impacts of animal carcasses on vegetation within the grassland biome.</li> <li>9. Vervet ecology within the Nama-karoo.</li> <li>10. The effect of climate changes on vegetation within Kalahari vegetation.</li> </ol>	
<b>Plant and animal ecology</b>  <b>Impacts of animal carcasses on terrestrial ecosystems</b>	Dr AS Barrett barreas@unisa.ac.za	Plant and animal ecology	Senior Lecturer in the Department of Environmental Sciences. He Holds a PhD in Environmental Management. He is involved in various collaborative research projects involving vegetation and animal ecology at Kruger National Park, Loskop Dam Nature Reserve and Telperion Nature Reserve. Research interests include systems ecology, GIS, primatology, herpetology, plant and animal ecology, and modelling.	Research interests include systems ecology, GIS, primatology, herpetology, plant and animal ecology, and modelling.	MSc : 0 PhD : 0
<b>Plant and animal ecology</b>	Ms SE Nkosi nkosise@unisa.ac.za	Plant Ecology	Lecturer in the Department of Environmental Sciences at Unisa. She holds an MSc in Nature Conservation with specific focus on vegetation and management thereof. She has been involved in a number of scientific research activities and		MSc: 1

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			other ecological tasks. She is involved in <i>Stoebe vulgaris</i> ecological research in the grassland biome. She is currently busy with her PhD in remote sensing. Research interests include GIS, remote sensing, vegetation management (fire and alien plants control), vegetation classification and modelling.		
<b>Waste Management</b>	Tsakani Tshimbana	Waste Management	Ms Tsakani Tshimbana is a lecturer at the Department of Environmental Sciences. She holds her MSc in Environmental Management. Her Focus area is waste management with specific focus on electronic waste management, household waste, medical waste, waste reclamation and recycling, Environmental Education and awareness and Environmental compliance on waste management.	Electronic waste management, Waste reclamation, Recycling. Environmental compliance	MSc: 2
<b>Wildlife Management</b>	Dr WM Strauss strauwm@unisa.ac.za	Mammal ecology and ecophysiology	Dr Strauss is a Senior Lecturer in the Department of Environmental Sciences. He holds a PhD from Wits University. His research focus is on mammal ecology/ecophysiology/conservation physiology. Methodology expertise: Biologging	Mammalian adaptations Conservation physiology	MSc: 1 PhD: 1
<b>Wildlife Ecology</b>	Dr K Slater slatek@unisa.ac.za	Mammal ecology	Dr Slater is a senior lecturer in the Department of Environmental	Behavioural ecology of Brown hyaena	MSc : 1 PhD : 1

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			Sciences. She holds a PhD from the University of Pretoria in Zoology. Her research focus is on the behavioural ecology of mammals and has a keen interest in the ecology of reptiles.	Predator management in human/wildlife conflict areas Baboon ecology	
<b>Nature Conservation</b>	Ms Sarisha Daya dayas@unisa.ac.za	Threatened species legislation and protection	Ms Sarisha Daya is a Junior lecturer in the Department of Environmental Sciences, Nature Conservation program. She is currently completing her M Tech in Nature Conservation. Her research focus is the effectiveness of current legislation in protecting threatened species in South Africa. Her research also extend to the effects of climate change on species distribution and protection initiatives.  <b>Methodology expertise:</b> Descriptive, quantitative and qualitative studies	<ol style="list-style-type: none"> <li>1. National documenting and protection of threatened species.</li> <li>2. Climate change modelling effects on threatened species distributions.</li> </ol>	MSc : 1
<ol style="list-style-type: none"> <li>1) River Health</li> <li>2) General aquatic ecology</li> <li>3) Mindfulness and pro-environmental behaviour of visitors to SANParks</li> <li>4) Ecosystems services</li> </ol>	Ms ME Brand bbrand@unisa.ac.za	Freshwater ecology	Ms Brand is a senior lecturer in the Department of Environmental Sciences. She holds an MSc in Zoology (Ecotoxicology) from RAU (now UJ) and is currently enrolled for a PhD (Environmental Management). Her current research focus is on freshwater ecology and conservation management.	<ol style="list-style-type: none"> <li>1. Determining overall health of a river system using various indices.</li> <li>2. To identify suitable plant species to dry out excessive moisture in sludge at a waste water treatment facility through evapotranspiration capacity.</li> <li>3. Ecology, morphology and habitat requirements of the previously unknown tadpole of the Klipheuwel Dainty Frog.</li> <li>4. Place attachment as a cultural ecosystem service in SANParks.</li> <li>5. To develop strategies to bridging gaps between visitor knowledge/experience</li> </ol>	MSc : 0 PhD : 0

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				and conservation management aspects in selected national parks.	
<b>Terrestrial Wildlife Ecology, Population Dynamics and Systematics</b>	Dr Haemish Melville Email: melviha@unisa.ac.za	Mesopredators, Population dynamics, Community ecology and systematics	Dr Melville is a terrestrial systems wildlife ecologist who qualified with his PhD at Texas A&M University. He joined Unisa in late 2015. His interests include mesopredator guild structures, terrestrial mammalian population dynamics, human wildlife conflict, ecological community structure and systematics.	<ol style="list-style-type: none"> <li>1. Testing the mesopredators release hypothesis in the Kalahari system</li> <li>2. Small mammal guild structure in Natal</li> <li>3. Ecosystem responses to carcass decomposition</li> <li>4. Predator response to carcass decomposition</li> <li>5. Estimating ungulate populations from camera trap data</li> <li>6. Caracal and jackal spatio- temporal interactions on small stock farms</li> <li>7. Bat guild structure and responses to carcass decomposition</li> </ol>	MSc: 4 PhD : 1
<b>Protected Areas Management, Human-Wildlife Interactions, Environmental Sustainability</b>	B Malatji <a href="mailto:malatmb@unisa.ac.za">malatmb@unisa.ac.za</a> 011-471 3917	Wildlife management, -Wildlife utilization, - Environmental Education - Social Ecology	Mr Billy Malatji is a lecturer in the Department of Environmental Sciences. He holds a B Agric Hons in Wildlife Management from the University of the Free State and is currently enrolled for a MSc in Environmental Management with University of South Africa. Her research focus is on Protected Areas Management, Human-wildlife interactions and Environmental sustainability	<ol style="list-style-type: none"> <li>1. Wildlife management</li> <li>2. Human-Wildlife interactions</li> <li>3. Environmental Education</li> <li>4. Social Ecology</li> </ol>	
<b>Nature Conservation</b>	Mr SB Hlabisa <a href="mailto:hlabisbl@unisa.ac.za">hlabisbl@unisa.ac.za</a>	Resource use, conservation and sustainability	Mr Hlabisa is a lecturer in the Department of Environmental Sciences. He holds a Master's degree from the Monash University and is currently enrolled for a PhD	<ol style="list-style-type: none"> <li>1. Resource-use ecology.</li> <li>2. Social ecology.</li> <li>3. Protected area management effectiveness.</li> </ol>	Masters: 3

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			with the University of the Witwatersrand. He also holds a Bachelor of Technology degree in Nature Conservation as well as a National Diploma, both from Mangosuthu University of Technology. His research focus is on natural resource-use and conservation.	4. Community and stakeholder participation in conservation. Co-management, adaptive management and community-based natural resource management.	
<b>ODL and ODeL</b>	Mr Graeme Wilson <a href="mailto:wilsoga@unisa.ac.za">wilsoga@unisa.ac.za</a>	Work Integrated Learning	Mr Graeme Wilson is a junior lecturer in the Department of Environmental Sciences. He currently holds a BEd (hons) from Rhodes University and a Certificate in ODeL from UMUC and is currently enrolled for a Masters with the University of South Africa. His research focus for his dissertation of limited scope is on the affordances of mobile technology is WIL student support in a Nature Conservation context.	1. ODL in Nature Conservation 2. Work-integrated learning in Nature Conservation 3. Technology aided learning	Hons: 0 Masters: 0 PhD: 0
<b>Nature Conservation</b>	Ms BF Mongale	Plant and animal ecology	Ms Boitumelo Mongale is a junior lecturer in the Department of Environmental Sciences. She is completing her MSc in Nature Conservation. Her MSc research focus is on Habitat utilisation and activity budget (Patterns) of Impala.	1. Seasonal and combined home ranges of a GPS collared impala 2. Using ArcGIS to map the plant communities 3. food availability in the home range 4. Seasonal activity and movement patterns using GIS technology	