



## SAIS NEWSLETTER - NOVEMBER 1<sup>st</sup>, 2019

Dear SAIS members,

Below, please find this week's newsletter. Please note that the next newsletter will be sent on Friday, the 1<sup>st</sup> of November.

---

### FUNDING CALLS, CONFERENCES, WEBINARS and ANNOUNCEMENTS

**World Aids Day 2019: A new era in ARVs: What's in it for her? - a panel discussion facilitated by Bhekisisa's Laura Lopez Gonzalez - 29 November - Save the date!**

Please find more details in the attached.

## A NEW ERA IN ARVs: WHAT'S IN IT FOR HER?

A PANEL DISCUSSION FACILITATED BY BHEKISISA'S LAURA LOPEZ GONZALEZ



**Minicircle DNA: a new material for CAR-T and AAV vector particles - it's development and analysis - Webinar - November 05 - 09:00 AM PST**

<https://www.labroots.com/webinar/minicircle-dna-material-car-t-aav-vector-particles-it-s-development-analysis>.

**Tools to Empower Your (CAR) NK Cell Research - Webinar - November 13 - 12:00 PM PST**

<https://www.labroots.com/webinar/tools-empower-car-nk-cell-research>.

**Influenza 2019 Labroots virtual event - Influenza in the past, present and future - November 6 6:00 AM PST**

<https://www.labroots.com/virtual-event/influenza-2019>.

**Gene-Modulation Technologies in the Development of Cell-Based Therapies - Webinar - October 29 - 10:30 AM - 12:00 PM ET**

Topics to be Covered: \*Overview of gene-modulation technologies and functional genomic screens; \*Areas in which CRISPR-Cas9 and RNAi could be used to extend the use of adoptive T-cell transfer in the clinic. <https://webinars.the-scientist.com/gene-modulation-tech-sartorius>.

**Investigating Targeted CD3 Activation in Cytotoxic T cells via Immune Checkpoint Inhibition with an Advanced Multiplex Immunofluorescence Assay - Webinar - November 1, 2019 - 2:30 - 4:00 PM ET**

<https://webinars.the-scientist.com/multiplexedimmunofluorescence-ultivue>.

**PUBLICATIONS and INTERESTING READS:**

**How pandemics shape social evolution**

<https://www.nature.com/articles/d41586-019-03048-8>.

**Drosophila macrophages switch to aerobic glycolysis to mount effective antibacterial defense**

<https://elifesciences.org/articles/50414>.

**FDA approves first live, non-replicating vaccine to prevent smallpox and monkeypox**

<https://www.fda.gov/news-events/press-announcements/fda-approves-first-live-non-replicating-vaccine-prevent-smallpox-and-monkeypox>.

**Discovery of 2 distinctive lineages of lymphocytes, T cells and B cells, as the basis of the adaptive immune system and immunologic function**

2019      Albert      Lasker      Basic      Medical      Research      Award:  
<https://jamanetwork.com/journals/jama/fullarticle/2749794>.

**An evolutionary recent IFN-IL-6-CEBP axis is linked to monocyte expansion and tuberculosis severity in humans**

<https://elifesciences.org/articles/47013>.

**UChicago scientists unveil the secret of cancer-associated Warburg effect**

<https://www.uchicagomedicine.org/forefront/cancer-articles/2019/october/uchicago-scientists-unveil-the-secret-of-cancer-associated-warburg-effect>.

**Long-term surviving influenza infected cells evade CD8+ T cell mediated clearance**

<https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1008077>.

**Two out of three wild poliovirus strains eradicated**

Global eradication of wild poliovirus type 3 declared on World Polio Day. <https://www.who.int/news-room/feature-stories/detail/two-out-of-three-wild-poliovirus-strains-eradicated>.

**Conversion of antigen-specific effector/memory T cells into Foxp3-expressing Treg cells by inhibition of CDK8/19**

<https://immunology.sciencemag.org/content/4/40/eaaw2707>.

**Neutrophil extracellular traps drive inflammatory pathogenesis in malaria**

<https://immunology.sciencemag.org/content/4/40/eaaw0336>.

**Weaponized cells seek and destroy HIV lurking in the body**

Approach could allow people infected with HIV to set aside their medication - without risking a resurgence of the virus. <https://www.nature.com/articles/d41586-019-03220-0>.

**Predictors of SIV recrudescence following antiretroviral treatment interruption**

<https://elifesciences.org/articles/49022>.

**Rhabdo-immunodeficiency virus, a murine model of acute HIV-1 infection**

<https://elifesciences.org/articles/49875>.

**Single cell analysis reveals immune cell-adipocyte crosstalk regulating the transcription of thermogenic adipocytes**

<https://elifesciences.org/articles/49501>.

**Pre-detection history of extensively drug-resistant tuberculosis in KwaZulu-Natal, South Africa**

<https://www.pnas.org/content/early/2019/10/23/1906636116>.

**Maternal inflammation has a profound effect on cortical interneuron development in a stage and subtype-specific manner**

<https://www.nature.com/articles/s41380-019-0539-5>.

**Mode of action of quinoline antimalarial drugs in red blood cells infected by Plasmodium falciparum revealed in vivo**

<https://www.pnas.org/content/early/2019/10/25/1910123116>.

**HIV drug stops Zika virus infection, same strategy could halt infections caused by related viruses, Temple researchers report**

<https://www.templehealth.org/about/news/hiv-drug-stops-zika-virus-infection-same-strategy-could-halt-infections-caused-by-related-viruses-temple-researchers-report>.

**Enter the exosome: WVU researcher studies how cancer and immune cells communicate**

<https://wvutoday.wvu.edu/stories/2019/10/29/enter-the-exosome-wvu-researcher-studies-how-cancer-and-immune-cells-communicate>.

**Measles erases immune 'memory' for other diseases**

Results from tests of unvaccinated children and monkeys come as measles cases spike around the world. <https://www.nature.com/articles/d41586-019-03324-7>.

---



## JOBS and POSITIONS



### MSc Student

Based at Centre for Vaccines and Immunology, NICD  
1 Modderfontein Rd, Sandringham

### Background

The Centre for Vaccines and Immunology comprises the National and World Health Organisation Regional Reference Laboratories for acute flaccid paralysis as well as measles and rubella surveillance. Additionally, the centre conducts projects on viral hepatitis, Tuberculosis and other vaccine preventable diseases. Our research focus is immune tolerance and its application to infectious diseases such as Tuberculosis and HIV. A key project is the role of Indoleamine 2,3 dioxygenase as a TB biomarker.

Using enzymatic activity on peripheral blood, we have shown that IDO activity is elevated during active Tuberculosis<sup>1</sup>. The use of sputum as a sample type due to infection control issues when patients are required to cough into specimen bottles. While peripheral blood is preferable, this sample type still requires trained health professionals for phlebotomy and is problematic in children. Dried blood spots are already in use for other diagnostic assays such as HIV and would be preferred but have not been evaluated for IDO measurement.

In this project, we aim to correlate IDO mRNA expression levels by real-time PCR with IDO activity levels measured by ELISA. We will further investigate whether IDO PCR can differentiate patients with active TB to patients without active TB.

A further aim is to investigate the use of dried blood spot cards for determination of IDO activity, in healthy individuals. Here, we will evaluate dried blood spots as a sample type for determination of IDO enzyme activity.

### Qualifications and experience

BSc (honours) in immunology or related discipline. Preferred skills: real-time PCR, ELISA, cell culture.

Please email CV to Dr Heena Ranchod by **15 November 2019**  
heenar@nicd.ac.za

---

Please don't forget to send me any info you may have on funding opportunities, meetings, workshops and/or conferences, so I can post it on the SAIS LinkedIn page. Additionally, if you are recruiting/hiring, I am more than happy to advertise it on LinkedIn and in the newsletter.

Kind regards

Dana Savulescu (PhD), Pr.Sci.Nat.

Mobile: +27 74 6800082

Email: danams79@gmail.com