



SOUTH AFRICAN IMMUNOLOGY SOCIETY

# NEWSLETTER

30 September 2022

Dear SAIS Members,

Welcome to the September Newsletter. We encourage all members and networks to join us at the 9th SAIS conference in Muldersdrift, Gauteng. This year's conference includes a line-up of great speakers for both the pre-conference workshop and the main conference. Please use this link <https://www.sais-bookings.co.za/> to register. Excitingly, the SAIS Newsletter team will be there capturing all the beautiful moments. Look out for the collage feature in our next edition! We also encourage members to send us their best shots for this special edition in October. Please visit our social media platforms for more daily updates, photos, and SAIS Breaking News.

## FUNDING CALLS, CONFERENCES, WEBINARS & ANNOUNCEMENTS

South African Immunology Society presents *An African Based Immunology Seminar Series*

For more information, please visit: <https://www.saimmunology.org.za/webinars.html>



### DR LEOPOLD DJOMKAM TIENCHEU

Dr Leopold Tientcheu is an Assistant Professor at London School of Hygiene & Tropical Medicine (LSHTM) and senior scientist in the Vaccines and Immunity theme at the Medical Research Council (MRC) Unit, The Gambia at LSHTM. His research investigates how African population genetics and Mycobacterium tuberculosis complex (MTBC) lineage diversities influence the response to treatment, mainly host-directed therapeutics for TB.

**Topic: Mycobacterium tuberculosis evolution within human populations**

**DATE: 24 OCTOBER 2022**

**TIME: 14:30**



Supported by



### WHERE IMMUNOLOGISTS MEET

18th International Congress of Immunology  
27 November - 2 December 2023 | Cape Town, South Africa

[IUIS2023.org](https://IUIS2023.org)

Save the Date!

18th International Congress of Immunology: 27 - 02 December 2023



## INVITATION

# IMMUNOLOGY REDISCOVERED: BREAKTHROUGHS IN IMMUNOLOGY

The South African Immunology Society invites you to attend our 9th conference "Immunology Rediscovered: Breakthroughs in Immunology" from 2-4 October 2022. After two years of meeting virtually, this in-person event will showcase all the best immunology work going on locally and internationally, with a wide selection of world-renowned speakers.

Topics will include vaccinology, infectious diseases, innate and adaptive immunity, tumour immunology, allergy, transplantation, and inborn errors of immunity, to name a few. The event will be held at the Misty Hills Hotel, Conference Centre and Spa nestled in the foothills of the Swartkop mountains in the beautiful Kromdraai Valley in Muldersdrift, Gauteng. Kromdraai falls within the Cradle of Humankind World Heritage Site; the birthplace of humankind. This is the perfect place to rediscover our human connections and passion for Immunology.

The conference will consist of both oral and poster presentations, and will include a cocktail networking function, as well as a gala dinner at the celebrated Carnivore restaurant.

We cannot wait to gather again as a society and boost Immunology research in South Africa together.

## Join us there!

**2-4 October 2022**  
**Misty Hills Hotel,**  
**Conference Centre and Spa**

Register at  
<https://www.sais-bookings.co.za/registration.php>



### TERESA ROSSOUW

**Ethics in the time of social  
media**

Immunology Department at the University of  
Pretoria



### ALEX SIGAL

**Milder disease with Omicron: is it  
the virus, pre-existing immunity,  
and will our immunity protect us  
from the next variant?**

Africa Health Research institute (AHRI)



### ALESSANDRO SETTE

**Study of adaptive immune  
responses to SARS CoV-2 and  
its variants**

La Jolla Institute for Immunology



OCTOBER 07 - 10, 2022

## NEUROIMMUNOMETABOLISM - OBESITY AT THE CROSSROADS BETWEEN NEUROIMMUNITY AND IMMUNOMETABOLISM

Joint Meeting with *Interconnection between the Gut, Brain and Microbiome for Metabolic Disease*

Organizers: Ana Domingos, and Alan Saltiel

For registration and other inquiries, please visit

<https://www.keystonesymposia.org/conferences/conference-listing/meeting?eventid=6923>



### 20<sup>TH</sup> BIENNIAL MEETING OF THE EUROPEAN SOCIETY FOR IMMUNODEFICIENCIES

GOTHENBURG, SWEDEN | 12-15 OCTOBER 2022

International Nursing Group



for Immunodeficiencies



For more information, please visit: <https://esidmeeting.org/>

OCTOBER 26 - 29, 2022

## COVID AND BEYOND: NOVEL APPROACHES TO GLOBAL INFECTIOUS DISEASES

Organizers: Robert Jordan, and Soumya Swaminathan

For registration and other inquiries, please visit

<https://www.keystonesymposia.org/conferences/conference-listing/meeting?eventid=6923>

SAVE  
THE  
DATE



22 September 2022

#WorldLungDay



If you missed the new FIRS/WHO webinar series: *Respiratory disease in the era of COVID – a global perspective*, you can access the recording here <https://www.firsnet.org/news-and-events/news-article/181-world-lung-day-2022>

### Funding Opportunity - CSSFF & SAMRC Student and Scholarship Programme



The Chan Soon-Shiong Family Foundation (CSSFF) and the South African Medical Research Council (SAMRC) Student and Scholarship programme



The CSSFF & SAMRC invites applications for their newly launched student and scholarship programme aimed at building a skilled workforce to manufacture vaccines on the African continent. Scholarship applications close: 30 September 2022. Studentship applications close: 15 October 2022. For more information, visit <https://www.samrc.ac.za/request-for-applications/chan-soon-shiong-family-foundation-cssff-and-south-african-medical-research>

## PUBLICATIONS & INTERESTING READS

**Distinct antibody responses as biomarkers to monitor cancer immunotherapies**

<https://www.nature.com/articles/s41392-022-01136-2>

**How do pre-pregnancy endometrial macrophages contribute to pregnancy?**

<https://www.sciencedirect.com/science/article/abs/pii/S0165037822002650>

**IL-10: A bridge between immune cells and metabolism during pregnancy**

<https://www.sciencedirect.com/science/article/abs/pii/S0165037822002790>

**IL-25 blockade as a therapeutic strategy for asthma**

<https://www.nature.com/articles/s42003-022-03367-z>

**Impact of the mucosal milieu on antibody responses to allergens**

[https://www.jacionline.org/article/S0091-6749\(22\)00988-5/fulltext](https://www.jacionline.org/article/S0091-6749(22)00988-5/fulltext)

**Nasal spray immunisation: potential use against HIV and SARS-CoV-2 shown in animal models**

<https://www.news-medical.net/news/20220726/Nasal-spray-highly-effective-against-HIV-and-SARS-CoV-2-in-animal-models.aspx>

**Reproductive microenvironment and immune response**

<https://www.sciencedirect.com/science/article/abs/pii/S0165037822002091>

**T cell immunity to COVID-19 vaccines**

<https://www.science.org/doi/10.1126/science.add2897>

**The Ever-Increasing Array of Novel Inborn Errors of Immunity: an Interim Update by the IUIS Committee**

<https://pubmed.ncbi.nlm.nih.gov/33598806/>

**The Lancet Commission on lessons for the future from the COVID-19 pandemic**

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(22\)01585-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)01585-9/fulltext)



### DISEASE OF THE MONTH: RABIES

**Extra! Extra! Read All About It! Pasteur “Cures Hydrophobia”**

<https://historyofvaccines.org/blog/extra-extra-read-all-about-it-pasteur-cures-hydrophobia>

**Monoclonal antibodies against rabies: current uses in prophylaxis and in therapy**

<https://www.sciencedirect.com/science/article/pii/S1879625722000116>

**Prevention of Rabies in Humans**

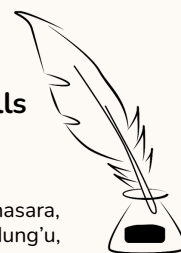
[https://www.nicd.ac.za/wp-content/uploads/2020/01/Rabies-A1-Poster\\_2018\\_V04\\_Jan-2020-002-002.pdf](https://www.nicd.ac.za/wp-content/uploads/2020/01/Rabies-A1-Poster_2018_V04_Jan-2020-002-002.pdf)

**Kurzgesagt - In a Nutshell: The Deadliest Virus on Earth**

<https://www.youtube.com/watch?v=4u5l8GYB79Y>

## COMMUNITY CORNER

Showcasing the bright minds of SAIS



### CD8 lymphocytes mitigate HIV-1 persistence in lymph node follicular helper T cells during hyperacute-treated infection

Omolara O. Baiyegunhi, Jaclyn Mann, Trevor Khaba, Thandeka Nkosi, Anele Mbatha, Funsho Ogunshola, Caroline Chasara, Nasreen Ismail, Thandekile Ngubane, Ismail Jajbhay, Johan Pansegrouw, Krista L. Dong, Bruce D. Walker, Thumbi Ndung'u, Zaza M. Ndhlovu

#### Take Home Message

Despite effective ARVs, HIV persistence in tissue is a major barrier to HIV cure. In this paper, the researchers outlined a detailed study of HIV-infected cells and immune responses in native lymph node tissue environment. They provide critical insight into immune mechanisms impacting HIV persistence and clearance in tissue sanctuary sites. They compared HIV persistence and HIV-specific T cell responses in lymph node biopsies obtained from 14 individuals who initiated therapy in Fiebig stages I/II, 5 persons treated in Fiebig stages III-V and 17 late treated individuals who initiated ART in Fiebig VI and beyond.

Using a multicolor immunofluorescence staining and in-situ hybridization, they detect HIV RNA and/or protein in 12 of 14 Fiebig I/II treated persons on suppressive therapy for 1 to 55 months, and in late treated persons with persistent antigens. CXCR3+ T follicular helper cells harbor the greatest amounts of gag mRNA transcripts.

Notably, HIV specific CD8+ T cells responses are associated with lower HIV antigen burden, suggesting that these responses may contribute to HIV suppression in lymph nodes during therapy. These results reveal HIV persistence despite the initiation of ART in hyperacute infection and highlight the contribution of virus-specific responses to HIV suppression in tissue sanctuaries during suppressive ART.

## SUPERSCIENTIST OF THE MONTH

### Dr Bongive Ndlovu: Immunologist

**SUPERSCIENTISTS AFRICA**

**PERFORIN**  
BONGIVE NDOLOVU  
UNIVERSITY OF KWAZULU-NATAL

BORN: KZN, SOUTH AFRICA  
HARD WORK: 96  
CREATIVITY: 82  
CURIOSITY: 91  
COMMUNICATION: 86

**MY HEROES**  
MY PARENTS

**TOP TIP**  
YOU NEED PERSISTENCE! MAINTAIN A POSITIVE MENTAL ATTITUDE REGARDLESS OF THE SITUATION. RESEARCH CAN TAKE A LONGTIME TO YIELD GOOD RESULTS.

**IMMUNOLOGIST**  
I STUDY ANTIBODIES PRODUCED AGAINST HIV TO UNDERSTAND HOW THEY CAN BE USED FOR PREVENTION OR TREATMENT OF HIV INFECTION.

**SANTHE**

This month, Dr Bongive Ndlovu shared her words of positivity with us. Dr Ndlovu is a Faculty Member at the HIV Pathogenesis Programme and a lecturer in the College of Health Sciences at UKZN. See what she has to say about the dynamic field of infectious disease, and the importance of persistence and mentorship.

**Can you share your perspective on emerging infectious diseases and how the field of immunology and vaccinology is shifting in response? How would you advise young immunologists to position themselves in the face of this evolving landscape?**

Firstly, understand the basics - this is important for understanding any type of disease. A solid understanding of immunology basics will allow you to tackle any type of infection or disease. Next, you have to understand how and where the field is moving; for example, the standard vaccination approach isn't working for HIV, so we have to consider novel approaches such as germline targeting and mRNA platforms. Pay attention to how the field is evolving so you don't get left behind.

**Can you tell us more about your SuperScientist top tip to be persistent and maintain a positive mental attitude regardless of the situation?**

As researchers, sometimes things don't work in our favour, and it's so easy to become discouraged and give up. Research is not a straightforward process - you have to deal with a lot of rejections for publications and grants, which may make you believe that science is not for you. But persistence and a positive mindset, and reminding yourself why you are here doing what you do, will keep you going. One day that paper will be accepted and you will get that grant.

Also, the most important thing is having a good mentor to guide you. Mentorship is what separates successful scientists from those who are struggling. Having someone who is supportive and critiques your work is essential. It's the responsibility of seasoned scientists to pass the mantle to the next generation of young and emerging researchers.

<https://www.superscientists.org/superscientists/bndlovu>

## VACCINATION

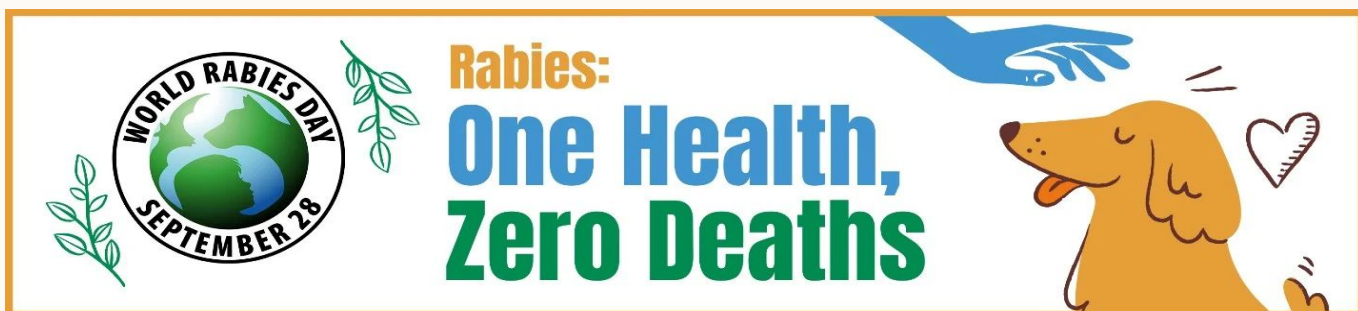
*Our best shot*

October 1885, Dr. Louis Pasteur announced at a scientific conference in France that he had found a way to prevent rabies infection in a person exposed to the disease from a bite of a rabid dog. Since then, millions of lives have been saved through the administration of the rabies vaccine.

### FACTS ABOUT THE RABIES VAX

1. Rabies is a vaccine-preventable viral disease which occurs in more than 150 countries and territories.
2. WHO leads the collective "United Against Rabies" to drive progress towards "Zero human deaths from dog-mediated rabies by 2030".
3. Once clinical symptoms appear, rabies is virtually 100% fatal, making vaccination extremely important.

<https://www.who.int/news-room/fact-sheets/detail/rabies>



### DISEASE OF THE MONTH: RABIES

Rabies is a fatal encephalomyelitis caused by the rabies virus (RABV). The virus is shed in saliva and spread by the bite of an infected animal. Rabies was previously known as hydrophobia. Humans and animals exhibiting signs would not drink water due to inflamed salivary glands, which made swallowing painful causing an unquenchable thirst. About 60 000 human deaths occur globally each year from canine rabies. Majority of human fatalities occur in developing countries with 44% occurring in Africa. It's one of the most neglected diseases, with no treatment for patients exhibiting neurological clinical signs. Clinical signs can be associated with RABV distribution throughout the CNS. Despite the virus crossing species barriers, RABV transmitted by domestic dogs is responsible for >98% of human rabies deaths worldwide.

After RABV exposure in humans, the disease can be prevented by washing and disinfecting wounds, and post-exposure prophylaxis i.e., vaccines and anti-rabies immunoglobulins (RIGs). RIGs are delivered in severely exposed patients and immediately neutralize virion infectivity at the infection site. The vaccine-induced adaptive immune response is not effective at this stage. There are concerns regarding the implementation and uptake of RIGs, including cost, supply shortages, and potential safety issues with blood-derived products. In Africa, RIG is used in <10% of the exposures that would require their administration according to WHO recommendations. Thus, the WHO has encouraged the development of monoclonal antibodies (mAbs) against rabies as an alternative to using RIGs. mAb advantages over RIGs include greater breadth, improved safety, longer shelf life, and lower cost of production. In the context of PEP, two broadly neutralizing mAbs, RVC20 and RVC58 (IgG1), were able to neutralize multiple RABV lineages and non-rabies virus lyssavirus species, and protect Syrian hamsters from a lethal RABV challenge.

After mAbs in rabies prophylaxis showed promising effects, the development of anti-rabies immunotherapy has been described in a preclinical study using mice. This study was based on prolonged and continuous brain infusion of the RVC20 and RVC58 mAbs cocktail combined with peripheral injections. This approach efficiently cured rabid mice even at late infection stages. The partial success of this treatment is from the need for CNS penetration of the mAbs Fcγ receptor associate functions, resulting in reduced CNS viral load during the symptomatic stage, combined with the mAbs potentially modulating CNS inflammation mechanisms. Of note, peripheral administration only, or using Fc abrogated versions of the mAb cocktail had no therapeutic benefit. This is the first in vivo proof of concept for treating symptomatic rabies with mAbs, which could be the premise of a new paradigm shift in treating rabies in humans.

## JOBS & OPPORTUNITIES



### Technical Trainer in Immunology (Full time) - Ampath Trust, Centurion, Gauteng

Purpose of position: To train employees within the Immunology laboratory to ensure theoretical and practical competence and continuous improvement of skills. **Required experience:** 1-2 years working experience as a technologist within the field of Serology or Immunology, 2 years immunology experience as a Technologist/Medical Laboratory Scientist within a pathology laboratory environment, and general on-the-job training experience. **Knowledge requirements:** GCP/GLP; HPCSA regulations; Meditech system; MS Word and MS Excel; Occupational Health and Safety Act (OSHA); Quality Control; relevant syllabi; senior and/or supervisory or managerial experience, subject matter expertise with regards to laboratory procedures and instruments. Applicants must have a South African ID or a valid South African work permit. We do not accept any faxed or emailed CVs. If we have not contacted you within 14 days, please consider your application unsuccessful. Apply on company website.

### Postdoctoral Fellow in Human Immunology - Africa Health Research Institute, Durban, KwaZulu-Natal

Africa Health Research Institute (AHRI) seeks a postdoctoral candidate to work on an NIH-funded project exploring the impact of sex differences in investigating human immune development in the first 1000 days of life. This three-year postdoctoral position in the Leslie Group at AHRI in Durban. This project is part of an international collaborative project of experts in human immunology and infectious disease research based in South Africa (Alasdair Leslie and Veron Ramsuran), the UK (including Phillip Goulder, Paul Klennerman), and the US (Galit Alter). The project will therefore involve regular interactions with this extensive international research network and is an excellent opportunity for an ambitious postdoc looking to develop their career. **Qualifications and experience:** Ph.D. in a relevant subject (immunology, biology, or a related field). Please send a cover letter and CV with the subject listed as 'first 1000 days study' to [education@ahri.org](mailto:education@ahri.org). Early applications are encouraged.

### Full or Associate Professor in Human Genetics and/or Genomics - University of Geneva, Switzerland

Genetics and/or genomics is one of the excellence strategic fields of the Faculty of Medicine. The incumbent will undertake research in this area at the highest national and international levels and secure external funding. He/She will have to develop strong links with clinicians based at the medical genetics service at the University Hospitals of Geneva, as well as with other researchers from Geneva lake area and particularly those located at the Genome Center at Campus Biotech. **Requirements:** Doctorate of Medicine (MD) or equivalent degree or Ph.D. **Closing date: 15th October 2022.** Additional information may be obtained from: [viviane.burghardt@unige.ch](mailto:viviane.burghardt@unige.ch)

### Computational Biology Research Fellow - Harvard Medical School, Boston, USA

A research fellow position in human immunology research with a focus on the analysis of complex omics data sets from viral infections in humans is available in the laboratory of Georg Lauer, MD PhD at Massachusetts General Hospital and Harvard Medical School. Applicants for this computational biology position should hold a PhD and/or MD with demonstrable scientific achievements, but candidates with a master's degree in biostatistics, statistics, computational biology or a related field will also be considered. Most important is the desire and ability to unravel the complexities of the immune response in human disease. If desired, candidates can also acquire additional wet lab expertise. Interested candidates should email a cover letter, CV, and 3 references to [glauer@mgh.harvard.edu](mailto:glauer@mgh.harvard.edu).

### Immunology Research Fellow - Harvard Medical School, Boston, USA

A research fellow position in human immunology research with a focus on T-cell immunology of viral infections in humans is available in the laboratory of Georg Lauer, MD PhD at Massachusetts General Hospital and Harvard Medical School. Candidates should hold a PhD and/or MD with demonstrable scientific achievements and should be excited about generating basic immunological knowledge directly in human disease. Experience in experimental immunology is advantageous, but not a requirement. Fluency in English is a must. Interested candidates should email a cover letter, CV, and 3 references to [glauer@mgh.harvard.edu](mailto:glauer@mgh.harvard.edu).

### Lecturer in Immunology and Virology - University of Hertfordshire, Hatfield, United Kingdom

The Bioscience, Agriculture, Nutrition & Dietetics (BAND) team is part of the Department of Clinical, Pharmaceutical, and Biological Sciences which focuses on some of life sciences' most exciting and rapidly evolving disciplines. The Department is active in research, consultancy and training with strong links to education and commerce worldwide. The appointed lecturer will join a friendly, busy, committed and enthusiastic team, benefit from a supportive working environment, access study leave and funding for continuing professional development and access exciting research opportunities. Contact Details/Informal Enquiries: Please contact Dr Simon Baines, BAND Subject Group Leader at [s.baines2@herts.ac.uk](mailto:s.baines2@herts.ac.uk)



## RESOURCES FOR IMMUNOLOGY LOVERS

<https://www.faisafrica.com>  
<https://immunopaedia.org>

<https://iuis.org>  
<https://www.stemcell.com/>

Socials to  
follow 

@AHRI\_News  
@DrPaulOffit  
@Innov\_Medicine




## CONTACT US!

If you have any suggestions or feedback to improve this newsletter, feel free to contact us! Please send us your recent publications so we can showcase them in our Community Corner. If you are hiring/recruiting, we would be more than happy to advertise for you in the Newsletter and on our social media platforms. You can email the editors at [newsletter@saimmunology.org.za](mailto:newsletter@saimmunology.org.za) by the 20<sup>th</sup> of each month to be featured in our next newsletter.



## IMPORTANT LINKS

To renew your SAIS Membership please visit: <https://saimmunology.org.za/membership.htm>

 @SAImmunology  South African Immunology Society (SAIS)  @SAImmunologySociety

With regards,  
The SAIS Newsletter Editorial Team

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