



Research without borders



In a world where national boundaries are blurring, research is becoming more global. Researchers (and funders) everywhere are consciously seeking the best partners to bring complementary perspectives to the complex research challenges of today and UCT is equipping itself to be the first-choice partner for such collaborations.



UCT stakes its claim on the international research landscape

To be a preferred partner on the international stage – and a leader in the global South – requires careful monitoring of the international research landscape, meticulous planning in order to take advantage of the appropriate opportunities for co-operation, and a significant investment of resources. To stay competitive, UCT's Research Office – under the auspices of the university's two deputy vice-chancellors responsible for research and internationalisation – is building capacity to plan and support UCT's international collaborations to best effect.

The basic features of globally competitive universities include making significant contributions to the advancement of knowledge through research and teaching the most innovative curricula with the most innovative pedagogical methods under the most conducive circumstances. Research becomes an integral component of undergraduate teaching and is responsive to global and local conditions and challenges.

Universities also need to produce graduates who stand out because of their success in intensely competitive arenas, both during their education and – more importantly – after graduation. In addition, the long-term vision for creating world-class universities needs to align with a country's overall economic and social development strategy. Excellence is not only about achieving outstanding results with outstanding students, but also about measuring how much value is added by addressing the specific learning needs of an increasingly diverse student population.

Given this broad range of considerations, it has become critical to develop benchmarks to assess the different areas of UCT activity. To this end, UCT has joined the *Times Higher Education (THE)* World University Rankings survey platform group, aimed at developing a rounded picture of what the university as a higher education institution does, and how well it does it. The aim of the

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group is to develop a ranking system that builds on the existing THE ranking, but is properly targeted, with a large and representative sample that reflects views from all corners of the world. This improved ranking system will enable universities to compare themselves with peers rather than global averages in the future, thus converting data into useful management information.

In 2011, the international rankings debate was sharpened by reports on 'research competencies' at UCT, which were identified through Elsevier's SciVal Spotlight tool – a customised web-based tool that analyses bibliometric data and enables the university to evaluate aspects of its research performance. SciVal is particularly adept at identifying inter-disciplinary research, work that does not fit within conventional disciplinary silos, but which is making a major global research impact. The tool can also identify trends – research areas that are new, emerging, and booming, and those that are stable or stagnating. It is like a sensitive research thermometer, measuring the temperature of academic research.

Research competencies: UCT a world leader

A SciVal Spotlight analysis of UCT's research output from 2007 to 2011 indicated that it is amongst the world leaders in many of the 97 'competencies' or inter-disciplinary areas of research excellence, that were identified for UCT. Of these 97 competencies, 18 are 'distinctive' while the rest are 'emerging'. In order for a competency to become distinctive it must reach the minimum global market size in terms of number of fractionalised articles included,

UCT's global collaboration

The table below represents the top 25 institutions that UCT has collaborated with from 2007 to 2011, based on

the number of co-authored publications in Elsevier's Scopus database, while the map shows collaboration worldwide.

INSTITUTION	COUNTRY	CO-AUTHORED ARTICLES
University of Stellenbosch	South Africa	657
University of the Witwatersrand	South Africa	376
South African Medical Research Council	South Africa	335
University of KwaZulu-Natal	South Africa	249
London School of Hygiene and Tropical Medicine	United Kingdom	220
Harvard University	United States	211
University of Oxford	United Kingdom	193
University of the Western Cape	South Africa	169
University of Pretoria	South Africa	166
Imperial College London	United Kingdom	148
University College London	United Kingdom	140
Columbia University	United States	138
Council for Scientific and Industrial Research (SA)	South Africa	121
Johns Hopkins University	United States	117
University of Bergen	Norway	112
South African Astronomical Observatory	South Africa	109
Rhodes University	South Africa	93
Medical Research Council	United Kingdom	93
University of Cambridge	United Kingdom	92
University of Washington	United States	91
University of California at San Francisco	United States	88
University of Toronto	Canada	81
University of Copenhagen	Denmark	80
World Health Organisation	Switzerland	78
University of Sydney	Australia	76

Table 10 Top collaborating institutions of UCT (2007 – 2011)



Figure 9 Worldwide collaboration with UCT. The circled numbers indicate the number of collaborating institutions based on data from 2007 to 2011 (Source: Elsevier)

and must fulfill at least one of the three leadership criteria (publication, citation, or innovation leadership).

The top three distinctive competencies identified for the current period are:

- Distinctive Competency #1, which includes the following fields: AIDS, mental health assessment, medical practice, sexually transmitted diseases, and human resource management.
- Distinctive Competency #2: sexually transmitted diseases, chest and respiratory diseases, AIDS, clinical infectious disease and vaccines.
- Distinctive Competency #4: rangeland ecology, archeological science, climatology, insect physiology, and botany.

Duplication of research specialisations within competencies is due to the inter-disciplinary nature of the competency formation and the focus.

Reaching out around the world

In collaboration with International Academic Programmes Office (IAPO), the Research Office strives to realise UCT's Afropolitan vision of playing a consistent and visible role on the continent that is in line with the university's pre-eminent position as one of Africa's leading institutions. The Programme for the Enhancement of Research Capacity (PERC), which is overseen by Dr Robert Morrell, has been established as an integral part of UCT's efforts to establish and strengthen collaborative networks with partners in the global South and particularly in Africa. To date, ties have been forged with researchers in Botswana, Ghana, Kenya, Malawi, Namibia, Nigeria, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe. (For more on PERC, see page 171.)

Dr Lesley Green, of the Department of Social Anthropology, and a former associate of PERC, has forged ties with South America. Dr Green combined the resources of the Sawyer Seminar Series (a programme of the Mellon Foundation), which she co-ordinated, to bring together scholars from the South for a highly successful workshop titled *Natures and States in the Global South*. Internationally renowned anthropologist from the Museu Nacional in Rio de Janeiro, Brazil, Professor Eduardo Viveiros de Castro gave the keynote address, and speakers included Professor Mario Blaser, an Argentine anthropologist, who currently holds the Canada Research Chair in Aboriginal Studies at Memorial University (Canada); Professor Marisol de la Cadena, a Peruvian anthropologist and knowledge activist based at the University of California at Davis (USA); Professor Helen Verran, reader in the History and Philosophy of Science at the University of Melbourne (Australia); Professor David Turnbull of the Victorian Eco-Innovation Lab in Melbourne (Australia); and Professor Laura Rival of the School of Development Studies and Anthropology at Oxford (UK).

In June 2011, PERC hosted a visit by the eminent Australian social theorist, Raewyn Connell, Professor at Sydney University. Author of over 20 books, and renowned for her work in the theorisation of gender, she has recently turned to questions of knowledge production, producing *Southern Theory* (2007). During her ten-day stay at UCT, she presented a Vice-Chancellor's Lecture titled *Intellectuals in the 21st century world*, as well as giving a PERC seminar (*Southern Theory, an Introduction*) and seminars for the African Centre for Cities and the Institute for Humanities in Africa.

Bolstering Africa-centred research outputs

Converting research ties into research outputs is a critical goal of PERC's Africa Knowledge Project. More generally, it aims to stimulate, encourage, and support the production of new knowledge which is transformative in that it is appropriate to our position in South Africa, on the continent, and in the world. To this end, a workshop was hosted in February 2011 to bring together scholars from the continent, as well as from the diaspora, around a common theme. Among the scholars who attended were those who either originated from or worked in Cameroon, Ghana, Kenya, Mozambique, Namibia, Nigeria, and Zimbabwe. They included Professor Elisio Macamo (Centre for African Studies, University of Basel, Switzerland), Dr Afe Adogame (University of Edinburgh, Scotland), Professor Akosua Adomako Ampofo (University of Ghana), and Dr Mbugua Mungai (Kenyatta University, Kenya). Six PERC grant projects were represented at the workshop and will be contributing a chapter each to an edited collection.

To share the expertise of scholars across disciplinary boundaries, a seminar series was held to encourage and promote conversations about Afropolitan research and teaching. Examples included a joint presentation on UCT's postgraduate teaching in Africa, demonstrating the benefits of shaping the learning experience of students to emphasise African conditions, highlighting regional diversity, and revealing the advantages of regional exchange. Other seminars explored the topic *Doing Research in Africa – Africa-Centred Research* with reference to a wide range of projects and postgraduate recruitment experiences.

Worldwide networks

The Worldwide Universities Network (WUN) comprises 19 research-intensive institutions, spanning six continents. Its mission is to be "one of the leading international Higher Education networks, collaborating to accelerate the creation of knowledge and to develop leaders who will be prepared to address the significant challenges, and opportunities, of our rapidly-changing world."



A senior delegation from UCT and l'Université de Bretagne Occidentale met to strengthen ties. (From left) Dr Claude Roy, Professor Danie Visser, Professor John Field, Dr Yves-Marie Paulet, Dr Marilet Sienaert, Dr Steven Herbette.

In the second year of its WUN membership, UCT has been an active partner in a number of initiatives. This includes concluding a memorandum of understanding with Pennsylvania State University (USA) and hosting its first gathering of WUN delegates at a meeting titled *Uses and Abuses of Culture*. Another WUN event, jointly hosted by UCT and the University of York, was the *21st Century Challenges of Chronic Lung Disease* conference, which took place at the Institute of Infectious Disease and Molecular Medicine in November 2011.

Thirteen mobility awards were granted during the course of 2011, from UCT funding ring-fenced for this purpose. These awards are aimed at enabling research visits to WUN partner campuses, either to strengthen existing research links, or to set up future collaborations that may then be funded by other sources.

The WUN Research Development Fund (RDF) has been another source of funds for UCT researchers to strengthen collaboration with WUN partners. A basic requirement of these grants, valued at approximately R110,000 for one year, is that any research project should engage at least three WUN member universities and should span at least three countries. The budget requested from WUN must be matched by the collaborating universities. For purposes of the RDF, the WUN has identified the following global challenges within which research collaboration is being supported: adapting to climate change; global public health; non-communicable disease control; globalisation of higher education and research; and understanding cultures. In 2011, one RDF application submitted with UCT as the lead institution was successful, while a further four, with UCT as a consortium member, also succeeded.

In order to maximise the benefit of UCT's membership of the WUN for the university's research and international goals, an internal steering committee was established, with a rotating chairpersonship between deputy vice-chancellors Danie Visser and Thandabantu Nhlapo. This further strengthens the collaboration between the Research Office and IAPO.

Strengthening research ties

Significant progress was made during 2011 in identifying existing strong collaborations with international institutions. The leveraging value of current collaboration between UCT's Marine Research Institute (MA-RE), the Institut de Recherche pour le Développement (IRD) and two French universities is a case in point. A senior UCT delegation visited France in 2011 to discuss co-badging degrees, and ultimately joint degrees in marine science with the l'Université de Bretagne Occidentale in Brest and the University of Montpellier.

It is hoped that this agreement between the institutions will strengthen the university's research in marine sciences, and boost endeavours to understand climate variability, climate change, and development from the African perspective. The France-South Africa partnership in atmospheric and marine sciences has already been established through the IRD and MA-RE.

In addition, the two university delegations also discussed a specific implementation agreement for co-operation in marine science, student and staff exchanges, funding for these, and mutual acceptance of each others' master's modules, as well as the co-supervision of doctoral students.

Similarly, relations based on an existing memorandum of understanding with the National University of Singapore (NUS) have been strengthened through the virtual partnering of five staff members from UCT's chemical engineering department and colleagues from the NUS Department of Chemical and Biomolecular Engineering. In addition to exploring ways in which they can collectively leverage significant research grants, Professor Jack Fletcher, of UCT's Department of Chemical Engineering, is taking the UCT lead in a collaborative NUS-driven project on clean coal technology, to which the UCT Centre for Catalysis Research can make a significant contribution. A UCT-NUS exchange programme, at both undergraduate and postgraduate levels, will be explored in due course.