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## **National accolade for senior UCT water researcher**



Dr Kirsty Carden

Photo: Lerato Maduna

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The Water Institute of South Africa (WISA) has awarded a prestigious Senior Fellow Membership to Dr Kirsty Carden, interim director of the University of Cape Town's (UCT) Future Water Institute (FWI). Dr Carden is an applied scientist in civil engineering, and the fellowship honours her 34-year-long career and many contributions to the country's water sector.

In his tribute to Carden, WISA board chairperson, Dan Naidoo, said: "This exceptional honour is not bestowed lightly, and considers the consistency of support that you have

shown WISA over many years. It is, however, not restricted to support for WISA, but also takes note of the contributions you have made to the enhancement of the water sector overall, and the esteem that your actions have brought to the stature of the South African water industry.”

Carden said she was delighted that a “holistic, changing and varied contribution is still recognised”.

Carden has come a long way with UCT and WISA, and sees the FWI interim director’s role as an opportunity to effect change by training a new, younger generation of researchers who are passionate about water. “There is a countrywide shortage of well-qualified water professionals, specifically those able to respond to new ways of thinking towards the implementation of water-sensitive cities,” she said.

The institute is a cross-disciplinary hub that harnesses water research across all six academic faculties. Their research vision is a sustainable and resilient water future for the country, building on water-sensitivity principles.

“My role is coordinating that research process, encouraging partnerships and participation, and building relationships with provincial and local government and other organisations that can help our research find its way into policy.”

“In an increasingly water-scarce country, this work is close to her heart. Years of capacity and skills shortages, crumbling infrastructure, huge financial losses and drought, compounded by climate change, have left the sector in crisis. With a daily per capita consumption of around 230 litres, South Africa’s average demand is significantly higher than the estimated world average of 173 litres – and unsustainable,” said Carden.

### **Teach water values**

“We know from the Day Zero crisis in Cape Town that it is possible to reduce consumption to below 100 litres per person per day. It’s not comfortable, but we can do it, and we must think of ways to reduce our water demand. But linked to that are the ways people understand, think about and value water.”

The country must start building resilient infrastructure and processes to adapt its water management systems: demand management, leakage reduction, and ‘fit for purpose’ sources (including non-potable water) – and a new generation of canny water experts.

Catchment-area yields that feed the big dams must be protected, managed and maximised by removing alien vegetation and plantations such as pines from these water-rich zones.

Urban catchment management is another priority.

“Up to three times the amount of water we use in Cape Town falls on the city as rain, but we capture hardly any of it,” said Carden. “It’s channelled out to sea – and is generally heavily polluted by the time it gets there.”

The answer lies in creating water-sensitive, blue-green cities that are more resilient to water scarcity. One solution is to implement sustainable, nature-based drainage systems to filter and clean stormwater, instead of allowing it to escape into the ocean.

### **Working alongside government**

At a higher level, the institute works closely with provincial and local government in the Cape Town, Johannesburg, Durban and Tshwane metros. Through their Water Research Commission links they’ve also been able to work with the national Department of Water and

Sanitation to provide guidelines for alternative water resources and greywater use. Those have been incorporated into national policy and strategy.

*Story by Helen Swingler, UCT News*

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