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UCT civil engineering professor selected as Research Chair in Smart Mobility - a first for South Africa

The Council for Scientific and Industrial Research (CSIR), the Department of Science and Innovation (DSI) and the National Research Foundation (NRF) have jointly established a Research Chair in Smart Mobility, the first of its kind in South Africa. Professor Marianne Vanderschuren, an expert in transport planning and engineering at the University of Cape Town (UCT), was selected to lead the initiative.

The Chair will contribute to human capital development, the advancement of key areas in smart mobility and developing a clear plan for the translation of research into impact.

Commenting on her new endeavour, Vanderschuren says: "I am excited and honoured to have been selected as the SARChI Chair in Smart Mobility lead researcher. Through the additional research capacity provided by the NRF/CSIR, I aim to twin the opportunities that new technologies provide to the day-to-day transport challenges in South Africa and beyond, thereby improving the lives of current and future generations, the environment and the economy."

With a PhD in Intelligent Transport Systems from Twente University and an MSc in Systems Engineering Policy Analysis from Delft University, both in The Netherlands, Vanderschuren is the Department of Civil Engineering's only female full professor and the faculty's deputy dean for Transformation. She is also the new president of the South African Institution of Civil Engineering (SAICE) for 2022.

Professor Sue Harrison, UCT's Deputy Vice-Chancellor: Research and Internationalisation, says the SARChI Chair – as a strong collaboration between the CSIR and UCT – is a welcome opportunity to make a significant and real impact on society and its well-being, businesses and the environment. She says the appointment of Vanderschuren further catalyses a rethink of the country's transport system and mobility, necessitated by challenges such as ageing civil engineering infrastructure, rising fuel costs, the impact of fossil fuels on the environment, and the need for safe roads and public transport, especially considering South Africa's large pedestrian sector.

"It is an astute and vital investment in our public transport knowledge base to provide locally relevant intelligent transport system solutions. I look forward to seeing some truly innovative work and insights in this area in the coming years," she says.

Dr Thulani Dlamini, CSIR Chief Executive Officer, says mobility – in the broad sense of the movement of people and goods – is a key enabler (or disabler) of socioeconomic development, and a coordinated and integrated response to improving the national, regional and continental ability to move people and goods is therefore essential.

Dlamini says, “Modernisation and new technologies have the potential to facilitate innovative responses to mobility challenges facing the continent. In 2019, the CSIR created a Smart Mobility cluster as one of the strategic pillars of the organisation to address challenges and opportunities associated with transport and freight logistics; transport equipment; transport infrastructure; and passenger transport services. The ultimate goal is to improve the efficiencies and cost competitiveness of the sector. Hence, this Research Chair marks a significant step forward for the CSIR.”

Kenny Kistan, CSIR Smart Mobility Executive Cluster Manager adds, “Over the years, the local transport sector has suffered serious losses of skills and capabilities in the critical areas of transport planning, transport economics, pavement engineering, transport modelling, logistics and supply chains, negatively impacting roads and transport infrastructure. The focus of the Research Chair is on research and postgraduate student development that introduce novel approaches to the modern-day challenges of the systems under consideration, within national, regional and African performance challenges and resource constraints.”

“We are pleased with the appointment of a Research Chair in Smart Mobility. We look forward to Vanderschuren’s contribution to growing the research capacity, as well as coordinating research work that will unlock efficiencies in the national transport and logistics systems, thereby improving the country’s competitiveness, industrialisation and socioeconomic development,” continues Kistan.

Dr Fulufhelo Nelwamondo, NRF Chief Executive Officer, says the appointment aligns with the National Development Plan’s focus on economy and employment and the building of a capable state; as well as investment in economic and social infrastructure and transitioning to a low-carbon economy.

“The appointment will create the focus, research capability and skills pipeline needed to support ongoing systemic improvements in transport through innovative and advanced technologies, processes, approaches and innovative strategies. Vanderschuren will lead and build a strong portfolio of evidence-led research in areas that support the performance of transport and logistics systems. This is also in line with our vision for SARChI, namely, to expand the scientific research and innovation capacity of South Africa and bring new research leadership capacity to South African public universities.”

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