



CAPRISA

CENTRE FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA

GLOBALLY RELEVANT
AND LOCALLY RESPONSIVE
HIV PREVENTION AND TREATMENT
RESEARCH



science & innovation
Department
Science and Innovation
REPUBLIC OF SOUTH AFRICA

CAPRISA hosts a
DSI-NRF Centre of
Excellence in
HIV Prevention



National
Research
Foundation



CAPRISA is the UNAIDS Collaborating
Centre for HIV Research and Policy



CAPRISA hosts a
MRC HIV-TB
Pathogenesis and
Treatment Research Unit

Partner
Institutions:



UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI



COLUMBIA
UNIVERSITY

MAILMAN SCHOOL
of PUBLIC HEALTH



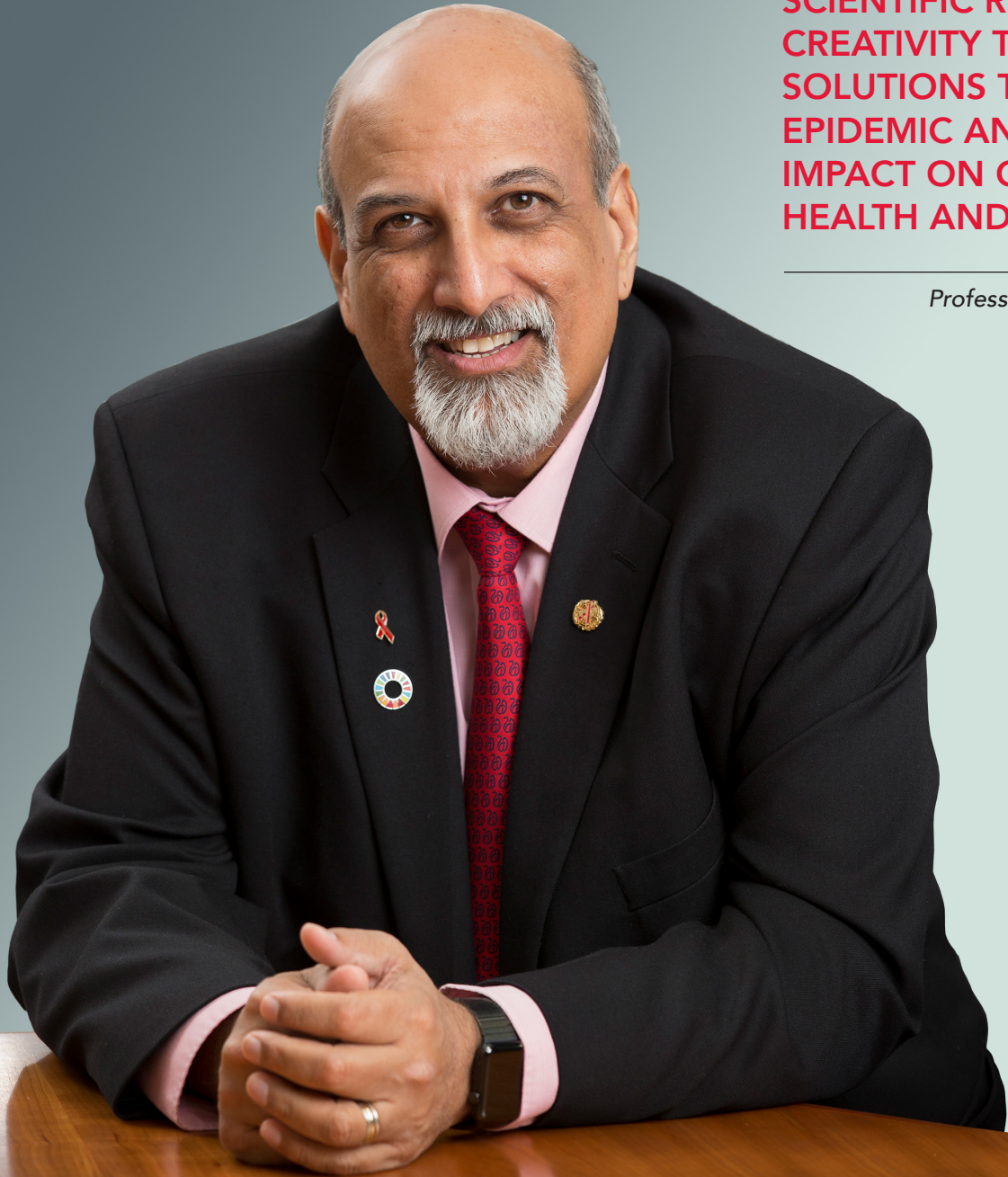
NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES
Division of the National Health Laboratory Service



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA - UNIVERSITEIT VAN KAAPSTAD



UNIVERSITY of the
WESTERN CAPE



“ CAPRISA COMBINES
SCIENTIFIC RIGOUR WITH
CREATIVITY TO FIND REAL
SOLUTIONS TO THE HIV
EPIDEMIC AND THEREBY
IMPACT ON GLOBAL
HEALTH AND WELL-BEING ”

*Professor Salim Abdool Karim
Director, CAPRISA*

AWARDS TO CAPRISA RESEARCHERS

2011

- Allan Rosenfield M.D. Alumni Award**
- from the Columbia University Alumni Association
- President's Award for Outstanding Achievement in World Health**
- from the DIA (Drug Information Association)
- NSTF - BHP Billiton Award**
- from the National Science & Technology Forum in partnership with BHP Billiton
- Distinguished Women in Science Award**
- from the Department of Science and Technology, Republic of South Africa
- Medicine Award: Fellowship in Art and Science of Medicine Gold Medal**
- from the South African Medical Association
- Outstanding Senior African Scientist Award**
- from the European and Developing Countries Clinical Trials Partnerships
- Chancellor's Calabash Award**
- from the University of South Africa (UNISA)
- Inaugural Olusegun Obasanjo Prize**
- from the African Academy of Sciences

2012

- TWAS Prize in Medical Sciences**
- from The World Academy of Sciences (TWAS)
- Minara Academic Excellence Award**
- from the Minara Chamber of Commerce
- N'Galy-Mann Award**
- from the Conference for Retroviruses and Opportunistic Infections

2013

- John F. W. Herschel Medal**
- from the Royal Society of South Africa
- The 2013 Scientific Prize**
- from the International Union Against Tuberculosis and Lung Disease
- African Union Kwame Nkrumah Scientific Regional Award**
- from the African Union

2014

- Order of Mapungubwe**
- from the Presidency of the Republic of South Africa
- Annual Service Excellence Award**
- from the KwaZulu-Natal Department of Health

- The Mayor's Award for Excellence**
- from eThekweni Municipality
- Lifetime Achievement Award**
- from the India HIV Congress 2014
- Science-for-Society Gold Medal**
- from the Academy of Science of South Africa (ASSAf)
- US Science and Technology Pioneers Prize**
- from the United States Agency for International Development
- TWAS Lenovo Science Prize**
- from The World Academy of Sciences (TWAS)
- Gold Medal Scientific Achievement Award**
- from the South African Medical Research Council
- Lifetime Achievement Award**
- from the AIDS Society of India

2015

- African Union Kwame Nkrumah Continental Scientific Award**
- from the African Union
- eThekweni Living Legends Award**
- from the eThekweni Municipality
- Platinum Lifetime Achievement Award**
- from the South African Medical Research Council

2016

- L'Oréal-UNESCO Women in Science Award**
- from the L'Oréal Foundation and UNESCO

2017

- Lifetime Achievement Award**
- from the Institute of Human Virology, United States
- Legends of South African Science**
- from ASSAf

2018

- Ward Cates Spirit Award**
- from the HPTN
- Al Sumait Prize**
- from the Kuwait Foundation for the Advancement of Science
- Silver Medal for Scientific Achievement**
- from the South African Medical Research Council

2019

- Royal Society Fellowship**
- from the Royal Society, United Kingdom
- African Leadership Award**



2020

- John Dirks Canada Gairdner Award for Global Health**
- from the Gairdner Foundation
- Christophe Merieux Award**
- from the French Academy of Sciences
- 500 years of the Straits of Magellan Award**
- from the Government of Chile
- John Maddox Prize for Standing up for Science**
- from Sense about Science and Nature
- The Sunday Times Top 100 Honorary Award**
- from the Sunday Times
- University of Stellenbosch Honorary Doctorate**
- from the University of Stellenbosch

2021

- John F. W. Herschel Medal***
- from the Royal Society of South Africa
- University of Rhodes Honorary Doctorate**
- from Rhodes University
- Chancellor's Calabash Award***
- from the University of South Africa (UNISA)

* awarded to two different CAPRISA researchers

MAJOR RESEARCH STUDIES

CAPRISA 012 SAMBA TRIAL aims to develop a combination of two anti-HIV monoclonal antibodies as a new, safe and effective long-acting HIV prevention technology, principally for women, in order to alter the course of the HIV epidemic in Africa. The safety and pharmacokinetic profile of three leading bNAbs - CAP256V2LS, VRC07-523LS and PGT121 – will be assessed in phase I trials. The best bNAb combination, based on matched PK, will proceed to the phase II trial that will be conducted in young South African and Zambian women.

CAPRISA 018 TAF IMPLANT aims to primarily assess the safety, acceptability, tolerability and pharmacokinetic profile of the TAF 110mg implant, and secondarily to obtain extended safety data and a preliminary estimate of efficacy for HIV prevention. A sub-cutaneous implantable silicone device has been designed for this purpose, and is the candidate being tested, as an annual implant in the CAPRISA 018 trial.

CAPRISA 002 STUDY ON ACUTE HIV INFECTION has led to CAPRISA identifying two women who naturally developed rare broadly neutralising antibodies, which are able to kill up to 88% of the HIV types found across the world. The CAPRISA team made the discovery that these special antibodies were elicited by the movement of a sugar, known as glycan, on the outer covering of the virus. The discovery has been hailed for its potential contribution to the development of HIV vaccines.

CAPRISA 003 TB-HIV TREATMENT STUDY showed that deaths in TB-HIV co-infected patients could be substantially reduced with integrated antiretroviral therapy and TB treatment. The findings have impacted in the revision of the World Health Organisation (WHO), US Department of Health and Human Sciences and South African guidelines on the treatment of patients with TB-HIV co-infection. The results of this CAPRISA study have shaped the global approach to treatment of TB-HIV co-infected patients.

RESEARCH CLINICS



The **eThekweni CAPRISA Research Clinic** adjoins the Prince Cyril Zulu Communicable Disease Centre, which is the largest government outpatient TB and sexually transmitted diseases treatment facility in Durban. The Clinic is in the Durban City Centre transport hub next to the main train station, bus rank and taxi station.



The **Springfield CAPRISA Research Clinic** at the King Dinuzulu Hospital, which is the largest TB referral hospital in the province of KwaZulu-Natal. As several hundred patients with drug resistant TB are treated at this hospital each year, CAPRISA's research here focuses on clinical studies on MDR-TB and XDR-TB.



The **Vulindlela CAPRISA Research Clinic** adjoins the Mafakatini Primary Health Care Clinic in the rural Vulindlela district in KwaZulu-Natal. This research facility, which hosts an adolescent friendly clinic, has a close working relationship with the local community to study new approaches to HIV prevention and treatment.

CAPRISA EXECUTIVE



Salim Abdool Karim
Director



Quarraisha Abdool Karim
Associate Scientific Director



Kogie Naidoo
Deputy Director

CAPRISA ARTICLES AND CITATIONS

(2010 - 2020)

> 2500

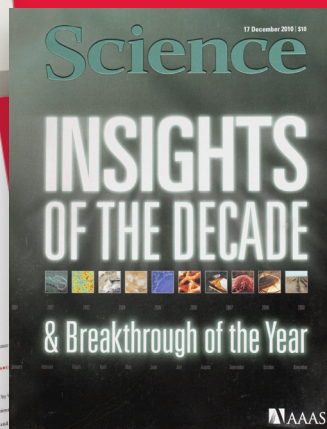
- Number of times the CAPRISA 004 article in *Science* has been cited

> 850

- Number of publications since 2010

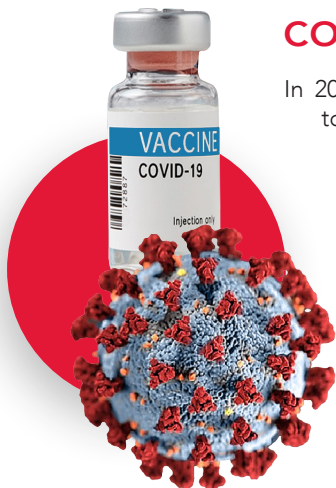
> 33%

- The proportion of CAPRISA articles in journals with an impact factor >5



The CAPRISA 004 Trial was ranked among the **Top 10 scientific breakthroughs** in 2010 by the journal **Science**

COVID-19 RESEARCH



In 2020, CAPRISA rapidly pivoted its HIV research capabilities to respond to the Covid-19 epidemic by establishing PCR testing even before the first case was identified in South Africa. CAPRISA's leadership in infectious disease epidemiology was called upon to support the national Covid-19 response. Early on, CAPRISA supported the national community-based screening and testing programme, screening over 16,000 individuals and training over 5,000 nurses and clinicians throughout KwaZulu-Natal on hospital infection prevention measures, following the St Augustine's Hospital outbreak investigation.

CAPRISA initiated several new studies on Covid-19, to study viral transmission, re-infection, viral variants, interactions between Covid-19 and HIV, and novel rapid antigen assays. CAPRISA has been part of conducting three SARS-CoV-2 vaccine trials and played a leading role in the Sisonke Programme to vaccinate healthcare workers with J&J vaccines as part of the South African government's vaccine roll out. CAPRISA Covid-19 scientific contributions in 2020/1 include over 50 papers, about half in the four highest impact journals (*NEJM*, *Lancet*, *Nature* and *Science*). Early in the Covid-19 pandemic, CAPRISA published seminal contributions on how COVID-19 affects HIV and tuberculosis in *Science* and on clinical, public health and vaccine implications of SARS-CoV-2 variants in the *NEJM*.



Dr Nigel Garrett
CAPRISA Head of Vaccine and Pathogenesis Research

COMMUNITY PROGRAMMES



CAPRISA recognizes that community engagement and partnerships with knowledgeable and informed communities is critical to the successful and ethical conduct of the research. Community activities across multiple networks are coordinated for cohesion and efficiency and Community Advisory Boards are in place to support multi-Network research studies. The CAPRISA Community Core Team have nearly two decades of experience and have worked with communities, sharing their experiences locally, nationally and globally.



Patrick Mdletshe
CAPRISA Head of Community Programmes



RESEARCH PROGRAMMES

EPIDEMIOLOGY AND PREVENTION

Eastern and southern Africa is home to 52% of the global burden of HIV. Young women account for 10% of the population in this region but bear a disproportionate 25% burden of new HIV infections. CAPRISA undertakes epidemiological studies to monitor the evolving HIV epidemic; identify socio-behavioural and biological factors that contribute to young women's increased vulnerability to HIV; and evaluate novel strategies such as long acting pre-exposure prophylaxis and broadly neutralizing antibodies to prevent HIV in young women.

VACCINE AND PATHOGENESIS

The vaccine and pathogenesis programme aims to advance both passive immunization and vaccine strategies to reduce HIV incidence among young women in South Africa. CAPRISA has contributed to the understanding of early viral and immunological events in acute infection, factors driving disease progression and control, and is currently testing broadly neutralizing antibodies for HIV prevention. Furthermore, CAPRISA has participated in two large HIV vaccine trials (Imbokodo and Uhambo), and contributes to the global vaccine effort as part of the HIV Vaccine Trial and COVID-19 Prevention Networks.

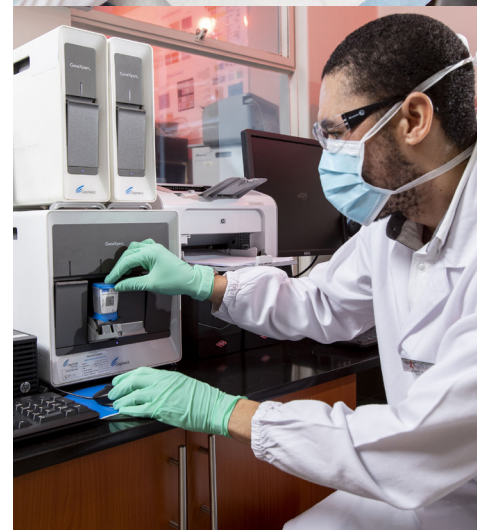
HIV AND TB TREATMENT

The TB-HIV Treatment Research Programme implements clinical strategy studies aimed at reducing death among TB-HIV co-infected patients and conducts basic science research to understand biological mechanisms underpinning clinical outcomes. Current studies include the CAP 020 Index Study which investigates whether a gene-derived individualized treatment approach improves culture negative survival in drug-resistant TB, the CAP 094 TRIAD study which evaluates test, triage-and-treatment of DR-TB, and several additional collaborative TB and HIV studies. This programme has shaped several international guidelines, including WHO guidelines.

MUCOSAL IMMUNOLOGY

The CAPRISA Mucosal Immunology Laboratory focuses on basic and translational research related to HIV prevention and pathogenesis. The focus of the Laboratory is to strengthen local biomedical capacity to investigate cutting edge concepts in mucosal immunology that are relevant to preventing HIV infection in women. To date, these have included understanding barriers to protection from tenofovir gel, PrEP and vaccine modality, to inform on future innovations that could improve or reshape design of effective interventions to prevent HIV infection in women.

CAPRISA hosts a DSI-NRF Centre of Excellence (CoE) in HIV Prevention and a MRC HIV-TB Pathogenesis and Treatment Research Unit



CAPRISA was established in 2002 through a Comprehensive International Program of Research on AIDS (CIPRA) grant from the National Institutes of Health (NIH), as a multi-institutional collaboration, incorporated as an independent non-profit AIDS Research Organisation. The five major partner institutions are: University of KwaZulu-Natal, University of Cape Town, University of the Western Cape, National Institute for Communicable Diseases and Columbia University in New York. CAPRISA has diverse expertise in basic and molecular epidemiology, virology, immunology, infectious disease medicine, bioinformatics, statistics, ethics and health policy. CAPRISA is an official research institute of the University of KwaZulu-Natal and Columbia University.

CAPRISA GOALS

To undertake globally relevant and locally responsive research that contributes to understanding HIV Pathogenesis, Prevention and Epidemiology, as well as the links between Tuberculosis and AIDS care.



Bongiwe Ntuli

Chair: CAPRISA Board of Control, Chief Executive Officer of the Foschini Group



Professor Françoise Barré-Sinoussi, Nobel Laureate

Chair: CAPRISA Scientific Advisory Board, Emeritus Professor, Institut Pasteur and Emeritus Director of Research, Inserm

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LP Fried (US) • ST Harrison • TL Jones • ARDH Moosa • K Naidoo • A Nortier • HW Sherwin • LV Theron

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R Hayes • J Mascola • Y Pillay • S Swaminathan

CoE STEERING COMMITTEE

SS Abdool Karim • U Bob • M Khati • G Loots • L Morris
C Williamson • Q Abdool Karim • T de Oliveira • J Passmore • P Moore

CONTACT DETAILS

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