



Communication and Marketing Department  
Isebe loThungelwano neNtengiso  
Kommunikasie en Bemerkingsdepartement

Private Bag X3, Rondebosch 7701, South Africa  
Welgelegen House, Chapel Road Extension, Rosebank, Cape Town  
Tel: +27 (0) 21 650 5427/5428/5674 Fax: +27 (0) 21 650 5628

[www.uct.ac.za](http://www.uct.ac.za)

**22 March 2018**

## **New facility launched at UCT to help astronomers in South Africa understand big data**

A first of its kind visualisation facility has been launched by the Inter-University Institute for Data Intensive Astronomy (IDIA) at the University of Cape Town (UCT), where astronomers from around the country can explore their data and find answers to some of the biggest questions about our universe.

The Square Kilometre Array (SKA) – an international effort to build the world’s largest and most sensitive radio telescope – will generate data at an unprecedented rate and signals a new frontier in data-intensive research.

Professor Russ Taylor, director of IDIA and the SKA Research Chair in Radio Astronomy at UCT and the University of the Western Cape (UWC), commented: “Visualisation presents one of the biggest challenges in this era of big-data astronomy. We have these really big datasets which are very rich and very large, and different in character to the kinds of datasets we have traditionally been working with.”

A purpose of the new visualisation laboratory is to provide a facility for IDIA researchers from UCT, UWC, North-West University and the University of Pretoria to work with and experience their data in an immersive environment.

This will allow researchers to answer fundamental questions that the SKA project seeks to understand: what is the nature of reality; how did the universe – and the stars and galaxies within it – form and evolve; can we map a complete history of time; and are we alone?

This will ultimately change our understanding of the universe and help to illuminate the unknown.

To fully benefit from the opportunities presented by big data, astronomers need a space to engage with these large volumes of data where they can explore, identify and examine patterns in the universe. The tools researchers previously used to work with their datasets no longer meet the needs of big-data science.

But how are these new kinds of datasets mined, observed and analysed?

“Researchers don’t want to look at little bits of big data. We want to look at as much of the data as we can and at a full resolution to get the big picture,” Taylor emphasised.

The new IDIA Visualisation Laboratory facilitates this kind of large-scale analysis through three innovative devices:

- a grid of four television screens, affectionately known as WALIE – the Wide Area Large Interactive Explorer – that allows researchers to look at large datasets in high definition;
- a curved 1.8 metre panorama display in which a researcher can sit and experience their data in an interactive environment; and
- a virtual reality platform enabling researchers to become one with the data in a three-dimensional space.

These technologies support the purpose of the laboratory, which is to facilitate developers and researchers working together to develop the technology to support big-data research, and provide a platform to test, experiment and build new software systems. This synergy will facilitate an effective strategy for processing of the data, received from the SKA and its precursor telescopes, in South Africa, rather than abroad.

***ENDS***

***Issued by: UCT Communication and Marketing Department***

**Aamirah Sunday**

Media Liaison and Monitoring Officer  
Communication and Marketing Department  
University of Cape Town  
Rondebosch  
Tel: (021) 650 5427  
Fax: (021) 650 3780  
Cell: (076) 947 6071  
Email: [aamirah.sunday@uct.ac.za](mailto:aamirah.sunday@uct.ac.za)  
Website: [www.uct.ac.za](http://www.uct.ac.za)