

## KwaZulu-Natal Research Innovation and Sequencing Platform



### Introduction:

In our June issue of 2019, we focus on **KRISP participation at BIO 2019**. KRISP will be exposing at the largest and most exciting biotechnology innovation convention in the world. **We have been invited to be part of the official South African delegation**. At BIO 2019, we will present some of our new DNA sequencing and bioinformatics capabilities, our new high-throughput DNA sequencing services, our biotech innovation program in Durban with SPARK Global and the KRISP/Thermo Fisher Scientific Training Program in Africa.

KRISP wants to want to challenge the status quo and create a scientific environment that drives innovations in global health and reverses the brain drain in Africa...

### Highlights:

**BIO 2019: KRISP is part of the official South Africa Delegation**

**BIO 2019: KRISP is profiled as an inspiring organization for Economic Development in South Africa**

**Biotech Services: ddPCR, cancer genomics, drug resistance testing, Exomes, HLA typing, PGS and other precision medicine testing**

**High-throughput DNA sequencing: KRISP provides access to high-throughput Sanger and Illumina sequencing in Africa**

**Science: Bioinformatics team support biotechnology diagnostic development & scientific excellence in Africa**

**Training: KRISP & Thermo Fisher Scientific training program in Africa**



UNIVERSITY OF  
KWAZULU-NATAL  
INYUVESI  
YAKWAZULU-NATALI

## KRISP is part of the official South Africa Delegation



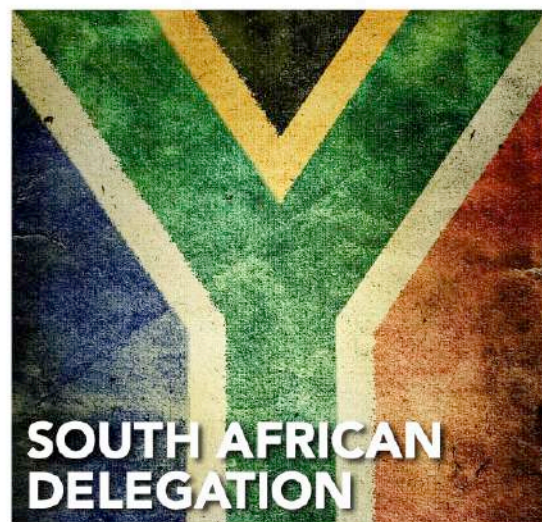
**KRISP takes part of the South African delegation attending the Bio International Convention.**

KRISP and the South African DST, SAMRC, TIA, CPGR and DIPLOMICS showcase South Africa in the BIO 2019 as one of the most sophisticated, diverse and dynamic emerging market that is open to investment...

South Africa is becoming one of the most popular trade and investment destinations in the world. The biotechnology sector is growing since the 2001 Biotechnology Strategy was launched.

**South Africa and KRISP will have an exhibition at pavilion E 301. Please visit us!**

KRISP is also featured in the Booklet of the South African BIO 2019 delegation and on the South African Open for Business booklet, Both are found below and can be downloaded from our website: <http://www.krisp.org.za>



INSPIRING BIO-INNOVATION FOR ECONOMIC DEVELOPMENT

**2019**  
SOUTH AFRICA



## KRISP is part of the official SA Delegation and is profiled as an inspiring organization for Economic Development



### MS GUGULETHU MKHIZE

GRANTS AND PROGRAM MANAGER: KWAZULU-NATAL RESEARCH INNOVATIONS AND SEQUENCING PLATFORM (KRISP); UNIVERSITY OF KWAZULU-NATAL

Gugulethu Mkhize serves as a Senior Grants and Program Manager for the world-class KZN Research Innovation & sequencing platform (KRISP). She holds a BSc in Microbiology & Biochemistry and BSC Honors in Microbiology from University of Natal. She completed her MSc at University of Pretoria and decided to move to scientific support management position. She worked as a Senior Grants Manager at the WitsHealth Consortium for Professor Glenda Gray (current President & CEO of the SAMRC) for many years, before returning to KwaZulu-Natal (KZN) to co-lead the multi-million rands grant unit of KRISP. Currently she is actively involved in setting up the first Biotechnology Incubator in Durban (BID), which is being developed in partnership with the EThekweni Municipality, the University of KwaZulu-Natal, Investec and the Stanford SPARK Global Program. She is one of the senior members driving the creation of biotechnology startups in Durban, which aims to translate biomedical research discoveries for the improvement of health outcomes in Africa.

E-mail: [mkhizeg5@ukzn.ac.za](mailto:mkhizeg5@ukzn.ac.za)

**KRISP is also profiled as an inspiring and Bio-innovative organization for Economic and Social Development in South Africa.**

The KwaZulu-Natal Research Innovation and Sequencing Platform (KRISP) is a Flagship Research Program of the South African Medical Research Council (SAMRC) and a technology platform of the Technology Innovation Agency (TIA) at the University of KwaZulu-Natal (UKZN).

KRISP creates a world-class scientific environment that drives high-level science, propels innovation and reverses the brain drain in (South) Africa. A critical function of KRISP is to make genomics, epigenetics and bioinformatics technology accessible to academic, industrial and commercial users, who might not otherwise pursue these technologies or use alternative international resources.

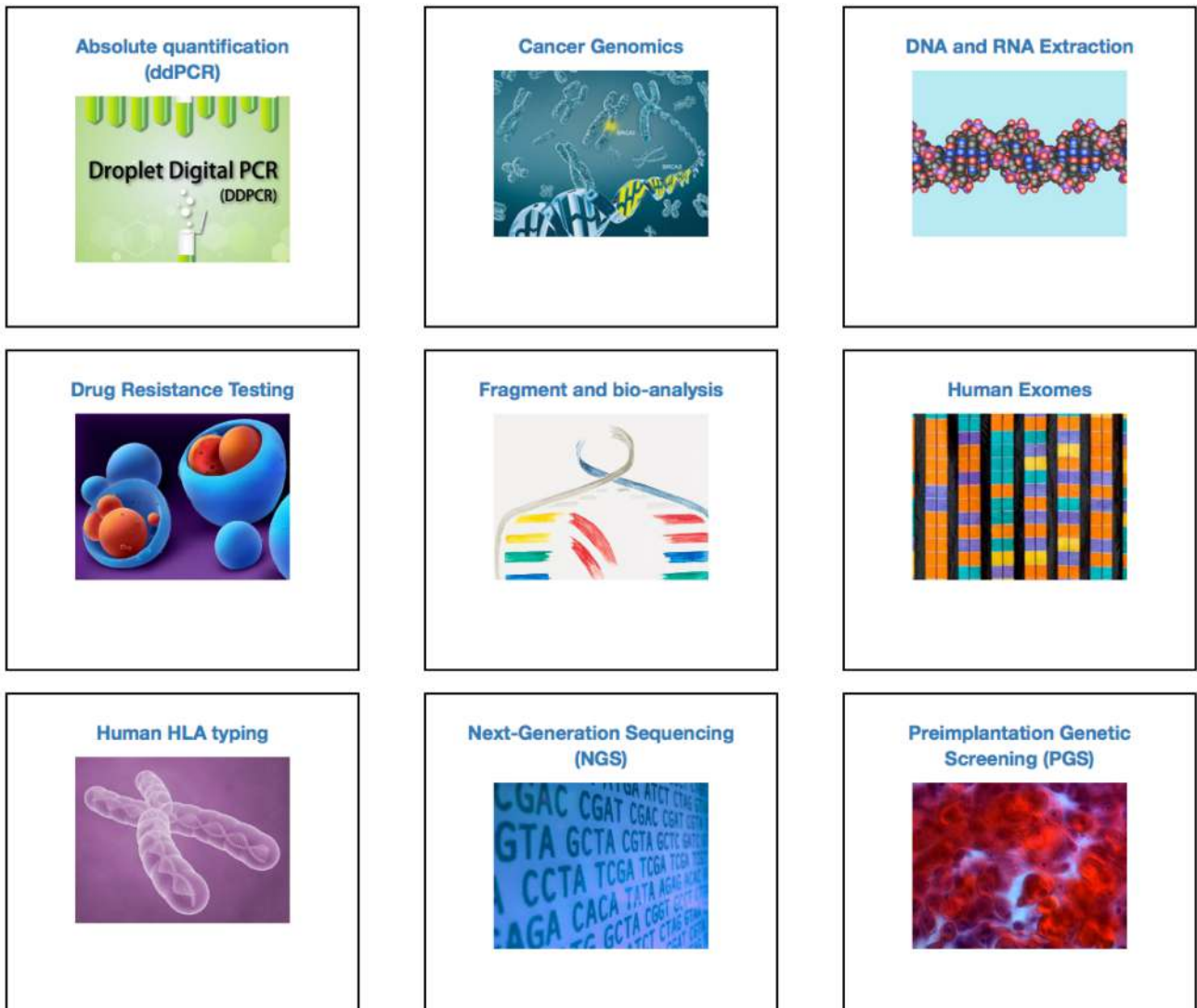


INSPIRING BIO-INNOVATION FOR ECONOMIC DEVELOPMENT

2019  
SOUTH AFRICA



## KRISP Services: ddPCR, cancer genomics, drug resistance testing, Exomes, HLA typing, NGS, PGS and other precision medicine testing in Africa



KZN Research Innovation and Sequencing Platform (KRISP), which is a Flagship Research Program of the South African Medical Research Council (SAMRC) and a technology platform of the Technology Innovation Agency (TIA) at the University of KwaZulu-Natal (UKZN).

KRISP wants to challenge the status quo and create a scientific environment in (South) Africa that produces **world class science, drives innovations and reverses the brain drain**. A critical function of KRISP is to make **genomics, epigenetics and bioinformatics technology** accessible to academic, industrial and commercial users, who might not otherwise pursue these technologies or use alternative international resources.

Services include on-demand next generation sequencing (NGS), cancer genomics, HIV, TB and antimicrobial resistance testing, Exomes, HLA typing and absolute quantification (ddPCR)."

## KRISP provide access to high-throughput and cost effective Sanger and Illumina sequencing services



### ***Sanger Sequencing***

*KRISP has invested in two new Sanger sequencers, including a novel ABI3730xl, which is the largest and most automated Sanger machine in the world. This equipment has 96 capillaries and it is able to produce over 2,500 sequences a day!*

***'We are delighted to have purchased the largest Sanger sequencer available. It now put us in the position to provide high-throughput and affordable DNA sequencing services'***

#### **Some of the applications:**

- DNA sequencing reaction
- Sequencing Electrophoresis only
- Fragment Analysis

We provide discount to clients that generate bulk orders in a year (i.e. > 1,000 samples per year) and Institutional discount to UKZN.

### ***Illumina Sequencing***

*KRISP has access to*

- MiSeq (x2),
- NextSeq 500 (x2)\*
- HighSeq (x1)\*

*\*as part of DIPLOMICS SARIR.*

***'We are now, for the first time in Africa, in the position to generate NGS sequencing data at similar price, quality and speed as the international leading genomics centres...'***

#### **Some of the applications:**

- PCR Amplicon sequencing,
- Viruses & bacteria whole genome sequencing (WGS),
- 16S Microbiome
- rRNA sequencing
- RNA-seq (i.e. transcriptomics)
- Exomes



## Promotion Sanger Sequencing

- Animals
- Bacteria
- Humans
- Fungi
- Pathogens
- Plants

### Price:

**Simple Service – R 25 (US\$ 1.66)**  
(Sequence reaction is provided)

**Basic Sequencing – R 45 (US\$ 3.00)**  
(PCR purified product & primers provided)

**Full Sequencing – R 75 (US\$ 5.00)**  
(PCR unpurified product & primers provided)

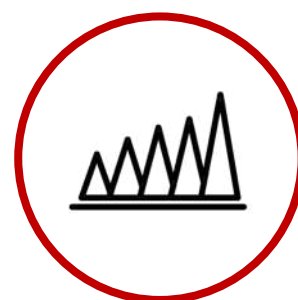
\*Valid from 1st June to 1st Dec 2019



Contact us



Submit DNA



Get Results

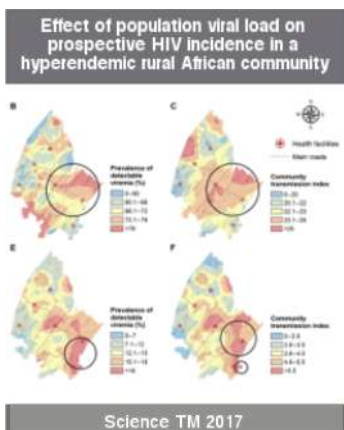
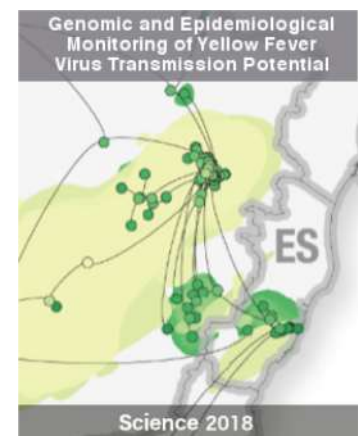
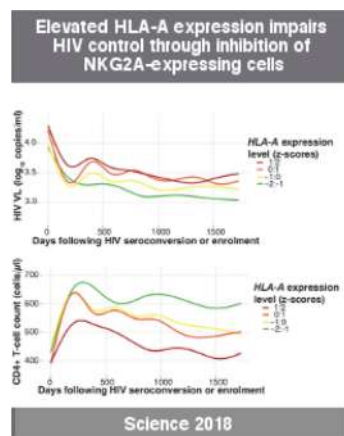
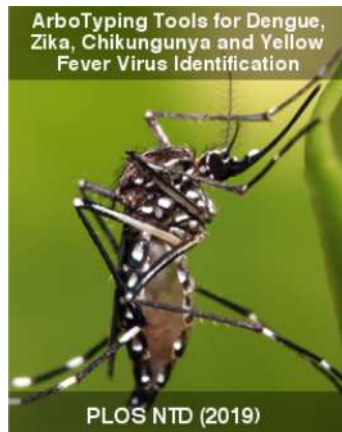
For international and national orders & enquiries, please contact:

☎ 031 360 4898  
📱 082 9624219 (WhatsApp)

✉ orders@krisp.org.za  
🌐 www.krisp.org.za

## Bioinformatics team to support biotechnology diagnostic development & scientific excellence in Africa

We have created one of the best and largest team of bioinformaticians and data analysts in South Africa. Bioinformatics service is available to allow genomic data to be used in diagnostics and to develop world-class science. Below some of our key bioinformatics developments and publications.





## KRISP EDUCATION

# Training the Next Generation of Scientists in Africa



### Next Workshops:

**24th International Bioinformatics Workshop on Virus Evolution and Molecular Epidemiology (VEME)**, The University of Hong Kong, **Hong Kong**, China, 4-9 August, 2019

**Capillary Electrophoresis (i.e. Sanger Sequencing) Workshop**, KRISP/Thermo Fisher Scientific, Nelson R Mandela School of Medicine, **Durban**, South Africa, 24-25 June, 2019

**Quantitative PCR (qPCR) Advanced Workshop**, Workshop, KRISP/Thermo Fisher Scientific, Nelson R Mandela School of Medicine, **Durban**, South Africa, 20 June, 2019

### For more information please contact:

**Prof Tulio de Oliveira**, KRISP, Nelson R Mandela School of Medicine, University of KwaZulu-Natal, Durban, South Africa. Tel : +27 31 260 4898, e-mail : & tuliodna@gmail.com & deoliveira@ukzn.ac.za. Web: [www.krisp.org.za](http://www.krisp.org.za)

### Funded by:



**Disclaimer:** KRISP at UKZN wishes to express its gratitude to the following funders for their generous support for the production of this report: Technology Innovation Agency (TIA), South African Medical Research Council (SAMRC) University Flagship Program, European Commission (EC), Centers for Disease Control and Prevention, Swiss / South Africa Joint Research Initiative and the U.K. Royal Society. The newsletter is published as open access under a Creative Commons ShareAlike 30 Unported (CC BY-SA 30) license (<http://creativecommons.org/licenses/by-sa/30/>) and is available in printed format as well as electronically as PDF, Web-format, etc The contents of this report and the opinions expressed herein are solely the responsibility of the authors and do not necessarily represent the official views or policies of any of the funders.

KRISP Newsletter, volume 3, number 5, May/June 2019