



Innovative higher education initiatives ensure the University of Pretoria's position of relevance

The long-term sustainability of universities depends on the way in which they respond to the challenges of their contexts in an increasingly knowledge-driven economy.



→ Prof Cheryl de la Rey singles out a number of educational innovations that have contributed to positioning the University as a leader in the field.

In advancing its position as a leading institution that is embedded in the realities of the continent, the University of Pretoria is not only committed to engaging with local developmental needs, but also to sustaining and further developing global knowledge production and technological innovation. In an interview with Prof Cheryl de la Rey, Vice-Chancellor and Principal of the University of Pretoria, *Innovate* discovers what it is that makes this an innovative institution.

"Innovation" – from a technology management point of view – can be

defined as the development of a new product, process or service, or the improvement of existing practices to achieve improved results. The success of an innovation – be it a process, product or even a new idea – depends on its subsequent research and development, followed ultimately by the commercialisation of the intellectual property.

While innovations in the higher education sector might not necessarily lead to the commercialisation of new products, innovative processes and services in education are no less

groundbreaking. "In comparison to other institutions of higher learning," says Prof De la Rey, "the University of Pretoria's efficiency ratios are exceptionally good, and it is able to do better than others with the same resources."

"The University of Pretoria is consistently commended by quality assurance panels on the innovative ways it manages to expand its facilities and services without compromising quality," she says. This ensures that the University can continue to deliver world-class teaching and produce cutting-edge research results – some of which have even been developed into economically viable products and services. The University's commitment to innovation has enabled it to develop and apply appropriate technology to complement its operations, including its teaching and research programmes.

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Commercial entities

The establishment of a system of campus enterprises at the University of Pretoria in 2000 enabled the University to grow its resource base in a sustainable manner to create synergy between teaching, research and community engagement. It has also enabled the University to utilise its intellectual property for the benefit of society.

Over the past decade, these enterprises have succeeded in optimising the University's assets and expertise, while at the same time generating an income for the University. The opportunities that exist in the expanding campus enterprise structure present themselves in three

distinct categories: the provision of services (specialised services, skills development through the delivery of short courses, and commercial research and consulting services), the utilisation of existing resources, and the commercialisation of intellectual capital and intellectual property.

The establishment of the Gordon Institute of Business Science (GIBS) as a business entity in Johannesburg was another innovative endeavour. In order to be competitive, the MBA offered at GIBS had to be different

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from and more responsive than those offered by other institutions, both locally and internationally. Its success can, to a large extent, be attributed to the unique management model that is followed. It includes a compulsory global module that allows students to focus on the unique opportunities and challenges offered by various countries. Potential destinations include India, West and East Africa, Latin America, China, Japan, and the east and west coasts of the USA.

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Intellectual property

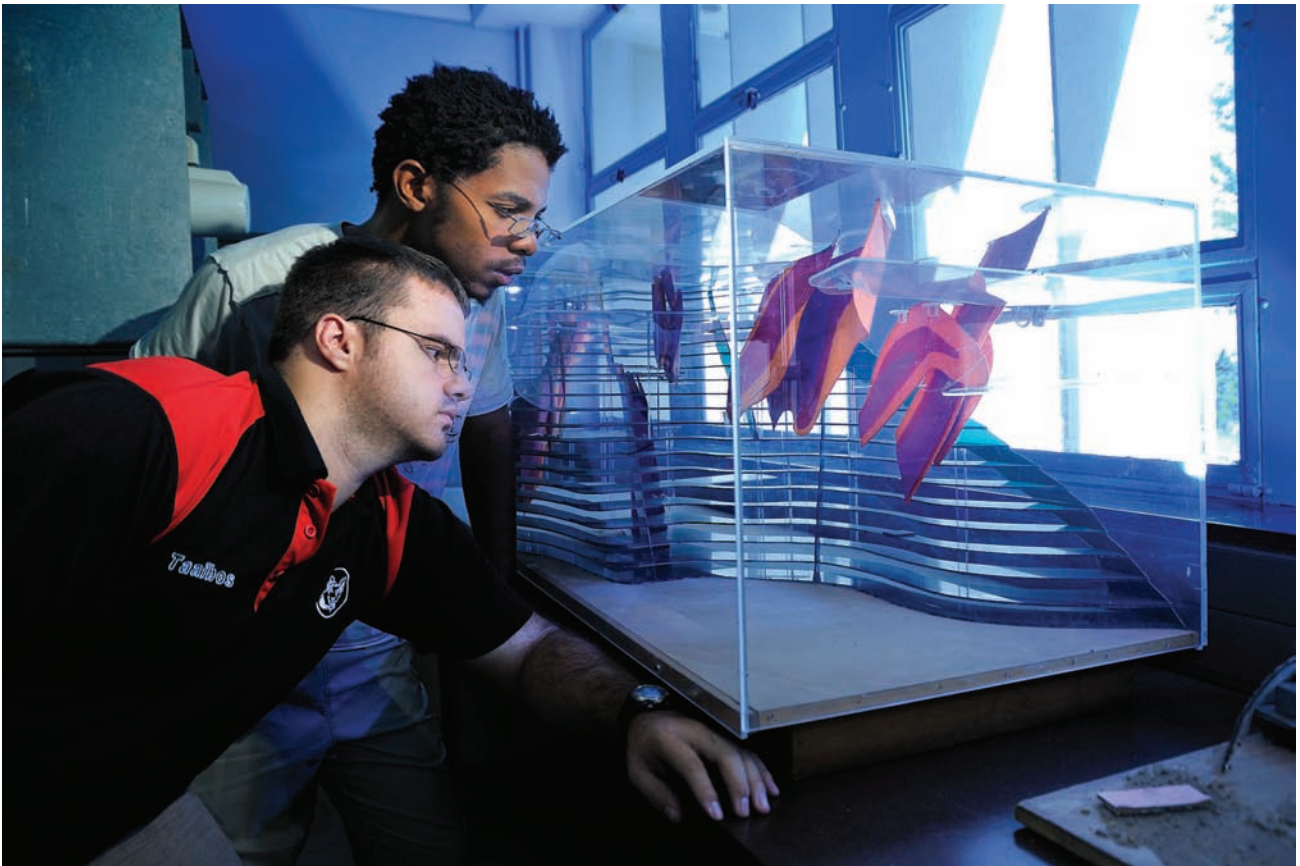
A recent research initiative is that of INSiAVA (Pty) Ltd, which was founded by the University of Pretoria. This company owns and commercialises the intellectual property emanating from ongoing silicon photonics research (see article in *Innovate* 05: 2010).

Any attempt to assess the University's position nationally in terms of research innovation will rely on indicators such as the number of patents, projects for which funding is received from the Technology and Human Resources for Industry Programme (THRIP) and projects that receive added value through the contribution of industry partners.

Innovations in education

Education innovations at the University of Pretoria make an impact on society in ways that sometimes extend further than the influence they have on teaching and learning.

In this regard, Prof De la Rey cites the practical experience gained by students involved in the clinics operated by various faculties at the University. This not only provides students with the opportunity to apply their academic knowledge and research skills to practical situations, but also develops the community by providing services to which members of society might not otherwise have access. The University of Pretoria's Law Clinic is an example of such a social innovation. The Law Clinic, which celebrated its 30th year of existence in 2011, has been acknowledged for the positive impact it has on the community. Final-year law students are mentored and advised by candidate attorneys and experienced legal practitioners. They work in the clinic in "firms", consisting of five or six students each, which mostly deal with civil litigation, including family law matters and labour disputes. The clinic



→ *The University's engineering programmes play an important role in meeting the critical national need for engineering graduates.*

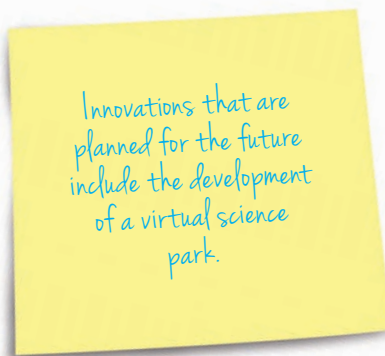
operates on the University's Hatfield Campus, as well as the Mamelodi Campus.

Similar initiatives include the Itsoseng Psychological Clinic, the Educational Psychology Family Clinic, the Small Business and Entrepreneurship Clinic, the Animal Health Clinic and the Occupational Therapy Clinic. These clinics all provide services on the University's Mamelodi Campus, and are an excellent example of the impact of innovation at grass-roots level.

Future plans

Innovations that are planned for the future include the development of a virtual science park. However, a model needs to be developed that works for the University's dynamic situation, and in this regard, will differ from the traditional model. This is the essence of innovation from the perspective of the University of Pretoria. Prof De la Rey emphasises the need to encourage companies to utilise the University's facilities as research and development laboratories.

In order to increase the University's innovation footprint, it is essential to develop innovation networks. "It is absolutely crucial to have networks on every continent," says Prof De la Rey. In this regard, the University needs to expand existing networks and identify new ones. Its alumni overseas



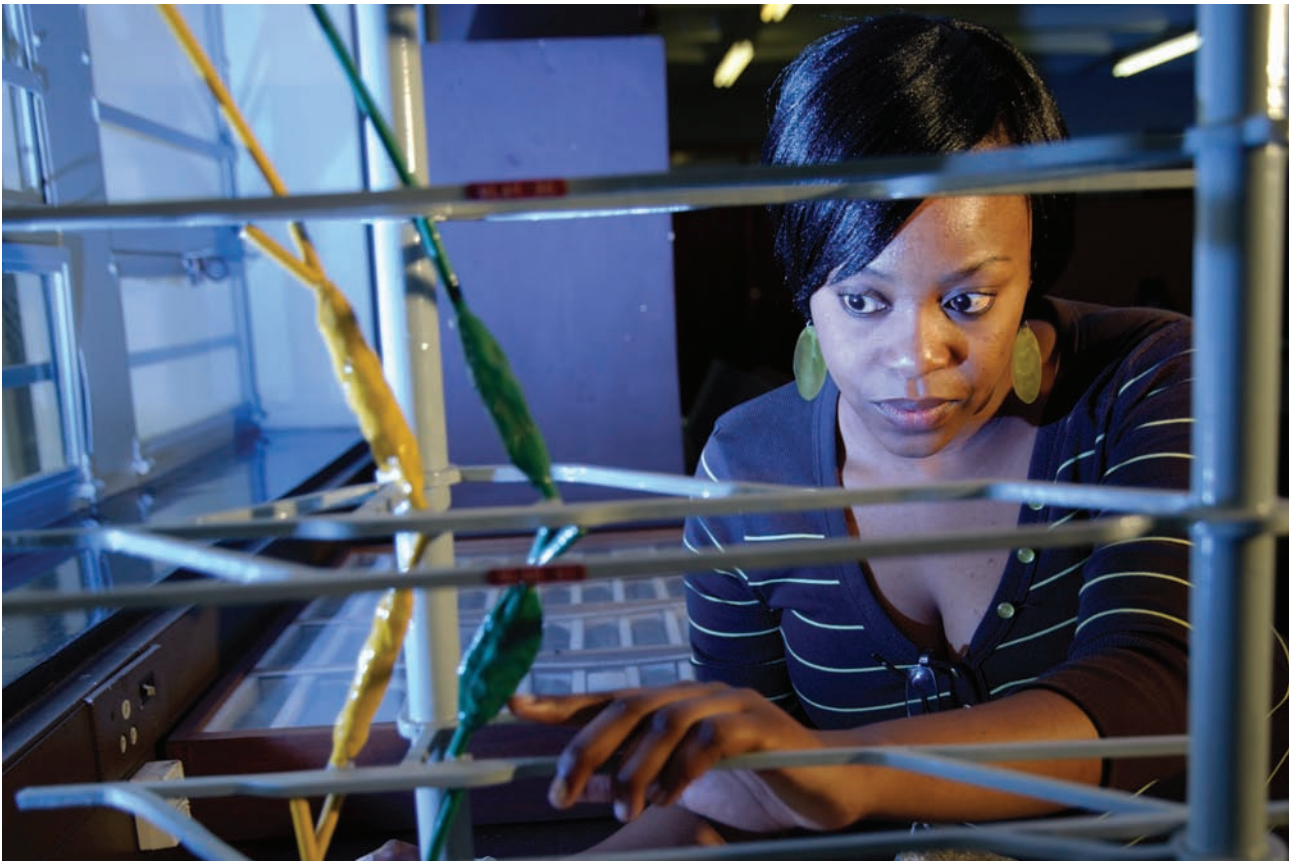
can play a vital role in this, and the University needs to embrace this talent and expertise. "The 21st century is characterised by the mobility of people, many of whom have established networks, and we need to tap into this," she concludes.

The Principal recognises the fact that the University has had to be innovative in its teaching, and a

number of innovative projects are already in place, particularly in terms of electronic and mobile learning. She also acknowledges that South African academics have had to be entrepreneurial to obtain funds for research, and in order to achieve this, a paradigm shift had to be made.

Coupled with this paradigm shift is the need to engage in more multidisciplinary research. Although the University is still organised according to clearly defined disciplines, the trend worldwide is to follow a multidisciplinary approach to develop new products and services. The current focus at the University is to form interdisciplinary research teams with specialists from various disciplines to enhance the value of individual contributions.

The University recently initiated a process of identifying unique research strengths that would support the development of strong multidisciplinary research groups clustered around these strengths. This resulted in the identification of institutional research themes, with accompanying faculty research themes. Institutional research



→ *Theory and practice are combined to deliver students who are committed to solving global problems.*

themes are designed to recognise and foster excellence in research. The research is led by recognised international leaders in their disciplines. The development of these themes will provide an environment for the growth of scholarship among academic staff and postdoctoral fellows, while also allowing for the increased production of doctoral graduates. In this respect, the Faculty of Engineering, Built Environment and Information Technology is focusing on energy as a research theme.

Prof De la Rey emphasises the role of postgraduate students in the development of interdisciplinary research. "Industry is changing in terms of the recognition of postgraduate qualifications and the University needs to create social and intellectual spaces that are conducive to interaction in order to utilise the capacity of these students," she says.

In order to enhance its position as a leader in the field of teaching and research, the University is constantly considering more multilateral opportunities in which it can exert

an influence globally, while also increasing its students' exposure to challenges that are both locally relevant and internationally significant. The University is well positioned to achieve this because of its close proximity to government department offices and embassies.

Future markets

Prof De la Rey is confident that the University of Pretoria has several strengths that can make a significant contribution to the world at large. This includes a number of resources that can be developed for future markets, particularly in the field of wireless technology and the automotive industry, as well as energy production, distribution and optimisation. In this respect, the Faculty of Engineering, Built Environment and Information Technology is a major role-player.

In response to a question about her vision for the University of Pretoria as an innovative university for the future, she says: "I want to see us as leaders in innovation: leaders who make a difference." Given the

University's location in the country's developing democracy, this is certainly an attainable goal. Prof De la Rey concludes by saying that innovation is an action that has a ripple effect. It is not just the acquisition of new knowledge, but also the application of existing knowledge in a way that will make a difference in people's lives.

If one examines its history, it is evident that the University of Pretoria has always managed to do things differently. "We have always had to be flexible, creative, innovative and responsive. It is part of our heritage," says Prof De la Rey. "It is important that as we grow, we do not lose what is valuable from our past: our responsiveness, our work ethic and the high value we place on public service."

By continuing to focus on the development of innovations that not only enhance its teaching, research and strategic networks, but also benefit society as a whole, the University will be able to ensure that it remains responsive to the developmental goals of the country and that its teaching and research is relevant in the global knowledge-driven community. 🌐