



**ACADEMIC STAFF: Research Interests**

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Sub-discipline	Researcher	Research interests
Transportation Engineering	<b>Dr Imuentinyan Aivinhenyo</b> <a href="mailto:Imuentinyan.Aivinhenyo@wits.ac.za">Imuentinyan.Aivinhenyo@wits.ac.za</a>	Urban transport planning; Traffic management and control; Accessibility and transport equity analysis; Emerging mobility options and user behaviour analysis.
	<b>Ms Lerato Mafulako</b> <a href="mailto:Lerato.Mafulako1@wits.ac.za">Lerato.Mafulako1@wits.ac.za</a>	Spatial and land use development; Equitable urban mobility and accessibility; Travel behaviour analysis; Traffic management; Traffic safety.
Environmental Engineering	<b>Dr Precious Biyela</b> <a href="mailto:Precious.Biyela@wits.ac.za">Precious.Biyela@wits.ac.za</a>	Biological water and wastewater treatment; Post-treatment water quality monitoring and management; Use of nanomaterials in the removal of pharmaceuticals, and other endocrine disruptors from wastewater; Bioenergy; Bioremediation of asphaltene deposits; Environmental impact of CO <sub>2</sub> capture and storage.
	<b>Dr Siphesihle Khumalo</b> <a href="mailto:Siphesihle.Khumalo@wits.ac.za">Siphesihle.Khumalo@wits.ac.za</a>	Water and wastewater treatment; Sanitation solutions; Advanced oxidation process (application of nanomaterials); Membrane technology; Catalysis; Process improvement, optimization, and modelling; Air pollution management; Solid waste management.
	<b>Dr Natsayi Chiwaye</b> <a href="mailto:natsayi.chiwaye@wits.ac.za">natsayi.chiwaye@wits.ac.za</a>	Process systems engineering; process synthesis, modelling, design and optimisation. Technoeconomic feasibility assessment; Carbon capture, storage, and utilisation. Membrane technology. Waste water treatment.
Water Engineering	<b>Prof. John Ndiritu</b> <a href="mailto:John.Ndiritu@wits.ac.za">John.Ndiritu@wits.ac.za</a>	Optimizing design and operation of water resource systems under uncertainty; Non-parametric statistical hydrology; Human-centred water resources management.
	<b>Prof. Adeshola Ilemobade</b> <a href="mailto:Adesola.Ilemobade@wits.ac.za">Adesola.Ilemobade@wits.ac.za</a>	Water conservation; Water demand; Water supply.
	<b>Prof. Emer. Akpofure Taigbenu</b> <a href="mailto:Akpofure.Taigbenu@wits.ac.za">Akpofure.Taigbenu@wits.ac.za</a>	Computational and integrated modelling; Water resources management; Water engineering; Surface water and groundwater systems; Sustainable stormwater management.
	<b>Prof. Jean-Marc Mwenge Kahinda</b> <a href="mailto:Jean-Marc.MwengeKahinda@wits.ac.za">Jean-Marc.MwengeKahinda@wits.ac.za</a>	Alternative water sources; Surface water hydrology; Sustainable Land Management; [Integrated] Water Resources Management; Water-Food-Energy nexus.
	<b>Prof. David Omole</b> <a href="mailto:David.Omole@wits.ac.za">David.Omole@wits.ac.za</a>	Water resources management; Surface and groundwater hydrology; Water and wastewater treatment; River quality modelling.
Structural Engineering	<b>Prof. Emer. Mitchell Gohnert</b> <a href="mailto:Mitchell.Gohnert@wits.ac.za">Mitchell.Gohnert@wits.ac.za</a>	Shell structures; Optimal structures; Catenary structures; Concrete structures; Sustainable construction materials.
	<b>Prof. Emer. Alex Elvin</b> <a href="mailto:Alex.Elvin@wits.ac.za">Alex.Elvin@wits.ac.za</a>	Structural connections in concrete, steel and steel-to-concrete; Optimizing structures for mass and for cost; Health monitoring of structures; Composite structures: analysis, design and construction; Finite element simulation – static and dynamic; Plastic analysis in design; Water usage in structural materials; Permanent formwork; Fire testing; Novel methods.
	<b>Prof Amjad Khabaz</b> <a href="mailto:amjad.khabaz@wits.ac.za">amjad.khabaz@wits.ac.za</a>	Fiber Reinforced Concrete (FRC); Concrete Structures; Green Buildings; Structural Engineering; Earthquake Engineering; Mechanics of Solid Materials; Composite Interfaces.
	<b>Dr Kuinian Li</b> <a href="mailto:Kuinian.Li@wits.ac.za">Kuinian.Li@wits.ac.za</a>	Structural dynamics; Dynamic testing; Analysis of structures under dynamic loading.
	<b>Dr Matongo Kabani</b> <a href="mailto:Matongo.Kabani@wits.ac.za">Matongo.Kabani@wits.ac.za</a>	Structural steel areas covering composite construction, structural health monitoring of dams and bridges, structural reliability with focus on bridge traffic load models, structural dynamics with focus on human induced vibrations and structural identification.
	<b>Dr Ryan Bradley</b> <a href="mailto:Ryan.Bradley@wits.ac.za">Ryan.Bradley@wits.ac.za</a>	Affordable housing; Alternate building systems/materials; Thermal comfort and performance of residential structures; Shell structures.
Geotechnical Engineering	<b>Dr Irvin Luker (Honorary)</b> <a href="mailto:Irvin.Luker@wits.ac.za">Irvin.Luker@wits.ac.za</a>	<i>(Please contact Dr Luker directly via email)</i>
	<b>Dr Ganesh Rathod</b> <a href="mailto:Ganesh.Rathod@wits.ac.za">Ganesh.Rathod@wits.ac.za</a>	Monte Carlo simulations and Uncertainty modelling; Mine tailings; Slope stability; Ground response analysis; Seismic hazard; Liquefaction; Ground motion prediction equations; Earthquake catalogue; Rheology; Mining and fluid-induced seismicity; Geophysical and geotechnical investigations; Machine learning; Instrumentation in concrete and geotechnical structures; Rotational ground motion and sensors.
	<b>Ms Shiella Mudenge</b> <a href="mailto:Shiella.Mudenge@wits.ac.za">Shiella.Mudenge@wits.ac.za</a>	Characterisation of geomaterials; Tailings storage facilities; Landslide disaster risk reduction; Soil liquefaction; Ground improvement techniques; Geosynthetics engineering and Earth retaining structures.
	<b>Mr. Louis Geldenhuys</b> <a href="mailto:louis.geldenhuys@wits.ac.za">louis.geldenhuys@wits.ac.za</a>	Slope stability of waste storage facilities; Slope stability of mine residue facilities; Slope stability of rock dumps ; Slope stability of natural slopes; Unsaturated soil mechanics; Soil drainage and filtration; Cyclic loading of geotechnical structures; In-situ geotechnical testing.
Project Management	<b>Prof. Anne Fitchett (Honorary)</b> <a href="mailto:Anne.Fitchett@wits.ac.za">Anne.Fitchett@wits.ac.za</a>	Labour-intensive construction; Lean engineering; Sustainable construction and urban development; Project management in developing areas; Sustainable urban drainage; Solid waste management.
	<b>Dr Lulama Kedisitse</b> <a href="mailto:Lulama.Ngobeni@wits.ac.za">Lulama.Ngobeni@wits.ac.za</a>	Urban water management; Water-sensitive design; Urban facilities management, Informal settlement drainage; Project management.
Construction Materials	<b>Dr Janina Kanjee</b> <a href="mailto:Janina.Kanjee@wits.ac.za">Janina.Kanjee@wits.ac.za</a>	Concrete durability; Alkali silica reaction; New generation of construction materials.
	<b>Dr Lewis Parsons</b> <a href="mailto:Lewis.Parsons@wits.ac.za">Lewis.Parsons@wits.ac.za</a>	Microstructure and durability of construction materials; Sustainability; Use of waste materials in construction.
	<b>Prof. Emer. Yunus Ballim</b> <a href="mailto:Yunus.Ballim@wits.ac.za">Yunus.Ballim@wits.ac.za</a>	Strength and deformation properties of concrete; Concrete durability and deterioration; Cement chemistry and heat of hydration; Heat flow and temperature prediction in large concrete structures.