



## FACULTY OF SCIENCE

*Prof Eugene Cloete  
Dean: Faculty of Science*

To our Faculty, the 37 doctorates for research in its departments awarded at this year's two graduation ceremonies are so many investments in fostering and sustaining a scientific approach and a culture of research in South Africa and on the rest of the continent. Thanks to the development of similar expertise – whether among our students or our staff corps – we are helping to establish SU as an excellent knowledge partner in the sciences. In schooling and mentoring our students, we seek to support intensified innovation, ingenuity and renewal in local industries and businesses to the benefit of our country.

The 'teabag' water filter is one of the 'smaller pieces' of ingenuity to have emerged from the University's ranks this year (see page 51). By doing the rounds on the BBC and CNN web sites, and appearing in Scientific American, this 'teabag' brought the objectives of the HOPE Project and US research to the notice of the media, philanthropists and nongovernmental organisations across the globe. This filter – the brainchild of our Dean, microbiologist Prof Eugene Cloete – is being developed by a team of SU microbiologists and polymer scientists to supply clean, germ-free water to vulnerable communities on a large scale.

Prof Cloete was one of three members of staff to be rewarded for research and leadership this year who are also involved in some of our Faculty's HOPE initiatives for furthering the sustainability of our environment and natural resources. He received a Science for Society Gold Medal from the Academy of Science for South Africa (ASSAf). Polymer scientist Prof Ed Jacobs, who liaises with the SU Water Institute, as does Prof Cloete, received the Water Research Commission Technical Excellence Award for the development of innovative membrane water purification technology that is commercially viable. Prof Steven Chown, director of the Centre of Excellence for Invasion Biology, travelled to Norway to receive the Martha T Muse Prize for science and policy in the Antarctic region.

The level of expertise of our staff is also reflected in other honours. Laser physicist Dr Christine Steenkamp was honoured by the Third World Organisation for Women in Science. The excellent research done by Prof Marcel Wild of the Department of Mathematical Sciences (Mathematics, Applied Mathematics, Computer Science) was crowned by the South African Mathematical Society. Another mathematician, Prof Stephan Wagner, was rewarded with the Meiring Naudé Medal of the Royal Society of South Africa. Prof Eddie van Dijk, a research fellow in the Department of Botany and Zoology,

received the Senior Captain Scott Medal of the *Suid-Afrikaanse Akademie vir Wetenskap en Kuns*.

About 94% of our staff are involved actively in research. This excellent percentage is reflected in the 91 members of staff who were rated by the National Research Foundation (NRF), and our seven world-class scientists with an A ranking. Our researchers produce a large number of publications in leading academic journals. In addition, our research enjoys considerable financial support from, among others, the Department of Science and Technology, the National Research Foundation and the industry, and contract financing remains a valuable source of sustainable income.

Success breeds success. This year our students again excelled at international and national conferences and received important bursaries. For instance, doctoral student and lecturer in applied mathematics, Sonia Woudberg, received one of the first L'Oréal-UNESCO Regional Fellowships for Women in Science in Africa south of the Sahara, while chemistry student Simon Herbert was supported through a Commonwealth scholarship.

However, we cannot rest on our laurels. Our strategic plan consequently drives continuous renewal and active initiatives. As a result, our attempt to increase our undergraduate student throughput to above 77% is supported by an extensive tutor system, raised admission requirements, an improved extended degree programme, which can also accommodate more students, and the increasing use of real-time interpreting services. Incentives that motivate postgraduate students to complete their studies within specific timeframes have also been instituted.

Improved throughput rates and a larger number of graduates call for a focus on our expertise base; our network of research chairs, professors extraordinary and postdoctoral fellows needs to be extended, and our retirees need to be retained as research fellows extraordinary who continue to contribute to research outputs and who act as valuable mentors to younger Faculty members.

Research centres are efficient instruments for producing increasing numbers of research outputs and attracting research students of a high quality. Thanks to the Faculty's exceptional research ethos, highly relevant multidisciplinary research and postgraduate programmes have been established over the years. Similarly, the SU Water Institute, established this year, is a valuable addition to our extensive research focus.

