



South African Immunology Society

NEWSLETTER

25 November 2022

Dear SAIS Members,

Welcome to the November newsletter. As this year comes to an end, we would like to thank all our readers for your continued support over the past year. We will be pausing our monthly Newsletters until February 2023. Until then, we wish you peace, joy and prosperity in the coming year.

Message from the President



It has been an exciting and productive year for SAIS and we can be very proud of what we have accomplished. We have reinvented ourselves as a society. By reconsidering our *raison d'être*, we have reconceived our vision and mission, adopted a new constitution and a new logo, successfully completed our registration as a non-profit organisation (NPO), and are getting ready to apply for public benefit organisation (PBO) status. This is a major milestone and gamechanger for SAIS since this will improve our ability to attract funding and help fulfil our vision of "Immunology in action, that makes a visible difference". Thanks to a passionate and tireless conference committee under the leadership of Catherine Worsley, SAIS hosted its first in-person conference since the start of the COVID-19 pandemic. The conference was held in the historic Kromdraai valley, the presentations a testimony to the high level of science practiced in South Africa, and the corridor conversations a reminder of our interconnectedness as scientists and people.

The coming year promises to have as much, if not more, excitement in store. We look forward to welcoming our veterinary colleagues on board; exploring the option of uniting with like-minded societies as a federation; double our efforts to get Immunology registered as a post-graduate qualification; and of course, join our colleagues around the world at the IUIS 2023 congress that will be held in Cape Town from 27 November to 2 December 2023. None of this would have, nor will be, possible without the enthusiasm and support of the executive committee, our sponsors, and members who believe in our vision. I would like to thank all of you and wish you a blessed festive season.

Professor Theresa Rossouw
MBChB, MPH, DPhil, PhD

Save the Date!



WHERE IMMUNOLOGISTS MEET

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

Supported by



IUIS2023.org

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

Upcoming Keystone Symposia




KEYSTONE SYMPOSIA

Keystone Symposia Meeting

Inborn Errors of Immunity: From Genetics to Basic Immunological Principles to Therapy

Scientific Organizers: Dusan Bogunovic, Isabelle Meyts and Steven M. Holland
Meeting Details: December 5-7, 2022 | Virtual eSymposia



KEYSTONE SYMPOSIA

Joint with Vector Biology: Emerging Concepts and Novel Technologies

Skin-Immune Crosstalk

Scientific Organizers: Anna Di Nardo, Daniel H. Kaplan and Nathalie Boulanger
Meeting Details: February 13-16, 2023 | Beaver Run Conference Center, Breckenridge, CO, USA



KEYSTONE SYMPOSIA

Joint with Multispecific Immune Cell Engagers for Cancer Immunotherapy

Next Generation Antibody Therapeutics: From Discovery to Patient

Scientific Organizers: Pamela M. Holland and James A. Wells
Meeting Details: February 19-22, 2023 | Fairmont Banff Springs, Banff, AB, Canada

Please visit <https://www.keystonesymposia.org/> for more information and registration

DENGUE ACADEMY MASTERCLASS

Dengue Prevention:
**Translating Knowledge
into Action**

12 January 2023, 1:00PM CET



For more information and to register, please visit <https://isid.org/dengue-academy-masterclass-from-takeda/>

Register Now for free

PUBLICATIONS & INTERESTING READS

A Good Catch

<https://www.nejm.org/doi/full/10.1056/NEJMp2213554>

Building a Resilient Scientific Network for COVID-19 and Beyond

https://journals.asm.org/doi/full/10.1128/mbio.02223-22?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Aacrossref.org

Comprehensive overview of autoantibody isotype and subclass distribution

[https://www.jacionline.org/article/S0091-6749\(22\)00845-4/fulltext](https://www.jacionline.org/article/S0091-6749(22)00845-4/fulltext)

Iron deficiency anaemia—an ongoing challenge

[https://www.thelancet.com/journals/lanhae/article/PIIS2352-3026\(22\)00325-8/fulltext](https://www.thelancet.com/journals/lanhae/article/PIIS2352-3026(22)00325-8/fulltext)

Monkeypox — A Sobering Sentinel for Pandemic Preparedness and Sexual Health System Capacity

<https://www.nejm.org/doi/full/10.1056/NEJMp2212262>

Monkeypox vaccination—an opportunity for HIV prevention

[https://www.thelancet.com/journals/lanhiv/article/PIIS2352-3018\(22\)00292-2/fulltext](https://www.thelancet.com/journals/lanhiv/article/PIIS2352-3018(22)00292-2/fulltext)

Publicly available cytokine data: Limitations and opportunities

[https://www.jacionline.org/article/S0091-6749\(22\)01054-5/fulltext](https://www.jacionline.org/article/S0091-6749(22)01054-5/fulltext)

SARS-CoV-2 dual infection with Delta and Omicron variants in an immunocompetent host: a case report

[https://www.ijidonline.com/article/S1201-9712\(22\)00497-0/fulltext](https://www.ijidonline.com/article/S1201-9712(22)00497-0/fulltext)

Should unrelated haematopoietic progenitor cell donors be tested for CD36

[https://www.thelancet.com/journals/lanhae/article/PIIS2352-3026\(22\)00296-4/fulltext](https://www.thelancet.com/journals/lanhae/article/PIIS2352-3026(22)00296-4/fulltext)

Simultaneous co-infection with Omicron (B.1.1.529) and Delta (21A/478K.V1) SARS-CoV-2 variants confirmed by whole genome sequencing

[https://www.ijidonline.com/article/S1201-9712\(22\)00501-X/fulltext](https://www.ijidonline.com/article/S1201-9712(22)00501-X/fulltext)

Spike-specific T-cell responses in patients with COVID-19 successfully treated with neutralizing monoclonal antibodies against SARS-CoV-2

[https://www.ijidonline.com/article/S1201-9712\(22\)00515-X/fulltext](https://www.ijidonline.com/article/S1201-9712(22)00515-X/fulltext)

Survival and Predictors of Mortality among Adults Initiating Highly Active Antiretroviral Therapy in Ethiopia: A Retrospective Cohort Study (2007-2019)

<https://www.hindawi.com/journals/bmri/2022/5884845/>

The first case of meningitis associated with SARS-CoV-2 BA.2 variant infection with persistent viremia

[https://www.ijidonline.com/article/S1201-9712\(22\)00510-0/fulltext](https://www.ijidonline.com/article/S1201-9712(22)00510-0/fulltext)

DISEASE OF THE MONTH: HIV/AIDS

Enhanced neutralization potency of an identical HIV neutralizing antibody expressed as different isotypes is achieved through genetically distinct mechanisms

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9526727/>

Strategies for HIV-1 vaccines that induce broadly neutralizing antibodies

<https://www.nature.com/articles/s41577-022-00753-w>





Date: Thursday, 1 December 2022
Time: 14:30 to 16:00
Venue: Zoom

NRF SCIENCE FOR SOCIETY LECTURE INVITATION

WORLD AIDS DAY 2022

40+ years on: Reflections on the New Landscape of the HIV/AIDS Pandemic in South Africa

SPEAKERS



Professor Linda-Gail Bekker
 Professor of Medicine and Director of the Desmond Tutu HIV Centre, University of Cape Town



Professor Sanyu Mojola
 Professor of Sociology and Public Affairs and Director of the Office of Population Research, Princeton University



Professor Penny Moore
 DSI-NRF South African Research Chair of Virus-Host Dynamics and Director of the Antibody Immunity Research Unit, SA Medical Research Council



Ms Zakithi Mkhize
 PhD Candidate in Virology at the HIV Pathogenesis Program, University of KwaZulu-Natal and PhD fellow at SANTHE

Register to attend this lecture:

<https://zoom.us/join/zoom/register/tJEscuuupjgrGNY6MshJjtFb8hEa2LZ-ijk>

The lecture will also be livestreamed on the NRF Facebook page



For more information and registration visit <https://www.nrf.ac.za/world-aids-day-2022/>

World Health Organization

People living with HIV are at a high risk of COVID-19 complications and must have access to COVID-19 vaccinations and services

End inequalities. End AIDS.

World Health Organization

Everyone, irrespective of their ethnicity, gender, sexual orientation, and socio-economic background must have equitable access to HIV services

End inequalities. End AIDS.

World AIDS Day
<https://www.gov.za/world-aids-day-1>

COMMUNITY CORNER

Showcasing the bright minds of SAIS



HIV-associated thrombotic thrombocytopenic purpura (HIV-TTP): A practical guide and review of the literature

Susan Louw, Barry Frank Jacobson, Tracey Monica Wiggill, Zivanai Chapanduka, **Elizabeth Sarah Mayne**

In this study, the authors performed a systematic review of the published literature regarding HIV-associated thrombotic thrombocytopenic purpura (TTP). TTP a serious thrombotic microangiopathy (TMA) is prevalent in the South African HIV-infected population. The exact pathogenesis of HIV-associated TTP (HIV-TTP) is however still unclear with diagnostic and therapeutic inconsistencies.

Results: HIV-TTP is still associated with significant morbidity and mortality in Africa despite the availability of anti-retroviral therapy (ART). Diagnosis of HIV-TTP requires the presence of a micro-angiopathic haemolytic anaemia with significant red blood cell schistocytes and thrombocytopenia in the absence of another TMA but background activation of the coagulation system and inflammation in HIV infected people can result in diagnostic ambiguity. Plasma therapy in the form of infusion or exchange is successful but expensive, associated with side-effects and not widely available. Adjuvant immunosuppression therapy may of benefit in patients with HIV-TTP and ART must always be optimised. Endothelial dysfunction caused by chronic inflammation and complement activation most likely contributes to the development of HIV-TTP.

Conclusion: The role of adjuvant immunomodulating therapy, the therapeutic targets and pathogenic contribution from endothelial dysfunction in HIV-TTP requires further investigation.

SUPERSCIENTIST OF THE MONTH

Dr Omolara Baiyegunhi: Immunologist

SUPERSCIENTISTS
AFRICA
OPTICA
OMOLARA BAIYEGUNHI
AFRICA HEALTH RESEARCH INSTITUTE
BORN: KADUNA, NIGERIA
HARD WORK: 94
CREATIVITY: 93
CURIOSITY: 91
COMMUNICATION: 89
MY HEROES
MY FATHER, I'VE LEARNED SO MUCH FROM HIM
TOP TIP
BE INQUISITIVE. ASKING THE RIGHT QUESTIONS CAN LEAD YOU TO A NEW DISCOVERY OR INNOVATION. RUN TOWARDS OPPORTUNITIES AND PUSH BOUNDARIES!
IMMUNOLOGIST
I'M WORKING TO FIND OUT WHY AN HIV VIRUS CAN ESTABLISH AN INFECTION AND REPLICATE. THIS RESEARCH COULD LEAD TO AN HIV VACCINE.
SANTHE

This month, Dr Omolara Baiyegunhi spoke to us about the importance of mentorship and investing in young scientists. Dr Baiyegunhi is a post-doctoral fellow at the Africa Health Research Institute, KZN.

Can you tell our readers a little bit about yourself and why you love immunology?

Growing up, I often witnessed the stigma associated with HIV, and so I've always wanted to pursue HIV research and contribute towards solving this problem. My PhD project focused on T follicular helper cells and HIV persistence in lymph nodes. Currently in my post-doc, I want to broaden my horizons and look at the interface between virology and immunology.

I am fascinated by the intricacy of the immune system and how its many components work together. Immunology studies are perpetual, since it's a complex system that gives us the opportunity to learn more and more each day.

You love mentoring, capacity building, and helping people up - do you think mentoring programmes for young African scientists are well established? If not, how can we address that?

Five to ten years ago there weren't many well-established mentoring programmes, but recently I've seen an increasing amount of programmes focused towards building young scientists. There is a rising awareness of the need to mentor and grow upcoming scientists, and moving forward, organizations should be excited to embrace these initiatives. I myself recently dipped into the world of capacity building with the strategic focus of acquiring these skills, understanding that it is a continuous process for my growth, and also something that will feed my passion for mentorship. My strategy is to learn, adopt, and share.

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

What advice would you like to share with both emerging and established researchers?

To the emerging researchers, always look for solutions to problems. If you're going through a problem and you keep quiet about it, there will be no solution. So, the first thing to tell yourself is "There is a solution somewhere; I just don't know it yet." Find a way to that solution. Don't give up, reach out to people, put yourself out there, and you will find the answer.

To the more established researchers, please let down the ladder and help others up. It's important to invest downwards so that we can grow a critical mass of scientists who can tackle the many problems we face in Africa. Let's keep looking forward and doing the best we can do, while also pulling others along with us on our journey to success.

VACCINATION

Our best shot

Dr Edward Jenner, the “Father of Vaccination”, was a British physician and scientist who began the era of vaccination, including creating the world’s first vaccine. Remember: it’s not vaccines that save lives, it’s *vaccinations*. In this newsletter edition, we hope the resources provided will shed light on various misconceptions about vaccines, and empower you and those around you to take your health into your own hands.



HIV Vaccine - Myth and Facts

Myth: A person must be HIV-positive to be in an HIV vaccine study.

Fact: This is false. The vaccines being tested by the HVTN are preventive vaccines.

Myth: An HIV vaccine is unnecessary because AIDS is easily treated and controlled, just like diabetes.

Fact: While treatment for HIV and AIDS has dramatically improved over the last 30 years, it is no substitute for prevention.

Myth: Vaccine researchers want study participants to practice unsafe behaviours to see whether the vaccine works.

Fact: This is absolutely false! The safety of study participants is the top priority of HIV vaccine researchers and the staff at our study sites.

Myth: The search for an HIV vaccine has been going on for a long time and it just isn’t possible to find one that works.

Fact: The science of HIV-vaccine development is challenging, but scientific understanding continues to improve all the time.

<https://www.hvtn.org/hiv-study-basics/hiv-vaccine-myths-and-facts.html>

HIV/AIDS

Monoclonal antibodies (mAbs) are proteins derived from B-cells that neutralize pathogens through the antigen-binding Fab region- variable heavy and light chain regions, constant heavy chain 1 (CH1) and constant light chain (CL) regions. They recruit innate immune cell functions through Fc binding to an Fc receptor (FcR). The Fc region structurally differs by isotype, and this is a major modulator of Fc effector function. While the role of isotype in Fc effector function is well known, the impact of the Fc on neutralization and binding capacity of antibodies has only recently gained attention. Significant sequence variation in both the hinge region and CH1 regions differentiates the constant regions of various isotypes. Both these regions have been implicated in influencing neutralization potency.

An IgA1 mAb, CAP88-CH06, potently neutralizes early autologous viruses but is strain-specific and does not neutralize heterologous viruses. When CAP88-CH06 was engineered as an IgG1, it showed reduced potency against autologous viruses, while an IgG3 engineered form exhibited high potency, comparable to the original IgA1 isotype. The CAP88-CH06 IgG3 mAb has an extended hinge region driving the enhanced neutralization potency of this isotype, while the CH1 region drives neutralization potency of the IgA1 isotype. This demonstrates various ways of achieving increased neutralization within a single antibody. This observed neutralization potency variation that is mediated by the Fc region is not unique to the CAP88 CH06 antibody since numerous other studies have reported the influence of the Fc region on neutralization and binding on anti-HIV-1 antibodies.

Since it is a challenge to develop potent therapeutic mAbs with longer half-lives, as antibodies are costly, novel approaches to mAb engineering are being investigated. Manipulating the natural landscape of class-switching possibly increases antibody potency and breadth. Adjuvants which promote class-switching may be beneficial in inducing potent neutralizing responses in vaccinees and should be investigated further in the context of an HIV vaccine.

Full article available in “Publications & Interesting Reads” section.



JOBS & OPPORTUNITIES

Assistant Professor Position in Genetics - Rutgers University - Department of Genetics, New Jersey, USA

Rutgers University hosts one of the most diverse student bodies in the United States. We are committed to diversity, equity, and inclusion, and we especially encourage applications from groups underrepresented in STEM. Candidates will have a Ph.D. in genetics or a closely related field and/or M.D., a record of significant research, and be expected to teach in cancer, genetics, or informatics. Applicants should submit a detailed CV, a 2-3 page research and teaching statement, contact information for three professional references, and a separate statement describing how your research, teaching, and service will contribute to Rutgers' commitment to enhancing diversity and inclusiveness. Review of applications will begin on October 15th and continue until the position is filled. Submit at <https://jobs.rutgers.edu/postings/179660>

Lecturer in Immunology - Keele University - School of Life Sciences, Faculty of Natural Sciences, Keele, England

As part of the continued development of The School of Life Sciences we are seeking to appoint a Lecturer in Immunology. This post aims to enhance the School's Biomedical and infectious disease teaching profile and develop undergraduate and postgraduate teaching and supervision. Specifically, you will engage in, and publish, international leading research, generate research income, successfully supervise undergraduate and postgraduate students and undertake teaching responsibilities relevant to Bioscience programmes across the School.

You should have a Ph.D. in any area of infectious diseases, we are particularly looking for an area of study which compliments the research profile of the School of Life Sciences. Applications are invited from candidates with expertise in any area of Immunology but we would strongly welcome applicants who compliment our current research areas e.g. malaria, leishmaniasis, African trypanosomiasis, arboviruses and/or research areas that can strengthen or develop cross theme or disciplinary research opportunities with the School of Medicine and/or Harper-Keele Veterinary School. Further information can be found at <https://www.keele.ac.uk/about/>

Postdoctoral Researcher in Immunology - University of Oxford - Wellcome Centre Human Genetics, England

We are seeking to appoint a Postdoctoral Researcher, within the recently established Pandemic Sciences Institute who will join Professor Miles Carroll's group to research the immunological and pathological response to SARS-CoV-2 infection and vaccination. It is essential that you hold a PhD/ DPhil (or close to completion) in immunology, virology, vaccine field or another relevant subject, and have prior laboratory experience of immunological techniques to assess immune responses to viruses (preferably SARS-CoV-2 & filoviruses) in human and NHP samples. Ability to research complex issues and interpret, analyse, and present scientific data and write reports and publications is essential, and you will have an excellent communication, interpersonal skills, and ability to work effectively with others.

Applications for this vacancy are to be made online and you will be required to upload a supporting statement and CV as part of your online application. Your supporting statement must explain how you meet each of the selection criteria for the post using examples of your skills and experience. Please direct all correspondence to recruitment@ndm.ox.ac.uk

Postdoctoral Researcher in Translational Research Immunology - University of Oxford - Nuffield Department of Surgical Sciences, John Radcliffe Hospital, England

This position offers a unique opportunity to contribute to the work of an internationally recognised team of scientists and clinicians within the Translational Research Immunology Group (TRIG). TRIG has extensive experience in studying and translating regulatory cell therapy from the bench to the bedside as new treatments for transplant recipients. Breg have been shown to have key roles in defining outcomes in organ transplantation and autoimmune disease. TRIG has developed new methods of expanding human Breg in vitro, to enable in depth study and therapeutic development.

You will hold a PhD (or be near to completion: thesis submitted) in a relevant area at the time of application. Experience with genetic editing techniques including vector manufacture, viral transfection, PCR and sequencing is essential. You will have demonstrated the ability to work independently within projects, with the ability to communicate results clearly and succinctly in presentations, manuscripts and grant applications. Experience with lentiviral platforms, CRISPR/Cas9 including homology directed repair as methods of gene delivery, and, ideally, flow cytometry are desirable. If you would like to discuss this role, please contact the HR administrator at recruitment@nds.ox.ac.uk

RESOURCES FOR IMMUNOLOGY LOVERS

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

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

Socials to
follow



@LaraBaiyegunhi
 @JPWeiland
 @ProfGuyRichards

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 by the 20th 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

Dr. Clement Gascua
 Editor

Sashkia Balla
 Co-Editor

Thanusha Pillay
 Co-Editor

ENJOY THE FESTIVE SEASON!

