



## College of Agriculture, Engineering and Science | Annual Report 2010

by Professor Rob Slotow



The College of Agriculture, Engineering and Science flourished in 2010 as it continued to focus on meeting the challenges and changing needs of the multi-faceted society it serves. With 1 400 staff, including 800 academic and specialist support staff, the College has the largest group of scientists, engineers and technologists under one structure in Africa. In 2010 our main fund budget was over R275 million.

**Professor Rob Slotow**  
Deputy Vice-Chancellor  
and Head of the  
College of Agriculture,  
Engineering and  
Science

A major focus of the College was on strategic planning. The Faculty of Science and Agriculture approved their strategic plan, and the Faculty of Engineering produced a business plan which outlines how the Faculty would be able to balance their books by 2015. The College developed a risk register exercise which highlights issues that require intervention and mitigation plans.

### Awards and Achievements

Council approved two industry funded research chairs in the Faculty of Engineering: the eThekweni Chair in Urban Infrastructure and the Umgeni Water Chair in Water Resources Management. Our researchers continued to receive accolades. Professor Deresh Ramjugernath received the Vice-Chancellor's Research Award as well as the National Science and Technology Forum (NSTF) Award for Research Capacity Development. Professor Johannes van Staden received the M T Steyn Medal for Natural Sciences and Technical Achievement and the 2010 Gold Medal of the Southern African Association for the Advancement of Science (S2A3). Professor Pat Berjak received the eThekweni Municipality's Living Legend Award in the Conservation category for her contributions to seed science research. Masters Geological Sciences student, Mr Warwick Hastie, received the John Handley Award for the best thesis submitted to a South African University in 2009, and the Corstorphine Medal affirms that his thesis was of high international standard. Dr Alistair McCormick won the South African Association of Botanists (SAAB) Bronze Medal for producing the best Plant Science PhD Thesis in South Africa. Dr Helen Watson received one of the three 2010 Distinguished Teachers' Awards.

### Campus Development

The School of Biochemistry, Genetics and Microbiology moved into their R20 million refurbished facilities on the Westville campus, the last of the merger moves to be completed. In 2010 the College decided to initiate teaching and research in the Discipline of Genetics on the Westville campus. Three academic posts were released for filling, and offices and research laboratories were approved for refurbishment to state-of-the-art levels. This will form a major strategic investment as we hope to grow our contribution to solving health problems in KwaZulu-Natal. The focus of the Discipline will be a linkage with the major medical research institutes and the College of Health Sciences.



## Teaching and Learning

Enrolments in 2010 continued to increase, and the Faculty of Science and Agriculture met their Department of Higher Education and Training (DoHET) target of 5 495 students three years ahead of schedule. Four of UKZN's Engineering programmes – Chemical, Computer, Electrical and Electronic Engineering – were granted full accreditation until 2013 by the Engineering Council of South Africa (ECSA). Agricultural and Civil Engineering already have full accreditation until 2013 and Mechanical Engineering has accreditation until 2011. First year students were admitted to the Bachelor of Agriculture in Agricultural Extension, a new three-year undergraduate programme that is a partnership between UKZN and the Department of Agriculture, Environmental Affairs and Rural Development. The degree is offered at their Cedara campus, near Pietermaritzburg, and is taught by staff from both institutions.

## Research

The Faculty of Science and Agriculture continued to lead the University in research, and increased its total research productivity by 10 percent in 2010. Researchers in the Faculty continued to dominate, with five of the top-10 positions in the University.

The College continues to invest in major research infrastructure, and commissioned two Liquid Nitrogen plants (R7 million), one in each centre within the Faculty of Science and Agriculture. We also ordered Electron Microscopes to the value of R16.5 million. In terms of teaching infrastructure, the sod was turned on the R16 million Engineering and Technology UNITE Centre.

The African Centre for Crop Improvement (ACCI) celebrated the graduation of its fourth cohort of students since its inception. Seven southern African students graduated with PhD degrees in Plant Breeding that will equip them to tackle some of Africa's most dire problems. The work of previous ACCI graduates has already had a significant impact in communities in southern and eastern Africa. They have delivered new crop cultivars, improved the skills of plant breeders and raised the status of plant breeders and scientists at research stations and government agencies.

A highlight of the year was when the School of Physics' Centre for Quantum Technology (CQT) partnered with the eThekweni Municipality to provide unprecedented communication security to Durban's FIFA 2010 World Cup operations. Their Quantum Stadium Project, which was officially launched by the Minister of Science and Technology, Mrs Naledi Pandor, used quantum cryptography to ensure that all forms of communication between Durban's Moses Mabhida Stadium and its offsite operations centre were ultra-secure. The 2010 World Cup was the first public global event to use a quantum-based encryption solution.

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### College of Agriculture, Engineering and Science

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Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville