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Four UCT finalists for 2014 DST Women in Science Awards

Four University of Cape Town scientists are among the finalists who stand a chance of winning Department of Science and Technology (DST) 2014 Women in Science Awards tonight (15 August 2014). The winners will be announced by Ms Naledi Pandor, Minister of Science and Technology.

The UCT candidates and their categories are:

- **Professor Genevieve Langdon** - Distinguished Young Women: Physical and Engineering Science
- **Professor Michelle Kuttel** - Distinguished Young Women: Physical and Engineering Science
- **Ms Kwezikazi Mkentane** - PhD Fellowship
- **Ms Maletsabisa Molapo** - Tata Scholarship: Doctoral

Professor Langdon seeks to make the world a safer place through an improved understanding of structural responses to explosion loading. She conducts research on blast-resistant materials for use in structural and transportation applications. Professor Langdon is considered a leader in experimentation on lightweight materials and blast loading. The quality of her research in the area of experimental mechanics has garnered her international recognition as well as numerous research grants.

Associate Professor Michelle Kuttel's dual background in computer science and chemistry is important for her research in the area of computational science, where computers are used to investigate scientific questions. Specifically, Kuttel is interested in high-performance computing, where many computers are used simultaneously to do calculations more quickly, and visualisation, where graphical tools are designed to help researchers explore, to interpret and understand complex data. In her work into computational glycomics, Kuttel uses molecular simulations to investigate the structure and dynamics of carbohydrate molecules, which are difficult to establish experimentally. This is important information for the development of modern carbohydrate-based vaccines. Furthermore, her cross-disciplinary collaboration with astronomer Dr Sarah Blyth and others focuses on the development of computational solutions for South Africa's Square Kilometre Array radio telescope, such as new methods to identify, locate and remove radio interference, methods for finding new pulsars and for visualising large astronomical datasets.

Only in her third year of doctoral studies at UCT's Department of Medicine, **Ms Mkentane** has already collaborated on cutting-edge research by the Division of Dermatology. This includes a study which showed evidence of bleeding in the locally popular clean-shaven haircut, called the "chiskop". Her PhD research aims to holistically characterise human scalp hair by using geometric, biochemical, ultra-structural and genetic approaches. This is crucial in establishing the characteristics of "normal" hair in the increasing use of hair as a testing substrate for drugs, forensics and medical purposes. Other studies include her honours and master's research aimed at finding an innovative solution to the labour-intensive process of removing or detangling braids from African hair. This resulted in a breakthrough for a hair treatment formulation that helps to remove braids from African hair faster than the traditional safety-pin method, which usually takes hours and sometimes days.

UCT PhD candidate **Ms Molapo** specialises in the use of Information Communication Technology (ICT) for development purposes. Through her research she explores the ways in which ICTs can be used to empower communities, especially women and youth. She has led the team that founded the Her Chance to Be Foundation, a non-profit organisation committed to improving the lives of women and girls in Lesotho. The organisation focuses on education, health, livelihood and access to technology. Ms Molapo's PhD research explores how the training of community health workers and the health education of rural communities in Lesotho can be improved by the participatory development of a multimedia learning platform. Such a platform supports the local creation, distribution and consumption of digital health content.

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