



College of Agriculture, Engineering and Science | Annual Report 2008

by Professor PJK Zacharias



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"The College demonstrated its commitment to the development of the African continent through academic excellence, innovation in research and critical engagement with society"

2008 saw the College of Agriculture, Engineering and Science reinforce its position as a trailblazer in the University's quest to become the Premier University of African Scholarship. Through its varied activities and accomplishments, the College demonstrated its commitment to the development of the African continent through academic excellence, innovation in research and critical engagement with society.

During the year the College celebrated the fruition of several long-term building and refurbishment projects that have dominated its activities for five years. The R90 million Biological and Conservation Sciences building on the Westville campus was officially opened in March by the Minister of Education, Mrs Naledi Pandor. This 12 000 m² state-of-the-art building over five levels will significantly boost the teaching and research facilities. The Minister of Science and Technology, Dr Mosibudi Mangena, inaugurated the new Science and Technology Education Centre which was created by the Faculty of Science and Agriculture to consolidate its science outreach activities on the Westville campus. On the Howard College campus, the year marked the start of teaching Chemistry to the Engineering students in the revamped ex-Biology laboratories. Significant refurbishments to the Engineering Faculty's facilities are well underway and occupancy is expected in late 2009.

To enhance the competitiveness of our researchers, the University was the first institution in Africa to invest in the latest MALDI-TOF Mass Spectrometer. Housed in the School of Chemistry, the instrument is being used by researchers in Chemistry, Pharmacy, Biochemistry and Microbiology. One of its main features is its capacity to diagnose the Tuberculosis virus in a fraction of the time it currently takes. In addition, the School of Chemistry upgraded its Nuclear Magnetic Resonance facilities to the tune of R15 million and acquired a new electron spin resonance spectrometer which is used for a range of chemical and biological experiments.

The College continued its prolific research output and maintained its long standing position as the top producer of research in the University. At the end of the year two more researchers, Professor Mike Henning and Professor Steve Johnson, achieved the sought-after NRF A rating. They joined the College's other A rated researchers, Professor Pat Berjak and Professor Rob Gous, in this prestigious category. Dr Serban Proches, Senior Lecturer in the School of Environmental Sciences, received the NRF President's Award and was granted a P rating recognising him as a future international leader in his field.

One of the highlights of 2008 was the celebration of 60 years since the advent of agricultural teaching and research on the University's Pietermaritzburg campus. The "AgFac", as the group of agriculturalists has always been known, has had a significant influence in Africa. Its contribution is not only in the complex fields of agricultural sciences, but covers the full ambit of civil society, community engagement, research and teaching. Home to one of the oldest agricultural programmes in the country and boasting the widest range of agricultural disciplines at any African institution, we look forward to playing a major role in securing the future of agricultural development and agribusiness on the continent.

Of significance was the R26.2 million sub-contract awarded to the College's African Centre for Food Security (ACFS) by USAID through the Food and Nutrition Technical Assistance (FANTA). This will enable the Centre to conduct a much needed food security analysis in southern Africa over a five-year period. In 2008 a milestone for the ACFS was the graduation of its first two PhD students - a first for UKZN and for the world. Together with the graduates from the African Centre for Crop



Improvement (ACCI), these scholars represent a real boost in terms of addressing the food crisis in Africa. The ACCI, which trains a new generation of crop scientists, extended its influence by spawning the West African Centre for Crop Improvement. Established at the University of Ghana, its focus is on training plant breeders in West Africa.

Engineering's UNITE Programme, promoting access to learning for historically disadvantaged members of South African society, celebrated 20 years of existence by establishing a new project entitled 20/20 Vision. Set up to raise R20 million to build a new Engineering and Technology Access Centre, the project will advance technological awareness and engineering as a career choice for school learners. UNITE was also instrumental in signing a historic R1.4 million bursary deal with Telkom to train the next generation of electronic engineers. Each year for a three-year period, this bursary agreement will allow ten deserving learners the opportunity to join the UNITE Programme, ultimately preparing them for the rigorous demands of the engineering profession.

In the year under review, the College witnessed an abundance of individual and group achievements as well as world wide recognition on a number of levels. One of the Centre for Environment, Agriculture and Development's (CEAD) outreach initiatives won an International Partnership Award. "Empowering Rural Women in Business: The Inina Experience" walked off with one of four prestigious Global Best Awards. Supporting 147 rural women crafters, Inina has evolved from a turnover of R10 000 in 2002 to one of R1.2 million in 2008. CEAD received another accolade when its Protected Area Management Distance Learning Programme was named the joint winner of the 2008 National Association of Distance and Open Learning in South Africa (NADEOSA) Award.

Leading academic and scientist, Professor Pat Berjak from the School of Biological and Conservation Sciences, received the prestigious President's Lifetime Achievement Award for 2008 from the NRF. This award is presented each year to a South African who has made "outstandingly extraordinary contributions to the development of science in and for South Africa". Digital Communications expert, Professor Fambirai Takawira, was presented with the Department of Trade and Industry's Excellence Award in the Best Black Researcher category for his contribution to electrical engineering. Professor Delia North, Head of Statistics and Actuarial Science also excelled in her field of study and received the Medal of Honour by Die Suid-Afrikaanse Akademie vir Wetenskap en Kuns. At a more local level, Cristina Trois from the School of Civil Engineering, Surveying and Construction made history. She became the first woman in the Engineering Faculty to be promoted to Associate Professor and to become Deputy Head of School.

Responsible community engagement and the promotion of science, engineering and technology to the youth have always featured prominently in the College's activities. During the year, the College picked up a number of awards for its interactive exhibits at science festivals and shows. Mastermind behind many of these exhibits, Mark Horan, a Hydrology lecturer, was recognised as one of South Africa's top performers in Science, Engineering and Technology (SET) Innovation. He received a National Science and Technology Forum (NSTF) Communicator Award for impacting SET public awareness over the last five years.

Other notable activities within the College included: the joint hosting with South African Breweries of the world's inaugural inter-university beer brewing challenge on the Pietermaritzburg campus; BHP Billiton-sponsored functions to recognise the top student achievers in the College; a teaching and learning seminar conducted by experts from the University of Illinois at Urbana-Champaign aimed at improving academics' capacity to deliver; the launch of the African Sanitation Knowledge Network by the Pollution Research Group comprising members from Chemical Engineering and the Biological and Conservation Sciences; and the launch of the QuantumCity Project by Physics' Centre for Quantum Technology .



This project involves the installation of a quantum communication solution over the eThekweni Municipality fibre-optic network infrastructure which will contribute to Durban becoming the world's first Quantum City.

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