



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Best in Africa. Best for Africa.

UCT research at a glance



Overview

- The oldest teaching university in South Africa: founded in 1829 as the South African College, formally established as a university in 1918.
- UCT's main campus is on the slopes of Devil's Peak next to Table Mountain.

Satellite campuses include:

- Faculty of Health Sciences situated next to Groote Schuur Hospital, where the world's first heart transplant took place
- Hiddingh Campus: fine art and drama studies
- Breakwater Campus, V&A Waterfront: Graduate School of Business
- Solution Space Philippi: Graduate School of Business satellite campus.



A gateway to Africa

UCT
plays a vital
role in connecting
institutions in
the global north
and south with
its extensive
networks.



"The creation of new knowledge is a global project: The challenge for Africa is that our voice in this area is all too often missing, yet that voice is critical to the solution of the world's wicked problems. Through our strategic formal networks and partnerships, UCT can ensure that our students and researchers are exposed to opportunities around the world so that they can play their part on the global stage."

PROFESSOR MAMOKGETHI PHAKENG
UCT Vice-Chancellor



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World University Rankings

SUBJECT RANKINGS

TOP 10

Development studies

9th IN THE WORLD

QS 2019

TOP 20

Mining & mineral engineering

16th IN THE WORLD

SHANGHAI 2018

TOP 50

Oceanography

45th IN THE WORLD

SHANGHAI 2018

Immunology

49th IN THE WORLD

US NEWS
BEST GLOBAL
UNIVERSITIES 2019

Sport science schools and departments

49th IN THE WORLD

SHANGHAI* 2018

TOP 100

Microbiology

63rd IN THE WORLD

US NEWS
BEST GLOBAL
UNIVERSITIES 2019

Social sciences and public health

71st IN THE WORLD

US NEWS
BEST GLOBAL
UNIVERSITIES 2019

Clinical, pre-clinical & health

72nd IN THE WORLD

THE 2019

Clinical medicine

91st IN THE WORLD

US NEWS
BEST GLOBAL
UNIVERSITIES 2019

TOP 100

Law

77th IN THE WORLD

THE 2019

Social sciences

89th IN THE WORLD

THE 2019

Education

95th IN THE WORLD

THE 2019

- Geography
- Public health

SHANGHAI 2018



TOP 100

- Anatomy & physiology
- Anthropology
- Archaeology
- Architecture/built environment
- Education
- Geography
- Social policy & administration
- Sports-related subjects

QS 2019

KEY TERMS

THE	Times Higher Education
QS	Quacquarelli Symonds
SHANGHAI	ShanghaiRanking's Global Ranking of Academic Subjects
SHANGHAI*	ShanghaiRanking's Special Focus Institution Ranking



Putting UCT on the map

9th THE Emerging Economies
University Rankings 2018

156th (THE 2019)



UCT is the first African university
to join the International Alliance
of Research Universities (IARU).



Student profile in 2018



17 525

undergraduates



10 674

postgraduates



336

postdoctoral
fellows

Seven faculties

Centre for Higher Education Development

- Commerce • Engineering & the Built Environment
- Health Sciences • Humanities • Law • Science



1st
in Africa
(QS 2019, THE 2019,
US NEWS BEST GLOBAL
UNIVERSITIES 2019,
CWUR 2018-19)

111
countries are
represented on
UCT campuses



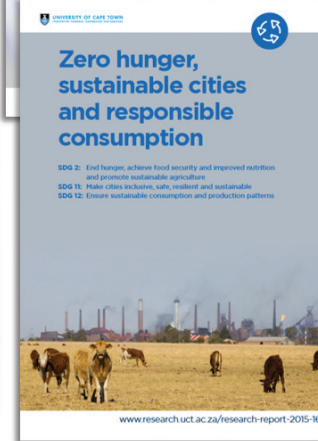
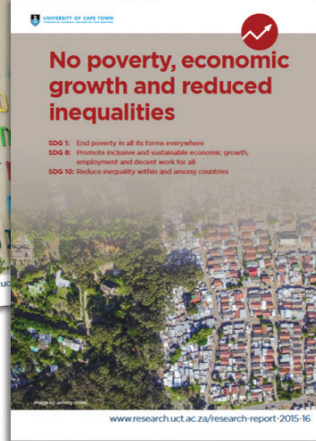
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Research at UCT is addressing the Sustainable Development Goals

**SUSTAINABLE
DEVELOPMENT
GOALS**



Addressing poverty and inequality

The Southern Africa Labour and Development Research Unit (SALDRU)

Founded in 1975, SALDRU carries out research and capacity building in applied empirical microeconomics with an emphasis on poverty and inequality, labour markets, human capital, and social policy.

Director: Professor Murray Leibbrandt

The National Income Dynamic Study (NIDS) is the first national panel study in South Africa to track and understand the shifting face of poverty.

The Schools Improvement Initiative (SII) at UCT draws on the university's resources to assist the Western Cape Education Department with improving the quality of education in the province.



13.8 million
people live in extreme
poverty in South Africa

Poverty & Inequality Initiative (PII)

PII was set up to tackle the question of why – in a country of rich resources – poverty and inequality are persisting, and in the case of inequality, deepening.

Professor Haroon Borhat

- DST/NRF Research Chair in economic growth, poverty and inequality: exploring the interactions for South Africa.
- Member of the World Bank's Advisory Board of the Commission on Global Poverty.



PHOTO: JOHNNY MILLER



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Healthcare for Africa



UCT-based surgeons are developing a device (pictured) that is designed to insert a crimped heart valve without obstructing blood flow, thus eliminating the need for a heart-lung machine and open-heart surgery.

UCT researchers discover heart-attack gene

Fifty years after South Africa performed the world's first successful heart transplant, researchers at UCT's Hatter Institute for Cardiovascular Research in Africa (HICRA), through global collaboration, identified a new gene that is a major cause of sudden death among young people and athletes.

Pictured: Maryam Fish, Gasnat Shaboodien and Sarah Kraus make up the all-female UCT team that made the discovery.



CIDRI-Africa was established at UCT to augment acknowledged strengths in the basic and clinical aspects of infectious diseases research. The prestigious award of centre status from the Wellcome Trust is unique, as CIDRI-Africa is the only Wellcome Centre outside the United Kingdom.


Institute of Infectious Disease and Molecular Medicine (IDM) at UCT

NIH National Institutes of Health

For the past four years, UCT has received the highest number of direct awards from the US National Institutes of Health (NIH) compared to any other higher education institution outside the United States.



Connecting neurosciences



By connecting psychology, genetics, neurosurgery and everything in between, UCT's Neuroscience Institute provides interdisciplinary solutions to local and global problems.

The Institute broke ground on its new building, the Neuroscience Centre in partnership with Groote Schuur Hospital, in 2018.

Research themes

Neurological development and degeneration

At the Neuroscience Institute, researchers and clinicians work closely with patients to find new ways to treat and prevent difficulties with brain development or degeneration.

Neuroinfection

Infectious diseases like HIV and tuberculosis, along with parasites, are a major cause of neurological disease in Africa. Researchers at the Neuroscience Institute are the leading the fightback against these conditions.

Brain injury

South Africa faces an epidemic of trauma- and drug-induced brain damage and mental disorders. Neuroscience Institute researchers are working to better understand brain injury and its long-term health impacts.



A laboratory for urban thinking

1.3 billion people will live in African cities in 2050

1.1 billion Africans use less energy than Spain (40 million)

2/3 of these people do not have electricity

The African Centre for Cities (ACC)

The ACC has gained a global reputation as one of the leading knowledge centres conducting meaningful research on how to understand, recast and address pressing urban crises, particularly on the African continent.

Professor Edgar Pieterse, ACC director, led a team of experts working on an urban development framework for South Africa.



Tackling climate change

"The ACIDI is a platform that uniquely merges climate change issues with development issues, bringing together UCT's breadth and depth of research and teaching in these areas, which previously were conducted largely in isolation."

– Professor Mark New, director of the ACIDI



THE NEED



- Zero hunger
- Water for all
- Clean water and sanitation
- No poverty and reduced inequality
- Affordable energy
- Reduced vulnerability & greater resilience
- Climate resilient cities

The African Climate & Development Initiative (ACDI)

Seeking solutions to complex problems in climate change and development.

AXA Research Fund has awarded its first research chair in Africa to UCT.

Professor Mark New
Pro vice-chancellor for climate change and director of the ACIDI



Water research at UCT



Drop-Drop is a stand-alone application developed by iCOMMS UCT that can track the water consumption of individuals.



Roark Robinson of MRA Architects

FUTURE WATER

Water – the availability and scarcity of it – is a critical topic in our changing world.

By its nature, water provision is a multifaceted issue – encompassing engineering, the built environment, science and health, politics and law, commerce, and humanities – that requires interdisciplinary solutions.

The Future Water research institute at UCT brings together researchers across six faculties to envision and create a water-secure future for all.



Harnessing natural resources



UCT's
**Biopharming
Research Unit
(BRU)** uses
plants to produce
vaccines.

- UCT researchers have generated synthetic human papillomavirus-derived viral particles called pseudovirions in tobacco plants.
- The technology has been licensed to two leading, international pharmaceutical companies.

Professor Ed Rybicki
Director of UCT's
Biopharming Research Unit



**How can we help
crops survive
without water?**

Jill Farrant, professor of molecular and cell biology, is the world's leading expert on resurrection plants, which 'come back to life' from a desiccated, seemingly dead state when they are rehydrated.

Pioneering plant-based innovation



**'Plantibodies' pave
the way for low-cost
therapeutics.**



Hydrogen economy



*Dr Sharon Blair
Director of HySA/Catalysis*



Fuel cell test stack

South Africa's contribution to global hydrogen and fuel-cell technology

HySA/Catalysis has developed a family of platinum catalysts on a par with – or better than – international products.

HySA/Catalysis

Co-hosted by UCT and Mintek, HySA/ Catalysis is one of three government-funded Centres of Competence.

Spin-off company HyPlat is a specialist fuel cell technology company focused on delivering state-of-the-art products.

HyPlat's products include membrane electrode assemblies and platinum group metal catalysts.

The breakthrough dual-direct-coating process offers best-in-class membrane electrode assemblies for the fuel-cell industry.



Under the southern skies



The Square Kilometre Array (SKA)

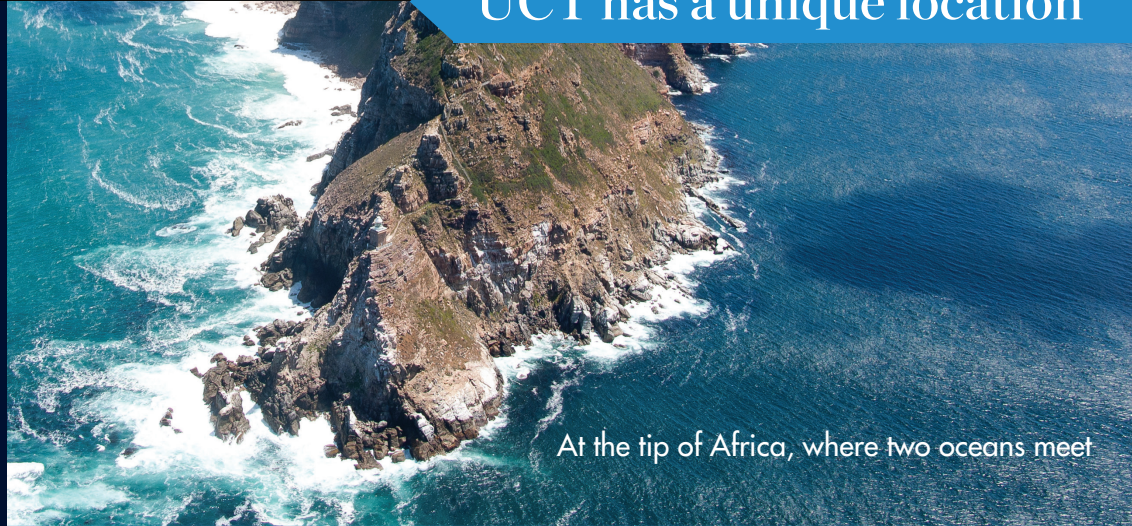
This project is an international effort to build the world's largest radio telescope, with a collecting area of a square kilometre (1 000 000 m²).



UCT has a unique location

"We're very lucky here in South Africa to have incredible access to the Southern Ocean with, for instance, the R/V *SA Agulhas II* – the government's ice-breaking research ship – being able to head out there multiple times a year."

Dr Sarah Fawcett,
UCT oceanographer



At the tip of Africa, where two oceans meet



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Read UCT's research magazine
bit.ly/UCTumthombo