

## College of Agriculture and Environmental Sciences

### Research focus areas for 2021: Department of Agriculture and Animal Health

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 2021
<b>Indigenous crops research</b>  <b>Contact Person</b> <b>Prof G Prinsloo</b> <b>prinsg@unisa.ac.za</b>	Prof G Prinsloo E-mail: prinsg@unisa.ac.za  Dr N Nogemane E-mail: nogemn@unisa.ac.za  Dr L Nemadodzi nemadle@unisa.ac.za  Dr K Mohale mohalkc@unisa.ac.za	<b>Propagation and cultivation of indigenous crops and the effects on their chemical profile and biological activity</b>	<p>Prof Gerhard Prinsloo is a professor in the Department of Agriculture and Animal Health. He holds a PhD from the University of Pretoria. His research focus is on quality assessment of indigenous plants and identification of important secondary metabolites.</p> <p>Dr Noluyolo Nogemane is a senior lecturer in the Department of Agriculture and Animal Health. She holds a PhD from UNISA. Her research focus is propagation and cultivation of medicinal plants and assessment of these effects on the chemical profiles and biological activity of the plants.</p> <p>Dr Nemadodzi is a lecturer in the Department of Agriculture and Animal Health. She holds a PhD</p>	<ol style="list-style-type: none"> <li>1. Propagation of indigenous crops with commercial potential</li> <li>2. Determine the effects of cultivation on the yield and chemical profile and biological activity</li> <li>3. Identify the important secondary metabolites as affected by these methodologies</li> <li>4. Identification of compounds with beneficial or adverse effects</li> <li>5. Determine the effect of soil and soil organisms on plant survival and establishment</li> </ol>	Masters: 10 PhD: 10

			from UNISA. Her research focus is propagation and cultivation of medicinal plants and assessment of soil and soil organisms on the chemical profiles and biological activity of the plants.		
	<p>Prof G Prinsloo E-mail: prinsg@unisa.ac.za</p> <p>Dr Noluyolo Nogemane nogemn@unisa.ac.za</p> <p>Dr L Nemadodzi nemadle@unisa.ac.za</p>	<b>Plant metabolomics</b>	<p>Prof Gerhard Prinsloo is a professor in the Department of Agriculture and Animal Health. He holds a PhD from the University of Pretoria. His research focus is on quality assessment of cultivated plants and identification of important secondary metabolites.</p> <p>Dr Noluyolo Nogemane is a senior lecturer in the Department of Agriculture and Animal Health. She holds a PhD from UNISA. Her research focus is propagation and cultivation of medicinal plants and assessment of these effects on the chemical profiles of the plants.</p> <p>Dr Nemadodzi is a lecturer in the Department of Agriculture and Animal Health. She holds a PhD from UNISA. Her research focus is propagation and cultivation of medicinal plants and assessment of soil and soil organisms on the chemical profiles and biological activity of the plants.</p>	<ol style="list-style-type: none"> <li>1. Identify changes in the chemical profile and biological activity of plants due to environmental or other external factors</li> <li>2. Identification of compounds affected by environmental or other external factors</li> <li>3. Identification of compounds with beneficial or adverse effects</li> <li>4. Identification of compounds in soil that affects growth and soil organisms</li> </ol>	<p>Masters: 3 PhD: 3</p>

<b>Plant-pest interactions</b>  <b>Contact Person</b> <b>Dr PP Sibisi</b> <b>sibispp@unis.ac.za</b>	Dr PP Sibisi sibispp@unisa.ac.za	<b>Molecular profiling of plants interaction with pests</b>	Dr Phumzile Sibisi is a senior lecturer in the Department of Agriculture and Animal Health. She holds a PhD from University of Johannesburg. Her research focuses on the molecular interaction between plants and pests.	<ol style="list-style-type: none"> <li>1. Identification of small non-coding RNA and its role in plant defence</li> <li>2. The resistance response of plants by gene regulation against pests</li> </ol>	Masters: 2 PhD: 1
<b>Plant-microbes interactions</b>  <b>Contact Person</b> <b>Prof K Ntushelo</b> <b>ntushk@unisa.ac.za</b>	Prof K Ntushelo E-mail: ntushk@unisa.ac.za	<b>Molecular profiling of plants interacting with microbes especially microbial pathogens</b>	Prof Khayaletu Ntushelo is an associate professor in the Department of Agriculture and Animal Health. He holds a PhD from the University of Florida. His research focus is on genetic and metabolite profiling of plants interacting with microbes especially pathogens.	<ol style="list-style-type: none"> <li>1. Gene expression profiling of crops under pathogen attack.</li> <li>2. Metabolite profiles of crops under pathogen attack</li> <li>3. Investigating the role of plant hormones in lessening disease effects</li> </ol>	Masters: 0 PhD: 1
<b>Legumes crops</b>	Dr K Mohale E-mail: mohalkc@unisa.ac.za	<b>Plant metabolomics, Grain legume crop nitrogen fixation, and agronomy</b>	Dr Keletso Mohale is a senior lecturer in the Department of Agriculture and Animal Health. She holds a PhD from UNISA. Her research focus is assessment of co-inoculation, biostimulant, and biofertilizer application on different grain legume crops.	<ol style="list-style-type: none"> <li>1. Metabolomics on different grain legume crops</li> <li>2. Inoculation (rhizobial and plant growth promoting rhizobacteria)</li> <li>3. Biostimulant application (organic)</li> </ol>	Masters: 5 PhD: 2
<b>Molecular plant breeding: Commercial Crops</b>  <b>Contact Person</b> <b>Dr S Figlan</b> <b>figlas@unisa.ac.za</b>	Dr S Figlan figlas@unisa.ac.za	<b>Commercial crops breeding: Field crops, Fruits and Vegetables</b>	Dr S Figlan is a Senior Lecturer in the Department of Agriculture and Animal Health. She holds a PhD from the University of KwaZulu Natal. Her research focus is on breeding and genetic improvement of commercial crops. Her current traits of interest mainly include pest and disease resistance.	<ol style="list-style-type: none"> <li>1. Genetic improvement of commercial crops.</li> <li>2. Transcriptomic and metabolomic dynamics triggered by pests and diseases in commercial crops.</li> </ol>	Masters: 2 PhD: 1

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 2019
<b>Animal Diseases - Brucellosis</b>	Mr J Oosthuizen <a href="mailto:oostej@unisa.ac.za">oostej@unisa.ac.za</a>	<b>Occurrence of Brucellosis in South Africa</b>	Dr Johan Oosthuizen is a Senior Lecturer in Animal Health with a PhD in <i>Brucella canis</i> surveillance and a Master's Degree in Environmental Sciences focussing on infectious Animal Disease like Brucellosis in wildlife and domestic animals.	<ol style="list-style-type: none"> <li>1. Prevalence and Risk factors associated with infectious diseases like <i>Brucella abortus</i> and <i>canis</i> within South Africa</li> <li>2. Prevalence and risk factors for Avian tuberculosis</li> </ol>	Masters 9 PhD 1
<b>Animal Diseases – Brucellosis in dogs</b>	Ms C Etsebeth <a href="mailto:etsebc@unisa.ac.za">etsebc@unisa.ac.za</a>	<b>Occurrence and transmission of <i>Brucella canis</i> in the Nelson Mandela Bay Metropolitan.</b>	Ms Charné Etsebeth is a Lecturer in Animal Health with a Master's Degree in Agriculture focussing on <i>Brucella canis</i> in Port Elizabeth.	<ol style="list-style-type: none"> <li>1. Risk factors involved with <i>Brucella canis</i></li> <li>2. Prevalence of the disease within the community of Port Elizabeth.</li> <li>3. Transmission of <i>Brucella canis</i> between dogs and transmission between dogs and humans.</li> </ol>	-
<b>Microbiology/Infectious disease/Phytomedicine</b>	Dr P Kayoka <a href="mailto:Kabonpnk@unisa.ac.za">Kabonpnk@unisa.ac.za</a>	<b>Infectious diseases/Tuberculosis/Brucellosis</b>	Dr Kayoka is a senior lecturer in the Department of Agriculture and Animal Health. She obtained her PhD at University of South Africa. Her research focus is Microbiology, antimicrobial resistance and phytomedicine in both animals and humans.	<ol style="list-style-type: none"> <li>1. Zoonoses: Tuberculosis/Brucellosis</li> <li>2. Antimicrobial resistance</li> <li>3. Phytomedicine</li> </ol>	Masters: 5 PhD: 2
<b>Veterinary Parasitology. Ticks and Tick-borne diseases</b>	Dr S Mbizeni <a href="mailto:mbizes@unisa.ac.za">mbizes@unisa.ac.za</a>	Ticks and Tick-borne diseases.	Dr S Mbizeni is a Senior Lecturer in the Department of Agriculture and Animal Health. He holds an MSc degree (veterinary Science) at the University of Pretoria. Currently studying PhD in Parasitology in the University of KwaZulu-Natal (UKZN)	<ol style="list-style-type: none"> <li>1. Surveillance of ectoparasites (Ticks, mites, &amp; lice) in livestock.</li> <li>2. Epidemiology of Tick-borne diseases in livestock.</li> </ol>	MSc: 4

<b>Animal Nutrition/ Animal Health</b>	Dr BG Mokolopi <a href="mailto:kgobebg@unisa.ac.za">kgobebg@unisa.ac.za</a>	<b>Animal Nutrition/Minerals</b>	Dr B Gloria is a Senior Lecturer in the Department of Agriculture and Animal Health. She obtained her PhD the North-West University. Her research focus is on Animal Nutrition related to minerals and animal health <b>Methodology expertise:</b> Quantitative and Qualitative studies	<ol style="list-style-type: none"> <li>1. Mineral status on the communal cattle depending on natural grazing</li> <li>2. Effect of supplements on mineral status of cattle</li> <li>3. Haematological and blood chemical indices on supplemented animals</li> </ol>	Masters: 5 PhD: 4
<b>Veterinary Public Health/applied epidemiology</b>	Prof J Oguttu <a href="mailto:joguttu@unisa.ac.za">joguttu@unisa.ac.za</a>		Prof James W. Oguttu is an Associate Professor in the Department of Agriculture and Animal Health. He holds a PhD from the University of Pretoria. His research focus is the epidemiology of food borne diseases and antimicrobial drug resistance in domestic animals and humans. He is also interested in developing study designs to investigate health outcomes.	<ol style="list-style-type: none"> <li>1. Epidemiology of Food borne diseases</li> <li>2. Epidemiology of Antimicrobial drug resistance among human and animal isolates</li> <li>3. Application of epidemiological techniques to develop appropriate study designs</li> <li>4. Social medicine</li> </ol>	1 PhD and 2 Masters
<b>Animal Health and Nutrition</b>	Dr CJ Smit <a href="mailto:smitcj@unisa.ac.za">smitcj@unisa.ac.za</a>	Improving dairy health	Dr Christiaan J Smit is a Senior lecturer in the Department of Agriculture and Animal Health. He holds a PhD from University of South Africa. His research focus is on Dairy health and nutrition.	<ol style="list-style-type: none"> <li>1. Animal diseases posing human health risks.</li> <li>2. Production disease limiting milk yield and content such as Mastitis in dairy animals.</li> </ol>	MSc: 2 PhD: 1
<b>Animal Health</b>	Dr KS Malepe <a href="mailto:malepks@unisa.ac.za">malepks@unisa.ac.za</a>		Dr KS Malepe is a veterinarian and lecturer in the Animal Health and Agriculture department. She is involved with research in Antimicrobial resistance and can focus with animal diseases and public health research as well.	<ol style="list-style-type: none"> <li>1. Knowledge, Attitude and Practices towards African Swine Fever among emerging farmers in the Uthukela District, KwaZulu-Natal, South Africa.</li> </ol>	MSc: 1

<b>Ethnoveterinary medicine, Parasitology, Microbiology Drug development</b>	Dr BM Sakong <a href="mailto:sakonbm@unisa.ac.za">sakonbm@unisa.ac.za</a>	Identification of medicinal plants, GIT Nematodes to improve the health of livestock animals	Dr BM Sakong is a Junior lecturer in the Department of Agriculture and Animal Health. She holds PhD	<ol style="list-style-type: none"> <li>1. Evaluation of <i>In vitro</i> antiparasitic and antimicrobial activities using plant extract</li> <li>2. Evaluation of mode of action of isolated compounds</li> <li>3. Formulation of drug development using plant extract</li> <li>4. Determination of plant extract safety and toxicity using invitro models.</li> </ol>	MSc: 1 PhD: 1
<b>Genetics and Genomics</b>	Dr Mapholi, Ntanganedzeni <a href="mailto:maphon@unisa.ac.za">maphon@unisa.ac.za</a>	<b>Transcriptomics and molecular biology</b>	Dr Mapholi, Ntanganedzeni is a Senior Lecturer in the Department of Agriculture and Animal Health. She obtained her PhD at the University of Stellenbosch. Her research focus is on t Genetics and Genomics.	<ol style="list-style-type: none"> <li>1. Genetic control in livestock</li> <li>2. Genomics.</li> </ol>	Masters: 5 PhD: 5
<b>Poultry Production</b>	Dr BL Mogoje <a href="mailto:mogojbl@unisa.ac.za">mogojbl@unisa.ac.za</a>	<b>Poultry production</b>	Mr Barileng Leonard Mogoje is a lecturer in the Department of Agriculture and Animal Health. He holds a PhD from University of South Africa. His research focus is on poultry covering production management, breeding, nutrition and poultry business.	<ol style="list-style-type: none"> <li>1. Poultry production management and biosecurity</li> <li>2. Poultry breeding</li> <li>3. Poultry nutrition</li> </ol>	Masters: 2 PhD: 0
<b>Monogastric nutrition</b>	Dr Monnye Mabelebele	<b>Improving productivity of indigenous and exotic chickens</b>	Dr Monnye Mabelebele is a Senior Lecturer in the Department of Agriculture and Animal Health. She obtained her PhD at the University of Queensland Australia. Her research focus is on use of non-conventional feed resources in chickens <b>Methodology expertise:</b> Quantitative and Qualitative studies	<ol style="list-style-type: none"> <li>1. Feed restriction methods</li> <li>2. Optimization model</li> <li>3. Non-conventional feed resources.</li> </ol>	Masters: 2 PhD: 1
<b>Monogastric nutrition</b>	Prof CA Mbajorgu <a href="mailto:mbajica@unisa.ac.za">mbajica@unisa.ac.za</a>	<b>Improving productivity of</b>	Prof Mbajorgu is an Associate professor in the Department of	<ol style="list-style-type: none"> <li>1. Feed restriction methods</li> <li>2. Optimization model</li> </ol>	Masters: 6 PhD: 4

		<b>indigenous and exotic chickens</b>	Agriculture and Animal Health. He obtained his PhD at the University of Limpopo. His research focus is the use of non-conventional indigenous feed resources and Feed restriction methods including both quantitative and qualitative methods and Skip a day feeding system in chickens. To this end, the aim was to develop, test, apply and adapt optimization models for the estimation/prediction of nutrient requirements of indigenous chickens under commercial production system in addition to investigating their contributions to household income of rural dwellers.	3. Non-conventional feed resources	
<b>Animal Nutrition</b>	Dr M Mabelebele mabelm@unisa.ac.za  Dr AN Sebola sebolana@unisa.ac.za	<b>Utilisation of medicinal plant extract and novel feed ingredients on livestock production and reproduction</b>	Dr Monnye Mabelebele is a Senior Lecturer in the Department of Agriculture and Animal Health. She obtained her PhD at the University of New England, Australia. Her research focus is on probable use of alternative feed sources in diets for livestock with a solid focus on digestive physiology and improving meat quality traits.  Dr Amenda Sebola is a Senior Lecturer in the Department of Agriculture and Animal Health. She obtained her PhD at the North West University. Her research focus is on effects of medicinal plant extracts in diets for livestock with strong emphasis on reproductive	<ol style="list-style-type: none"> <li>1. Metabolite profiles of possible feed ingredients for potential use in animal diets</li> <li>2. Health benefits associated with medicinal plants in livestock</li> <li>3. Reproductive and digestive physiology of farm animals</li> <li>4. Meat and egg quality parameters</li> <li>5. Cost–benefit analysis of utilizing novel feed ingredients</li> </ol>	Masters: 4 PhD: 2

			physiology and improving egg quality parameters.		
<b>Genomics and parasitology</b>	Dr Petunia Malatji <a href="mailto:malatdp@unisa.ac.za">malatdp@unisa.ac.za</a>	<b>Transcriptomics and molecular biology</b>	Dr Petunia Malatji is a Senior Lecturer in the Department of Agriculture and Animal Health. She obtained her PhD at the University of Pretoria. Her research focus is on transcriptomics and molecular biology.	3. Animal-pathogen interaction 4. Genetic control in livestock	Masters: 2 PhD: 1
<b>Animal nutrition and rangeland ecology</b>	Prof K R Mbatha <a href="mailto:mbathkr@unisa.ac.za">mbathkr@unisa.ac.za</a>	<b>Improve animal production</b>	Prof Mbatha is an Associate Professor who obtained PhD at the Stellenbosch University. Her research focus is on animal nutrition and rangeland ecology	1. Plant-animal interaction (Plant secondary metabolites) 2. Ruminant nutrition 3. Zoo animal nutrition 4. Rangeland ecology	PhD: 4 MSc: 4
<b>Ruminant nutrition</b>	Ms Thendo Mulaudzi <a href="mailto:mulaudt@unisa.ac.za">mulaudt@unisa.ac.za</a>	<b>Dairy nutrition</b>	Thendo Mulaudzi is a lecturer in the Department of Agriculture and Animal Health. She obtained her MSc in agriculture from UNISA and is currently register for PhD. Her research focus is on dairy nutrition, use of natural products-based feed additives as alternatives to antibiotics and manipulation of rumen fermentation.	1. Manipulate rumen fermentation, 2. Accelerate growth and rumen development in young ruminants.	Masters: 1
<b>Animal nutrition/genetics</b>	Ms N Nemukondeni <a href="mailto:nemukn@unisa.ac.za">nemukn@unisa.ac.za</a>	Animal nutrition/genetics	Ms Ndivho Nemukondeni is a Junior lecturer in the Department of Agriculture and Animal Health. She holds an MSc Agriculture (Animal Science) from Unisa. Her research focus is in Animal nutrition and genetics (molecular)	1. Animal production and reproduction/genetics	MSc: 0
<b>Agricultural extension</b>	Mr MMS Maake <a href="mailto:maakems@unisa.ac.za">maakems@unisa.ac.za</a>	Agricultural extension approaches, rural development and food security	Mr Matome Maake is Lecturer in the Department of Agriculture and Animal Health. He obtained Masters' degree from Tshwane University of Technology and he is	1. Contribution of community gardens to poverty alleviation and food security 2. Profitability of broiler farming enterprises	MSc: 2



			currently enrolled for PhD: Agriculture at UNISA. His research interests are rural development, extension approaches and advisory services, food security and agricultural sociology.	3.Public and university-based extension services 4.Adoption of alternative chicken feed	
<b>Food Security</b>	Dr M Masekoameng masekmr@unisa.ac.za	<b>Food security. Household food and nutrition security</b>	Mosima Masekoameng is a senior lecturer in the Department of Agriculture and Animal Health with a Masters in Agricultural Extension and a PhD in Rural Development from the University of Venda.	The impact of climate change on food security of small -holder and emerging farmers in South Africa. - The contribution of urban agriculture to food security.	Masters: 3 PhD:3
<b>Food security</b>	Dr TP Mbombo-Dweba		Dr TP Mbombo-Dweba is a lecturer in the Department of Agriculture and Animal Health. She holds a PhD from Unisa. Her research focus is on Household Food Security through food-based strategies.	1. Indigenous/ traditional vegetables and fruit. 2. Ethnic foods 3. Food safety challenges at informal markets	Masters 3
<b>Agricultural Economics and value adding</b>	Ms D Mthombeni mthomdl@unisa.ac.za	<b>Agricultural Marketing and Agribusiness Management</b>	Ms D Mthombeni is a lecturer in the Department of Agriculture and Animal Health. She holds an MSc in agriculture from Unisa. Currently studying PhD in Agriculture at Unisa.  <b>Methodology expertise:</b> Quantitative & Qualitative studies.	Agricultural Marketing (including informal marketing) and agro-processing.	MSc: 2
<b>Agricultural Economics</b>	Dr SS Tekana tekanss@unisa.ac.za	<b>Socio-economic, climate change and food security research</b>	Dr SS Tekana (PhD, M.Sc., B.Sc. (honours)) is a senior lecturer in the Department of Agriculture and Animal Health.  <b>Methodology expertise:</b> Quantitative & Qualitative studies	Agricultural marketing, Land reform, Climate change, and Food security.	MSc: 3 PhD: 2

<b>Agricultural Economics</b>	Dr A Tagwi <a href="mailto:tagwia@unisa.ac.za">tagwia@unisa.ac.za</a>	<b>International trade, cooperatives, value chain analyses, land reform, climate change, rural finance and agribusiness.</b>	Dr A Tagwi (PhD, M.Sc., B.Sc.) is a senior lecturer in the Department of Agriculture and Animal Health. She holds a PhD in Agricultural Economics from University of Venda.  <b>Methodology expertise:</b> Quantitative & Qualitative studies	<ol style="list-style-type: none"> <li>1. Bioenergy in small-scale farming sector in South Africa.</li> <li>2. Commercialisation of renewable energy using co-generation system among sugarcane growers in South Africa.</li> <li>3. Small-scale sugarcane producer's contribution to green energy generation in eSwatini (Swaziland).</li> <li>4. The potential for value chain development in enhancing community livelihoods in the context of climate variability: A case of sorghum in Masvingo province, Zimbabwe.</li> <li>5. Conflict or consistency in obligations of trade groupings: an analysis of the SACU-EU economic partnership agreement on regional integration processes.</li> </ol>	MSc: 3 PhD: 3
<b>Agricultural Economics, and Agribusiness management</b>	Ms FP Tshilowa <a href="mailto:tshilpf@unisa.ac.za">tshilpf@unisa.ac.za</a>	<b>Agricultural Marketing, socio-economics and Agribusiness Management aspects</b>	Ms FP Tshilowa is a lecturer in the Department of Agriculture and Animal Health. She holds an MSc in agriculture from Unisa. Currently studying PhD in Agriculture at Unisa.	<ol style="list-style-type: none"> <li>1. Agricultural Marketing and agro-processing.</li> </ol>	MSc: 2

			<b>Methodology expertise:</b> Quantitative & Qualitative studies.		
<b>Agricultural Economics, Climate change, Land reform &amp; Food security</b>	Prof MA Antwi <a href="mailto:antwima@unisa.ac.za">antwima@unisa.ac.za</a>	<b>Analyses of production, agribusiness, land reform, marketing, food security, project/programme impact assessment, international trade, rural finance, climate change, agricultural policy &amp; cooperatives research</b>	Prof MA Antwi is an Agricultural Economist (PhD Agric Economics, M.Sc. Agric Economics, Master's in Business Administration (MBA), B.Sc. (honours) Agric Economics.  <b>Methodology expertise:</b> Quantitative and Qualitative studies	<ol style="list-style-type: none"> <li>1. Achieving continuous improvement and innovation (ci &amp; i) in freshwater aquaculture sector of South Africa</li> <li>2. Interventions towards the transformation of small-holder farming to commercial farming.</li> <li>3. Food security/insecurity among small and emerging commercial farmers.</li> <li>4. Vulnerability and Productivity Assessment of Climate Smart Agricultural Practices (CSAs) Adopted by Farmers in South African Maize and potato Based Cropping and livestock Systems.</li> <li>5. Climate change awareness, impact on food security and adaptation strategies</li> <li>6. Free Trade Agreements; and Competitiveness of the South African agricultural products/industries.</li> </ol>	MSc: 3 PhD: 3

				<p>7. Agricultural infrastructure and productivity of smallholder farmers in the South Africa.</p> <p>8. Access to markets and commercialisation among Land Reform/farmers in South Africa.</p> <p>9. Impact of land reform sub-programme / projects</p>	
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