

College of Agriculture and Environmental Sciences

Research focus areas for 2027: School of Ecological and Human Sustainability - Department of Geography

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 2025
Settlement and Human Social Dynamics	Dr S Tshabalala E-mail: tshabas1@unisa.ac.za	Urban geography and Human geography	Dr Tshabalala is a lecturer in the Department of Geography. He a PhD in Geography from the University of South Africa. His research focus is on urban geography, focusing on spatial and infrastructure development. Methodology expertise: Quantitative and qualitative studies research	1. Urban development (spatial and infrastructure) 2. Smart and sustainable cities 3. Local government and governance	MSc - 1
	Mr FA Mukhuba E-mail: makhufa@unisa.ac.za	Rural Geography Political Geography	Mr. Mukhuba is a lecturer in the Department of Geography. He holds a Master's degree from the University of South Africa. His research interests focus on the complex relationships between space, place, power, and politics.	1. Geographies of Power 2. Land reform 3. Historical Legacies and Contemporary Spatial Inequalities Spatial Construction of Political Boundaries	MSc - 2
	Dr L Van Vuuren E-mail: dvriel@unisa.ac.za	Urban geography and Human geography	Dr van Vuuren is a lecturer in the Department of Geography. She holds a PhD in Geography from the University of South Africa. Her research focus is on	1. Urban parks 2. Public space 3. Leisure and events 4. Urban sustainability	PhD – 1 MSc - 2

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			urban and human geography with a focus on public space, green space parks, leisure and events. Methodology expertise: Qualitative; Mixed Methods.		
	Prof HAP Smit E-mail: esmitha@unisa.ac.za	Environment and society Historical geography Military geography	Prof Hennie Smit is a Professor in the Department of Geography. He is an NRF rated scientist and holds a PhD from Stellenbosch University. His research focus is on environmental studies, historical geography, and military geography, and he supervised students in these fields for more than 20 years. Methodological expertise: Qualitative Methods; Mixed Methods	1. Environmental impacts on society 2. Disaster studies 3. Historical landscapes 4. Geography and military activities	PhD - 2 MSc - 2
	Dr T Dirsuweit E-mail: dirtsutc@unisa.ac.za	Urban Studies SMART Cities (Digitalisation of urban services) Citizen Science Gender Studies Food security (and Food Sovereignty)	Dr Teresa Dirsuweit is a senior lecturer in Geography. She has supervised students for over 20 years and has extensive research experience. Dr Dirsuweit holds a PhD in Human Geography (2003) and a Masters in Education (2019) Methodological expertise: Action Research Methods; Action Science Methods; Qualitative Methods; Mixed Methods	1. Spatial transformation 2. Urban ethics and social justice 3. Public participation 4. Public space 5. Gender and the city 6. SMART cities 7. Gender and space 8. Gender and food security 9. Food sovereignty 10. Urban food gardens	PhD - 1 MSc - 1
	Dr AE de Jager E-mail: dejageae@unisa.ac.za	Urban greenspace and environmental related study fields	Dr Anna de Jager is a senior lecturer in the Department of Geography. She holds a PhD from Unisa. Methodological expertise: Qualitative research; Mixed Methods research	1. Conservation within urban greenspace, 2. Conservation, tourism, and sense of place 3. Urban development	MSc - 2

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	Prof M Nicolau E-mail: nicolmd@unisa.ac.za	Sustainable Development	Professor Melanie Nicolau is a professor in the Department of Geography. She holds a PhD in Geography from the University of South Africa. Her research focuses all aspects related to sustainable development. Methodology expertise: Qualitative or Mixed Methods research	1. Rural change, specifically focussing on sustainable development and specifically the Sustainable Development Goals. 2. Socio-economic change related to livelihood strategies, specifically focussing on sustainable development. 3. Potential students should contact Prof Nicolau, in advance of application to discuss and finalise research topics.	PhD - 2 MSc - 1
	Prof A Gunter E-mail: gunteaw@unisa.ac.za	Urban development	Prof Ashley Gunter is a Professor in the Department of Geography. He is an NRF rated scientist and holds a PhD from The University of Johannesburg. He currently holds grants from the AHRC and ERLI worth over R5 million. His research focus is on urban development through local economic development and housing.	1. Urban Development 2. Local Economic Development 3. Low Cost Housing	PhD - 2 MSc - 3

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			Methodological expertise: Qualitative Methods; Mixed Methods		
	Mrs S Mashao E-mail: todansj@unisa.ac.za	Indigenous and contemporary roles of gender in poverty alleviation	Mrs Mashao is a lecturer in the Department of Geography. She is currently a PhD candidate working on indigenous roles of gender in poverty alleviation. She holds a MSc from the University of Venda and research focuses on gender and poverty.	1. Rural development 2. Gender studies	MSc - 1
	Miss L Mulibana E-mail: mulibl@unisa.ac.za	Urban geography and Human geography	Miss Mulibana is a lecturer in the Department of Geography. She currently holds a Master's degree in Geography and environmental management from the University of Kwa-Zulu Natal. Her research is focused on urban geography; specifically looking at post-apartheid urban restructuring. Methodology expertise: Qualitative research	1. Urban development 2. Spatial transformation in South African cities	MSc - 1
	Mr R Schoeman E-mail: eschoerc@unisa.ac.za	GIS Urban Geography Green Building Sustainable Development	Mr Schoeman is a lecturer in the Department of Geography. He holds an MSc from UNISA and is a PhD candidate at the University of Pretoria. Methodology expertise: Quantitative and qualitative studies research	1. Urban Geography 2. Sustainable Development 3. Green Building	MSc - 1
Geomorphology	Prof DW Hedding E-mail: heddidw@unisa.ac.za	Landscape and climate interactions in the sub-Antarctic	Prof DW Hedding is a Professor in the Department of Geography. He holds a PhD from the University of Pretoria. His research focus is on geomorphology, weathering and climate change. Methodology expertise: Quantitative research	1. Geochronology of sub-Antarctic Marion Island using terrestrial cosmogenic nuclide dating 2. Aeolian processes and landforms on sub-Antarctic Marion Island	PhD - 2 MSc - 2

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				3. Responses of ground thermal processes to synoptic patterns and climate change. 4. Landscape evolution of the Lesotho Drakensberg basalts 5. The geomorphology of the High Lesotho Drakensberg Mountains 6. Thufur development and degradation in the High Lesotho Drakensberg Mountains	
	Dr AC Greyling E-mail: egreyla1@unisa.ac.za	Palaeo Geomorphology and GIS	Dr AC Greyling is a lecturer in the Department of Geography. He holds a MSc from University of Pretoria and a PhD from the University of South Africa. His research focus is on large landscape development and change, assessing palaeo geomorphological landforms. Methodology expertise: Quantitative research and GIS/RS techniques.	1. Drakensberg and Lesotho Highlands landscape evolution. 2. Development of RS based erosion and landscape evolution indices. 3. Physical and chemical weathering of the Karoo Supergroup basalts and sandstones; linking rock hardness with surface age. 4. Thufur development and degradation in the Lesotho Mountains 5. Mass movements and large landslides in mountainous regions (Drakensberg)	PhD - 1 MSc - 2

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	Dr RL Anderson Email: a-nderrl@unisa.ac.za	Gully erosion & erosive rainfall	Ryan Anderson is a lecturer in the Department of Geography and teaches three courses of environmental sciences. He holds an MSc from University of Pretoria and a PhD from the University of the Free State. His current research focus is on the impact of climate change on soil erosion with particular focus on rainfall intensity and associated processes on gully erosion. Methodology expertise: Quantitative research	1. Gully erosion 2. Rainfall erosivity 3. Climate change impacts on soil erosion	PhD - 1 MSc - 2
Integrated Water Resource Assessment, Planning and Management	Prof A du Plessis E-mail: duplea@unisa.ac.za	Water availability, quality and risk Water Resource Management – Water availability, water quality, water supply, water, sanitation and hygiene, risks and possible measures and/or solutions	Prof Anja du Plessis is an Associate Professor in the Department of Geography. She holds a PhD from the University of Johannesburg. Her research focus is water resource management – including various research themes such as the assessment of current and future water availability, quality, scarcity and/or stress as well as future water related risks, solutions and opportunities. Methodology expertise: Qualitative and quantitative research	1. Current and Future water availability, quality of water resources in southern Africa (surface and groundwater) 2. Possibilities for nature-based solutions, water re-use as well as other technologies or methods to improve water security. 3. Water, sanitation and hygiene in southern Africa. 4. Perceptions and/or behaviour towards increased water stress and/or scarcity (domestic water resources). 5. Current and Future water related risks and	PhD - 2 MSc - 2

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				opportunities within southern Africa (i.e. influence of climate change; possibilities of artificial wetlands and wastewater re-use).	
Integrated Water Resource Assessment, Planning and Management	Prof A du Plessis E-mail: duplea@unisa.ac.za	Water Resource Management – Water availability, water quality, water supply, water, sanitation and hygiene, risks and possible measures and/or solutions	Prof Anja du Plessis is an Associate Professor and Y2 NRF Rated researcher in the Department of Geography specialising in water resource management. She holds a PhD from the University of Johannesburg. Her research focus is water availability, quality, scarcity and/or stress, overall water security as well as future water-related risks and opportunities. Methodology expertise: Quantitative research	6. Current and Future water availability, quality of water resources in southern Africa (surface and groundwater) 7. Possibilities for nature-based solutions, water re-use as well as other technologies or methods to improve water security. 8. Water, sanitation and hygiene in southern Africa. 9. Perceptions and/or behaviour towards increased water stress and/or scarcity (domestic water resources).	

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				10. Current and Future water related risks and opportunities within southern Africa (i.e. influence of climate change; possibilities of artificial wetlands and wastewater re-use).	
Physical Geography	Dr SC Nenwiini E-mail: nenwisc@unisa.ac.za	Physical Geography	Dr SC Nenwiini is a senior Lecturer in the Department of Geography. She holds a PhD in Geography from North West University. Her research focus is on climate variability and change, local scale seasonal rainfall characteristics – for operational purpose in light of natural resources management, agriculture, development and planning. Methodology expertise: Quantitative Research	1. Trends and variability assessment in local rainfall and associated time-varying climatological anomalies 2. Impacts of climate variation on local scale seasonal rainfall characteristics	MSc - 2
	Dr P Radingoana E-mail: radinmp@unisa.ac.za	Water quality, Greywater reuse, Climate change and water resources, Waste management, Environmental management	Dr Radingoana is a senior lecturer in the Department of Geography. She holds a PhD in Environmental and Water Sciences from University of the Western Cape. Her research focuses on climate change impacts on water resources, environmental management in general and domestic greywater reuse as a possible substitute of potable water for	1. Water quality and microbial markers. 2. Climate change and water resources pollution. 3. Food production and quality using greywater. 4. Greywater quality, treatment technologies and reuse.	PhD - 1 MSc - 3

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			subsistence agricultural production in rural areas. Methodology expertise: Mixed research approach.	5. Impacts of mining activities and landfill sites on the environment.	
	Mr TW Mbhamali E-mail: mbhamtw@unisa.ac.za	Climatology and Meteorology	Mr Thulebona Wellington Mbhamali is a lecturer in the Department of Geography. He holds an MSc degree in Physical Geography and is currently pursuing his PhD focusing on modelling and monitoring of climate impacts and its application to derive socio-economic benefits in weather sensitive sectors. Currently, has a number of Honours students working under his supervision.	1. Climate analysis, modelling and its application 2. Artificial intelligence and machine learning in Geography 3. Spatio-temporal analysis	MSc - 1
	Ms S Motene E-mail: motens@unisa.ac.za	Environmental geomorphology GIS	Ms Motene is a lecturer in the Department of Geography. She holds a MSc in Environmental Science (Geography) from the University of Venda. Her research focuses on using remote sensing and GIS, and geomorphology to solve environmental problems	1. Remote sensing and GIS 2. Geomorphology	MSc - 1

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Teaching and Learning in Geography	Dr T Dirsuweit E-mail: dirtsut@unisa.ac.za	Social Justice and education Gender and Education Adult Education	Dr Dirsuweit is a senior lecturer in Geography. She has supervised students for over 20 years and has extensive research experience. Dr Dirsuweit holds a	1. Gender and Education 2. Socio-spatial issues in education 3. Education for sustainable development goals (gender and cities) 4. Social justice and adult education	PhD - 1 MSc - 1

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			PhD in Human Geography (2003) and a Masters in Education (2019). Methodological expertise: Action Research Methods; Action Science Methods; Qualitative Methods; Mixed Methods		
	Dr A de Jager E-mail: dejageae@unisa.ac.za	ODL in geography in higher education	Dr Anna de Jager is senior lecturer in the Department of Geography. She holds a PhD from Unisa. Her research focus is primarily on engaged teaching and learning in Geography and ODL. Methodological expertise: Qualitative research; mixed methods research	1. ODL applications in geography and environmental related study fields 2. Teaching and learning in geography	MSc - 1
	Prof A Gunter E-mail: gunteaw@unisa.ac.za	Education in Africa	Prof Ashley Gunter is a Professor in the Department of Geography. He is an NRF rated scientist and holds a PhD from The University of Johannesburg. He currently holds grants from the AHRC and ERLI worth over R5 million. His research focus in ODeL is on education in Africa and its impact on the transfer of knowledge Methodology expertise: Qualitative research	1. International Distance Education and African Students 2. Decolonising Peace Education	PhD - 1 MSc - 2
	Ms A Khotoo E-mail: khotoa@unisa.ac.za	ODL in geography in higher education	Ms Anisa Khotoo is a lecturer in the Department of Geography. She holds a MA in Geography from The University of Johannesburg. Methodological expertise: mixed method research	1. ODL applications in geography and environmental related study fields	MSc - 1

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	Dr R Anderson E-mail: anderll@unisa.ac.za	Physical Geo	Dr Ryan Anderson is a lecturer in the Department of Geography. He holds a MSc and a PhD, both with specialisation in Geography. Methodological expertise: Quantitative Research	1. ODL applications in geography and environmental related study fields	MSc - 2
	Prof HAP Smit E-mail: esmitha@unisa.ac.za	Environmental education in higher education	Prof Hennie Smit is a Professor in the Department of Geography. He is an NRF rated scientist and holds a PhD from Stellenbosch University. His research focus is on environmental studies, historical geography, and military geography, and he supervised students in these fields for more than 20 years. Methodological expertise: Qualitative Methods; Mixed Methods.	1. Geography education and environmental literacy	PhD - 1 MSc - 2
Accessibility, location and allocation analysis or any other GIS applications	Prof P Schmitz E-mail: schimplmu@unisa.ac.za	Geographic Profiling, Forensic Geography, GIS analysis (any field including co-supervision with colleagues)	Prof Schmitz has a PhD in Geography from the University of Johannesburg. He has participated in several accessibility, location and allocation analysis projects while at the CSIR. The projects ranged from locating offices for the Department of Home Affairs to optimal locations for fire brigade stations in the City of eThekweni based on fire types. He also published a chapter on forensic geoscience and continuing his research on landmine detection using the impact of leached TNT on plants to indicate the presence of landmines.	1. Any accessibility, location and allocation analysis 2. Forensic GIS and forensic Geography (Student must have a police background – co-supervision with a supervisor from Police Studies) 3. Spatial analysis 4. Wildfire modelling 5. Accident hotspots along freeways 6. Digital twins using GIS	MSc - 4
	Dr S Carow E-mail:	GIS in geography in higher education and	Dr Sanet Carow is a lecturer in the Department of Geography. She holds an MSc in Geoinformatics and a PhD in Geography. Her research interests concern	1. Applications of GIS in various fields 2. Accessibility studies	MSc – 1 PhD - 1

	sanetpc@unisa.ac.za	applications of GIS	the various applications of GIS, spatial analysis and accessibility studies. Other research interests includes various dimensions of teaching and learning GIS and its integration with geography. Methodological expertise: Integrated teaching; curriculum design, spatial thinking, spatial analysis and accessibility studies	3. ODL applications in geography and Developing students spatial thinking skills	
	Dr KH Thamaga E-mail: thamakh@unisa.ac.za	Remote sensing, Spatial analysis and GIS applications in any study field	Dr Thamaga is a Senior lecturer and hold PhD in Environmental and Water Science. His field of specialisation include Integration of cutting-edge Geospatial and Earth Observation technologies; Environmental spatial modelling; Machine learning, and Deep learning for informing decisions and policies pertaining to the environmental management; Hydrological, Catchment and Water Resource management	1. Geospatial Big Data Analytics 2. Hydrological Modelling and Water Resource management 3. Cloud Computing and Geospatial Artificial Intelligence (Geo-AI) 4. Land Use Land Cover Analysis and Future Prediction 5. Disaster Risk Management (i.e., floods, wildfires, landslides, etc) 6. Drone technologies	MSc – 1 PhD - 1
Economic Geography (with a focus on socio-economic development)	Ms A Lombard E-mail: lombae1@unisa.ac.za	Evolutionary Economic Geography Socio-economic development Renewable energy development	Ms Andrea Lombard is a lecturer in the Department of Geography. She holds an MA degree in Geography and Environmental Studies and is currently completing her PhD focusing on the socio-economic evolution of renewable energy in rural areas.	1. Renewable energy development 2. Rural development 3. Socio-economic development	MSc - 1 PhD - 1