

NEWSLETTER

SOUTH AFRICAN IMMUNOLOGY SOCIETY

Day of Immunology 29 April 2025

Regulatory T Cells:
Guardians of Immune
Balance

FEATURES

Anti-Malarial Drug Resistance - Why
We Are Losing Ground

Beyond Genetics: Understanding
Acquired Haemophilia

Faces of FAIS: Asma Gati

Rift Valley Fever Virus: A Recurring
Threat

...and much more!

AWARENESS

World Health Day
7 April 2026

World Haemophilia Day
17 April 2026

World Malaria Day
25 April 2026

World Primary
Immunodeficiency Week
22-29 April 2026

World Immunization Week
24-30 April 2026

SAVE THE DATE

IUIS Flagship Webinar:
International Day of Immunology
29 April 2026

SAIS African-Based Immunology
Seminar: Prof Anton van der
Merwe
30 April 2026

Health Effects of Vaccines: From
Genomics to Policy
11-13 May 2026

MESSAGE FROM THE EDITORS

Dear SAIS members,

Welcome to the April edition of the SAIS Newsletter!

This month, we bring you a diverse array of immunology content, beginning with an impressive compilation of funding calls, conferences, and webinars. We also highlight several important awareness days in April, including **Day of Immunology** and World Immunization Week.

In *The Hot Zone*, we explore the latest developments in the fight against antimalarial drug resistance, emphasizing the urgent need for continued research into novel treatment strategies.

Our *Disease of the Month* section provides insight into acquired haemophilia, while also highlighting World Haemophilia Day on 17 April. This serves as an important reminder of the need to raise awareness and improve education around bleeding disorders to ensure timely diagnosis and better patient outcomes.

In *Community Corner*, we showcase outstanding research conducted by SAIS members on the humoral and cellular immunogenicity of COVID-19 vaccine boosters in participants with advanced HIV disease.

Rift Valley Fever Virus (RVFV) takes centre stage in our *One Health Immunology* section, where we examine the virus through a One Health lens, including the current vaccine landscape and future directions for RVFV vaccine development.

This edition also celebrates trailblazers in the field of immunology. Our *Faces of FAIS* feature highlights **Prof Asma Gati**, Vice President for Scientific Research at the University of Tunis El Manar, and her impactful work in cancer immunology and translational research. In *Women in Science*, we feature **Dr Elizabeth Namugaya Igaga**, a distinguished Ugandan anaesthesiologist, intensive care physician, and global health leader.

Finally, we invite you to explore the local and international jobs, opportunities, funding calls, and conferences listed in this issue to stay informed about the latest opportunities and deadlines.

A heartfelt thank you to all of our contributors who made this edition possible. We hope this issue sparks curiosity and conversations within our community. As always, we'd love to hear from you — let us know what you think at newsletter@saimmunology.org.za!



Happy reading!

With warm regards,
Shanerie Fischart
On behalf of the SAIS newsletter editorial team



CONTACT US!



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South African Immunology
Society (SAIS)



[@SAImmunologySociety](https://www.facebook.com/SAlmmunologySociety)



[@SAImmunology](https://twitter.com/SAlmmunology)

FUNDING CALLS, CONFERENCES & WEBINARS

Join
the global
movement on

APRIL 29TH
3pm - 6pm CEST

**International Day of
Immunology 2026**

Get involved. Make an impact. Win a Day of Immunology Award!
IUIS and EFIS will recognize outstanding campaigns with six awards.

#RegulatoryTCell
#DayofImmunology



IUIS



EFIS

Register now!



ISESSAH 2026

International Society for Economics and Social Sciences of Animal Health



Shaping the Future of Animal Health:
Economic and Social Strategies to Tackle
One Health, Biosecurity, Animal Welfare,
and Climate Challenges

Bangkok, Thailand

Pre-conference workshop: 26 August 2026
Conference: 27 – 28 August 2026



Abstract submission deadline | 15 April 2026



FUNDING CALLS, CONFERENCES & WEBINARS

JOIN US

An African-Based Immunology Seminar Series

30 April 2026

16:00–17:00 SAST

SCAN QR CODE
TO REGISTER



The importance of size in cell-cell immune recognition



Prof Anton van der Merwe

Professor of Molecular Immunology,
University of Oxford.

Anton van der Merwe is a Professor of Molecular Immunology at the University of Oxford. After completing his Medical degree in UCT, he moved to Sir William Dunn School of Pathology at the University of Oxford in 1991. He is best known for his discovery, with Simon Davis, of the kinetic-segregation mechanism of T cell receptor (TCR) triggering, which is exploited by many other immunoreceptors. Other major discoveries include the importance of size-matching between the receptor/ligand complexes mediating immune recognition. These discoveries have influenced the development of novel therapies (e.g. bispecific reagents and CAR T cells) that exploit immune recognition. He and Omer Dushek have cofounded a company, MatchBio, to commercialise these discoveries.



FUNDING CALLS, CONFERENCES & WEBINARS

THE 109TH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS



IMMUNOLOGY

APRIL 15–19 | 2026 | BOSTON, MA



Register now!



Joint with: **Decoding HIV Persistence: Strategies for Curing HIV Infection**

HIV Vaccines: Intersections of Basic and Clinical Science

Apr 16–19, 2026 | Beaver Run Conference Center, Breckenridge, CO, United States

Scientific Organizers: Penny L. Moore, Marit van Gils, and Kevin O. Saunders

Register now!



VIROLOGY Africa Congress 2026

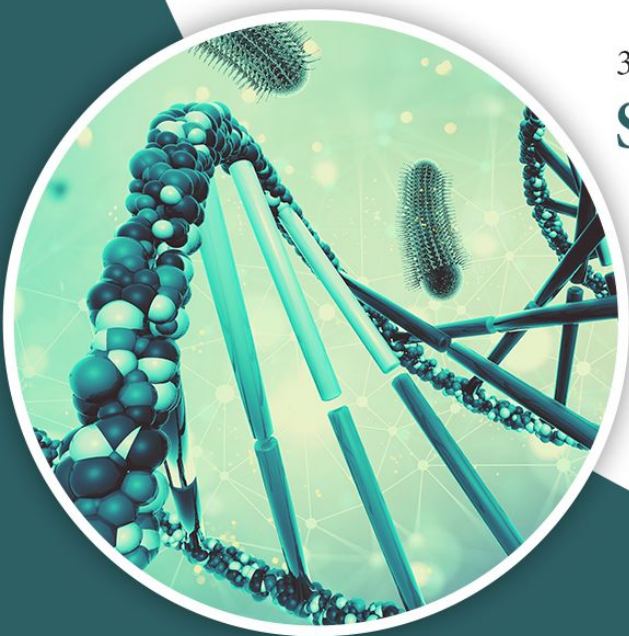
Skukuza
Kruger National Park
Mpumalanga
15 - 18 September 2026

Virology Without Borders: Integrating Human, Animal and Plant Health in Africa

Registration now open!



FUNDING CALLS, CONFERENCES & WEBINARS



Structural Biology Summit
OCT 26-27, 2026 | SWITZERLAND

3rd Global Summit on

Structural Biology and Protein Science

October 26-27, 2026

IntercityHotel Zürich Airport, Switzerland

Theme: Emerging Directions in Biomolecular Structure Research

Abstract Submission Open Now

<https://structuralbiology.c2pforum.com/>

Mid-term registration deadline | 30 April 2026



22ND BIENNIAL MEETING OF THE EUROPEAN SOCIETY FOR IMMUNODEFICIENCIES

MAASTRICHT, THE NETHERLANDS 14-17
OCTOBER 2026



International Nursing Group



for Immunodeficiencies

Abstract submission deadline | 5 May 2026



WCI 2026
September, 8-12
Foz do Iguaçu, Brazil

17th World Congress of Inflammation – IAIS

11th Inflamm – Brazilian Society of Inflammation

50th Meeting of the Brazilian Society of Immunology – ImmunoFoz

Abstract submission deadline | 11 May 2026



hybrid conference

Health Effects of Vaccines: From Genomics to Policy

11–13 May 2026 | Hinxton Hall Conference Centre
Wellcome Genome Campus, UK or online

Overall Health Effects of Vaccines: From Genomics to Policy, is a global meeting exploring the broader, non-specific effects of vaccines.

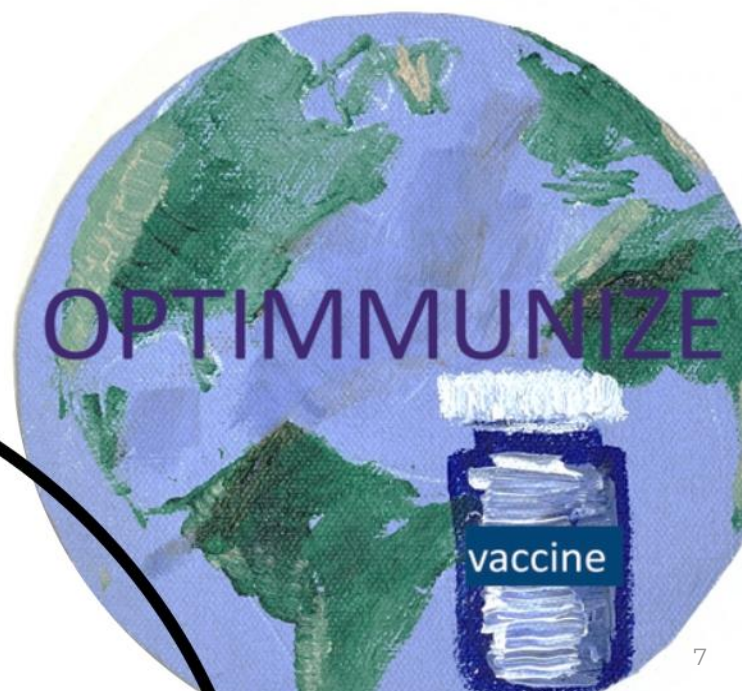
This three-day event will gather researchers, clinicians, and policymakers to share new findings, discuss implications for safety and programme design, and strengthen global collaboration. With a focus on engaging early-career researchers and improving communication in the context of vaccine scepticism, the meeting will help shape the future of this rapidly developing field.

Sessions will include:

- The importance of genomics for immunomodulatory effects of vaccines
- Immunobiology of vaccines
- Vaccine safety
- Immunomodulatory effects of vaccines over the life course
- Vaccine immunomodulatory effects prescribing vaccine policies
- Panel discussions: From genomics to policy - how does public health integrate findings from genomics?
- Workshops: How to talk about vaccines and how to involve young researchers in studying vaccines, in the era of vaccine scepticism



SCAN ME



FUNDING CALLS, CONFERENCES & WEBINARS

DiAH
CONFERENCE

19-21 May 2026
Bruges (Belgium)



Registration information: fien@medicongress.com ▶



THE UNIVERSITY OF THE WEST INDIES
AT ST. AUGUSTINE, TRINIDAD AND TOBAGO



4th Joint AITVM-STVM Conference under the theme
Resilient Futures in Tropical Veterinary Medicine

23-26 June 2026

Early bird registration deadline | 30 April 2026 ▶



21ST INTERNATIONAL
CONGRESS ON INFECTIOUS
DISEASES (ICID) 2026

10-13 NOV, MADRID, SPAIN

Abstract submission deadline | 28 April 2026 ▶



IC^{PA}XVI
Montréal 2026

August 16-21

Early bird registration deadline | 3 May 2026 ▶

FUNDING CALLS, CONFERENCES & WEBINARS



8
APRIL
2026
LYON

OSH FACTORY

Building projects together for One Sustainable Health for All!

TOGETHER FOR A HEALTHY PLANET & HEALTHY LIFE!



Organised by:



Webinar | 8 April 2026 08:30-18:00 (GMT+1)



ONE SUSTAINABLE HEALTH SUMMIT

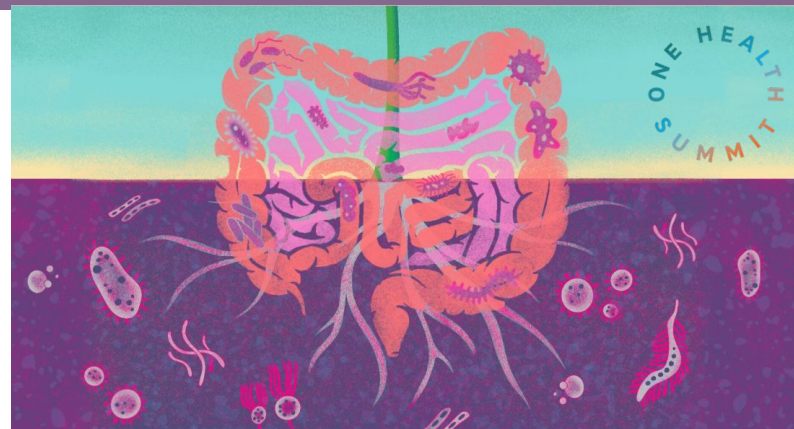
© Quang Nguyen Vinh

From Vision to Action:
Implementing One Health in Practice

Webinar | 1 April 2026 12:00 - 13:30 (CET)



Microbiomes at the Heart of One Health: From Soil to Plate and Beyond



ONE SUSTAINABLE HEALTH SUMMIT

Webinar | 8 April 2026 10:00-12:30 (CET)



COURSE . ANTIMICROBIAL RESISTANCE

7th Antimicrobial Resistance Course (AMR): a One Health challenge

Organized by the Mériem Foundation

November 9 - 13, 2026

Les Pensières Center for Global Health,
Veyrier-du-Lac . France

Course application deadline | 18 May 2026



FUNDING CALLS, CONFERENCES & WEBINARS



www.flowsols.com

4th Annual Online Certificate Course in Flow Cytometry

Principles, Experimental Designing & Data Analysis

25th April – 25th May, 2026

(7.00 pm - 9.00 pm IST, 8.30 am - 10.30 am CST, USA)

Course Overview & Objective

Flow Cytometry is one of the most powerful single cell analysis tool used in biological research and clinical diagnostics. Using this state-of-the art technology, we can study and quantify various parameters of the cells or cell like particles in heterogeneous samples. This 1-month online course will cover the fundamentals and provide a deeper understanding of the important concepts of flow cytometry. Through lectures and practical activities, participants will learn the core concepts in experimental designing, data acquisition, data analysis & presentation and troubleshooting. We will cover the theory combining with the practical sessions of the most frequent assays as part of our course curriculum. This in-depth 1-month course will enhance your flow cytometry knowledge and skills preparing you for any current or future flow cytometry jobs and projects.

Highlights

- Basics of Flow Cytometry
- Full Spectrum Flow Cytometry
- Applications of Flow Cytometry
- Know Your Cytometer (KYC)
- Machine Setup, QC, Voltage/Gain Settings etc
- Sample Preparation, Experimental Designing, Controls
- Panel Designing, Spectral Overlap & Compensation/Unmixing
- Cell Sorting
- Intracellular Cytokine Staining (ICS)
- Data Analysis and Presentation (Basic & High Dimensional)
- Live Demonstration of Instrument Setup & Data Acquisition
- Q & A, Troubleshooting, Self Assessment
- Sessions Recordings will be Available to Watch
- Reading Material will be Provided
- E-certificate for All Registered Participants

Special Tutorials

* Artificial Intelligence (AI) & Machine Learning (ML) in Flow Cytometry * Career Options in Flow Cytometry

Speakers



Dr. Hemant Agrawal
Director
Flowcytometry Solutions
India



Dr. Rui Gardner
Head,
Flow Cytometry
MSKCC, NYC, USA



Dr. Andrea Wang
Co-Founder & CEO
AHEAD MEDICINE
USA



Prof. Rashmi Kaul
Professor of Immunology
Dept. Biochem. & Microbiol
OSU-CHS, USA



Dr. Diana B. Escobar
Scientific Director
Cytek Bio.
USA



Dr. Alfonso Blanco
Director, Flow Cytometry
University College Dublin
Ireland



Dr. Paul Hutchinson
Incharge
Flow Cytometry Facility
NUS, Singapore



Dr. Andrea Valle
Product Manager
De Novo Software
USA

Who Can Attend

- Student, Lab Technologist, Researcher, Postdoc, Faculty, Doctor, Industry Professional, etc
- This online course is designed for students, researchers, doctors and technical people at any step of their career and will cover the important concepts and principles of flow cytometry
- Participants from academic/non-academic institutions from all over the world are encouraged to apply

THE HOTZONE

ANTI-MALARIAL DRUG RESISTANCE - WHY WE ARE LOSING GROUND

By D. Mhlanga

Malaria is a life-threatening disease that is caused by *Plasmodium* parasites and is transmitted to humans by female *Anopheles* mosquitoes. The disease is preventable and curable, but it still remains a serious global health challenge. **Despite huge advancements in the development of antimalarial drugs, and a continued movement towards global elimination goals, there was an overall increase in global malaria cases from 226 million in 2015 to 282 million in 2024.**



<https://www.cdc.gov/mosquitoes/>

Figure 1: Female anopheles mosquito

The incidence rate also increased from 59 to 64 per 1,000 in the same time period, missing the target of a 40 % reduction by 2020 and a 75 % reduction by 2025. Africa carries a disproportionately high share of the global malaria burden, with the WHO Africa Region accounting for 95 % of all malaria cases and 95 % of malaria deaths. Children under five account for about 75 % of all malaria deaths on the continent.

Populations that are most vulnerable to severe malaria symptoms are infants, children under five, pregnant women and girls, travellers, and people living with HIV. Early diagnosis and treatment of malaria reduces disease, prevents deaths and contributes to reducing transmission. The type of medication used for treatment is informed by a comprehensive assessment of the patient and the specific nature of their infection, primarily focusing on the parasite species, severity of the disease, and geographical drug resistance patterns. Severe malaria that is caused by *P. falciparum* is almost always fatal if untreated, since the parasite causes infected red blood cells to stick to blood vessel walls, leading to widespread microvascular obstruction, organ failure, and severe metabolic crisis. Treatment of malaria generally requires the use of a derivative of artemisinin in combination with a complementary drug to ensure a complete cure and also to prevent the parasite from developing drug resistance.

Artemisinin mainly targets the malaria parasite during the blood stage, disrupting its ability to replicate within red blood cells. In the bloodstream, malaria parasites consume haemoglobin to acquire amino acids that are essential for growth. When artemisinin is given, heme from broken down haemoglobin in the blood reacts with the drug to create free radicals that increase oxidative stress and kill the parasite. Malaria medicines have repeatedly been compromised by the emergence of drug resistance, first to chloroquine and then to sulfadoxine/pyrimethamine, with the malaria parasites becoming less sensitive to each subsequent drug. Despite artemisinin's success, the parasite has been showing increasing resistance to artemisinin derivatives for the past two decades in South East Asia and some parts of Africa.

The increase in resistance to artemisinin combination therapy highlights the need for ongoing research into the development of new treatments. Interventions that can be adapted to specific contexts and implemented in the response to the rise in antimalarial drug resistance include:

1. Strengthening antimalarial resistance surveillance by combining therapeutic efficacy studies with molecular surveillance (using PCR and NGS) to detect the emergence of resistance mutations.
2. Optimising and better regulating the use of medicines and diagnostics to reduce selection for resistance. Developing medicines with simplified dosing regimens would improve compliance and support elimination of the parasite.
3. Limiting the spread of drug-resistant parasites by the use of drugs such as primaquine that have been shown to prevent the transmission of the malaria parasite, particularly in vulnerable populations.
4. Stimulating research and innovation to develop new tools against resistance and to better leverage existing ones. This is of particular importance for the development of novel combination medicines with new mechanisms of action.

AWARENESS DAYS



WORLD HEALTH - DAY -
7 April 2026



WORLD MALARIA DAY

25 APRIL 2026



We Can't Wait

Now is the time for action!

Calling for early diagnosis and timely treatment and support for Primary Immunodeficiencies.

22-29 April 2026

World PI Week
TEST • DIAGNOSE • TREAT



Diagnosis

First step to care

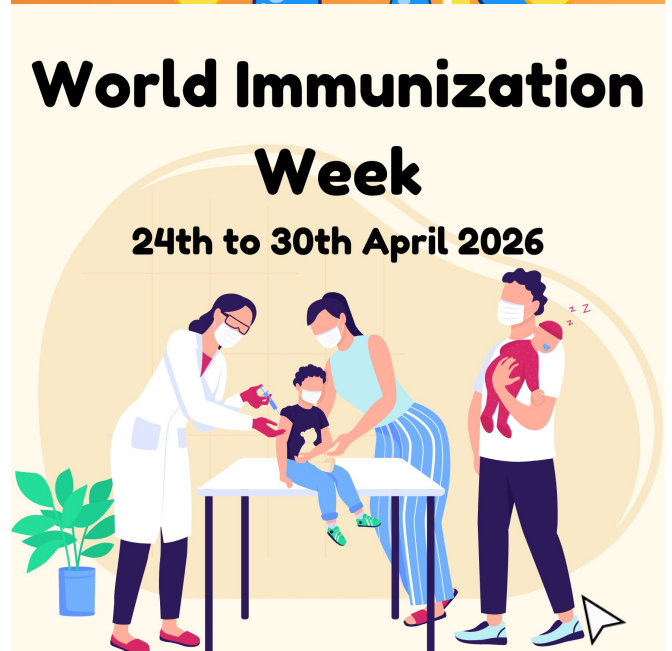
World Hemophilia Day April 17
Recognizing all bleeding disorders

#WHD2026
wfh.org/whd



Day of Immunology

29 April 2026



World Immunization Week

24th to 30th April 2026

DISEASE OF THE MONTH

BEYOND GENETICS: UNDERSTANDING ACQUIRED HAEMOPHILIA

By J. Polley

This month, on the 17th of April, we celebrate World Haemophilia Day. Haemophilia is a rare clotting disorder where affected individuals are deficient in certain clotting factors, resulting in prolonged and sometimes spontaneous bleeding. In most cases, the condition is inherited, caused by mutations in genes responsible for clotting factor production. Inheritance follows an X-linked recessive pattern, meaning males are predominantly affected. Haemophilia is divided into two types, Haemophilia A and B, characterised by a deficiency of clotting factors VIII and IX, respectively. Whilst inherited haemophilia is the most common, it can also be acquired, where individuals develop autoantibodies — known as inhibitors — against clotting factors VIII and, more rarely, IX, inactivating them. Unlike its inherited counterpart, acquired haemophilia affects males and females more equally, and whilst significantly rarer, it can develop at any point during adulthood, often with no apparent cause.

Several underlying factors have been identified as potential triggers of acquired haemophilia. The most common of these is existing immunological disorders, where diseases such as systemic lupus erythematosus (SLE), Sjögren's syndrome, and rheumatoid arthritis contribute to approximately 18% of cases. The next most common cause is pregnancy, where autoantibodies can develop during pregnancy or within the first 12 months postpartum. Other contributing factors include cancers, infectious diseases such as hepatitis B and C and HIV, as well as certain drugs. Together, these underlying factors account for approximately 50% of cases, with the remaining cases having no identifiable cause.

Beyond its underlying causes, acquired haemophilia also presents very differently from its inherited counterpart. Whilst joint bleeds are a hallmark of inherited haemophilia, this is uncommon in acquired haemophilia, with affected individuals most commonly exhibiting subcutaneous bleeding. These bleeds appear as large bruises and can be accompanied by muscular, gastrointestinal, retroperitoneal, and intracranial bleeding. These episodes can occur spontaneously and can be life-threatening, often requiring urgent medical intervention. As with inherited haemophilia, individuals are also at risk of prolonged bleeding following injuries, surgeries, or childbirth.

Treatment of acquired haemophilia encompasses two strategies — treating the bleeding episode and eliminating the inhibitors against clotting factors. Bleeding is managed using bypassing agents that circumvent the inhibitors and promote clotting, with the agent chosen depending on the severity and location of the bleed, as well as the individual. To eliminate the inhibitors, immunosuppressive therapies such as corticosteroids and cyclophosphamide, either alone or in combination, are used, with Rituximab reserved for cases where these prove ineffective. In approximately a quarter of cases, inhibitors disappear spontaneously over time, though this primarily occurs in individuals who developed the disorder following pregnancy or antibiotic treatment.

Acquired haemophilia carries a significant risk of life-threatening bleeding, yet is frequently misdiagnosed or diagnosed late — its sudden onset, lack of family history and coexistence with other diseases and infections make it easy to overlook. **World Haemophilia Day reminds us that bleeding disorders can affect anyone, at any stage of life. Spreading awareness is key to ensuring earlier diagnosis and better outcomes for those affected.**



HUMORAL AND CELLULAR IMMUNOGENICITY OF COVID-19 VACCINE BOOSTERS IN PARTICIPANTS WITH ADVANCED HIV DISEASE

R. Nesamari, **C. Crowther**, D. T. Chiveto, T. Pillay, P. Kgagudi, N. Shusha, N. Manamela, H.C. Steel, M.A. van der Mescht, N. Slingers, L.A. Davids, K. Tshabalala, V. Ueckermann, I. Seocharan, T. Reddy, **S.I. Richardson**, T. Moyo-Gwete, F. Abdullah, P.L. Moore, T.M. Rossouw

Reviewed by S. Fischart

People living with HIV (PLWH), particularly those with advanced immunosuppression, are at increased risk of severe COVID-19 outcomes. This is largely due to impaired immune function, including reduced CD4⁺ T cell counts and poor viral control, which can compromise both natural and vaccine-induced immunity. While COVID-19 vaccine boosters have been shown to significantly enhance immune responses in the general population, there is still limited understanding of how effective these boosters are in individuals with advanced HIV disease. This study therefore aimed to address an important gap by evaluating both humoral and cellular immune responses following booster vaccination in this vulnerable population.

The authors conducted a longitudinal study in 41 participants, assessing immune responses at baseline and four weeks post-booster. Binding and neutralising antibodies, antibody-dependent cellular cytotoxicity, and spike-specific CD4⁺ and CD8⁺ T cell responses were measured.

Overall, the results demonstrated that booster vaccination significantly enhanced immune responses in participants with advanced HIV, although the magnitude of these responses remained lower compared to immunocompetent individuals. From a humoral perspective, binding antibody titres increased approximately eight-fold, while neutralising antibody activity increased nearly four-fold following booster vaccination. In addition, antibody-dependent cellular cytotoxicity activity showed a modest but measurable increase (~2.1-fold), indicating improved functional antibody responses beyond simple neutralisation.

On the cellular side, CD4⁺ T cell responses improved in both magnitude and responder frequency, while CD8⁺ T cell responses remained low. Importantly, these improvements were observed even in participants with CD4 counts <100 cells/mm³, although responses remained lower than in immunocompetent individuals.

The authors highlight that while booster vaccination is clearly beneficial in PLWH, it does not fully overcome the immunological deficits associated with advanced HIV. The relatively weaker responses, particularly in terms of CD8⁺ T cell activity and overall antibody magnitude, underscore the need for tailored vaccination strategies in this population. This could include additional booster doses, alternative vaccine platforms, or adjunct interventions aimed at improving immune reconstitution. Ultimately, the study reinforces the concept that standard vaccination approaches may not be sufficient for immunocompromised populations and that more targeted strategies are required to achieve optimal protection.

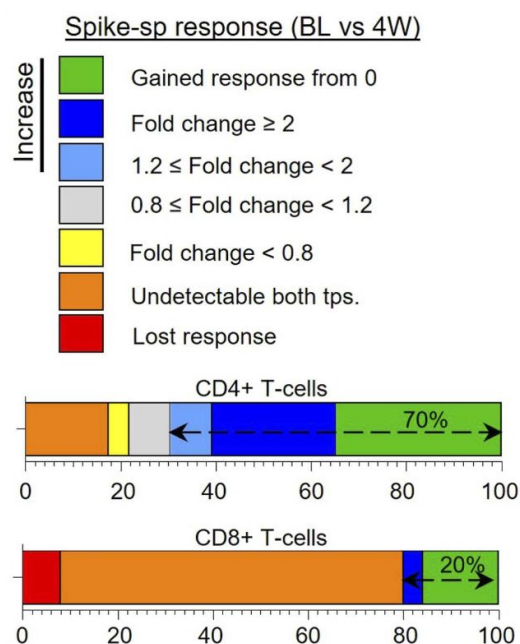


Figure 1: Frequency of total spike-specific CD4⁺ and CD8⁺ T-cells in PLWH (n=25) at baseline (BL) and 4 weeks (4 W) after booster vaccination.

FACES OF FAIS

PROF ASMA GATI

Profiled by N. Shusha

Prof. Asma Gati is a highly accomplished immunologist and academic leader currently serving as **Vice President for Scientific Research at the University of Tunis El Manar**. She holds a PhD in immunology from the Université Paris Cité and she is also the Head of the Laboratory of Genetics, Immunology, and Human Pathologies. Her scientific journey includes research positions at internationally renowned institutions such as the Institut Gustave Roussy in France and the Universitätsspital Zürich in Switzerland.

Her work focuses on studying interactions between the immune system and cancer to develop new therapeutic strategies. With twenty-three years of experience in the field, Prof. Gati has made significant contributions to cancer immunology and translational research. She is particularly interested in how the diverse cellular and molecular components of the tumour microenvironment, including immune and stromal cells, cytokines, and the extracellular matrix, interact to modulate immune activity, influence tumour progression, and shape responses to treatment.

Prof. Gati has played a pivotal role in fostering international collaboration and capacity building across Africa and Europe. She has coordinated several major initiatives, including the **Horizon 2020 Intra-Africa Academic Mobility Program**, and has been actively involved in collaborative projects such as Tunisian-Moroccan and Tunisian-French research partnerships. Her leadership extends to her role as **Tunisia's National Contact Point for Horizon Europe programmes, including the European Innovation Council (EIC)**.

Prof. Gati also contributes extensively to scientific governance and policy as an elected member of the **University Council at the University of Tunis El Manar**. She further serves on the **Council of Federation of African Immunological Societies (FAIS)**, and is a **board member of the Tunisian Society of Immunology**.

She is deeply committed to mentoring early-career scientists, finding it especially rewarding to support their development in reliable research skills, critical thinking, and independence. She takes pride in seeing her mentees grow into confident researchers who go on to make meaningful contributions to their fields. She also emphasises the importance of collaboration, interdisciplinary approaches, and maintaining the highest ethical standards.

Prof. Gati's career reflects a deep commitment to advancing immunology research, strengthening international scientific networks, and supporting the next generation of scientists. Her work continues to shape the landscape of immunology in Africa and beyond.

Asma Gati

**Full Professor of Immunology &
Vice President for Scientific Research**
University of Tunis El Manar



ONE HEALTH IMMUNOLOGY

RIFT VALLEY FEVER VIRUS: A RECURRING THREAT

By E.C. Rabie

Background

Rift Valley Fever virus (RVFV) is a Phlebovirus transmitted by mosquitoes that causes disease in humans, livestock and wildlife. Outbreaks in livestock mostly affect pregnant and young animals and are respectively characterized by “abortion storms” and mortality, which can cause socio-economic devastation.

Typically, outbreaks are attributed to an increase in favorable environmental conditions for the mosquito vectors, combined with the availability of susceptible hosts, as exemplified by the recent outbreak in the Northern Cape (November 2025). However, there are several more complex factors affecting the dynamics of RVFV which are not yet fully elucidated (Figure 1).

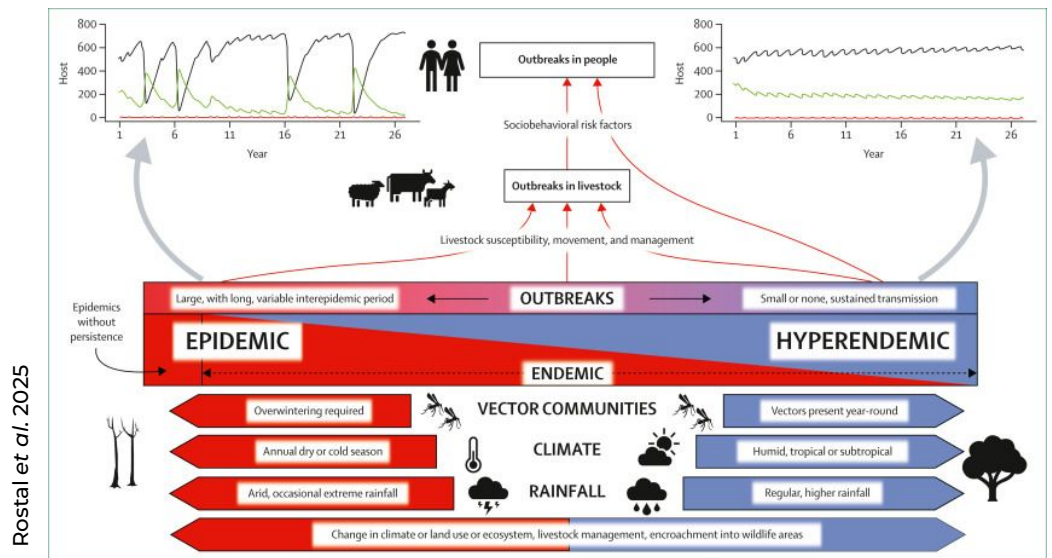


Figure 1. A spectrum of Rift Valley Fever Virus dynamics.

Immune Response to RVFV

Infection with RVFV can affect several organs of susceptible hosts, including the gastrointestinal system, lungs, kidney, spleen, brain and the placenta. Strong chemokine and cytokine responses are triggered by RVFV infection, however, RVFV evades many of these responses. Nevertheless, the timing and balance between pro- and anti-inflammatory innate immune responses influences disease outcomes. Clearance and long-term protection require strong CD4+ T-cell and neutralizing antibody responses.

RVFV through a One Health Lens

Humans can contract RVFV through direct contact with bodily fluids or vector transmission (i.e. mosquito bites). Typically, mild symptoms are experienced, however, up to 8% of patients may develop severe symptoms with an associated mortality rate of 0.5-1.0%. Most outbreaks in human populations are preceded by outbreaks in livestock. Moreover, both livestock and wildlife can act as maintenance hosts for RVFV independently. Given the tightly knit human-wildlife-livestock interfaces throughout South Africa, using a One Health approach to target RVFV in both the animal hosts and humans is crucial. Additionally, improving the understanding of RVFV epidemiology through increased surveillance and mathematical modelling studies will also lead to improved control and prevention strategies.

The Current Vaccine Landscape

Currently, there are two licensed livestock vaccines in South Africa, namely the Smithburn and RVFV Clone 13 vaccines, which are both live-attenuated. Despite their efficacy, both these vaccines are still plagued by several limitations: (1) residual virulence in the placenta of pregnant animals, which causes abortions, still births and fetal malformations, (2) reversion to virulence (Smithburn), and (3) restriction of vaccine implementation to RVFV endemic regions only. Additional barriers to vaccine accessibility include DIVA incompatibility, field capacity for cold chain maintenance, costs and perceived necessity during interepidemic periods. There are currently no licensed human vaccines to protect vulnerable populations.

ONE HEALTH IMMUNOLOGY

New horizons: the next generation of RVFV vaccines

To develop safer vaccines, several key requirements have been proposed in the World Health Organization (WHO) target product profile (TPP) for RVFV, which include the dual development of vaccines for both humans and animals (Figure 2). To meet the TPP requirements, the development of RVFV vaccines has shifted focus to alternative vaccine platforms, such as subunit, viral vectored, DNA and mRNA vaccines.

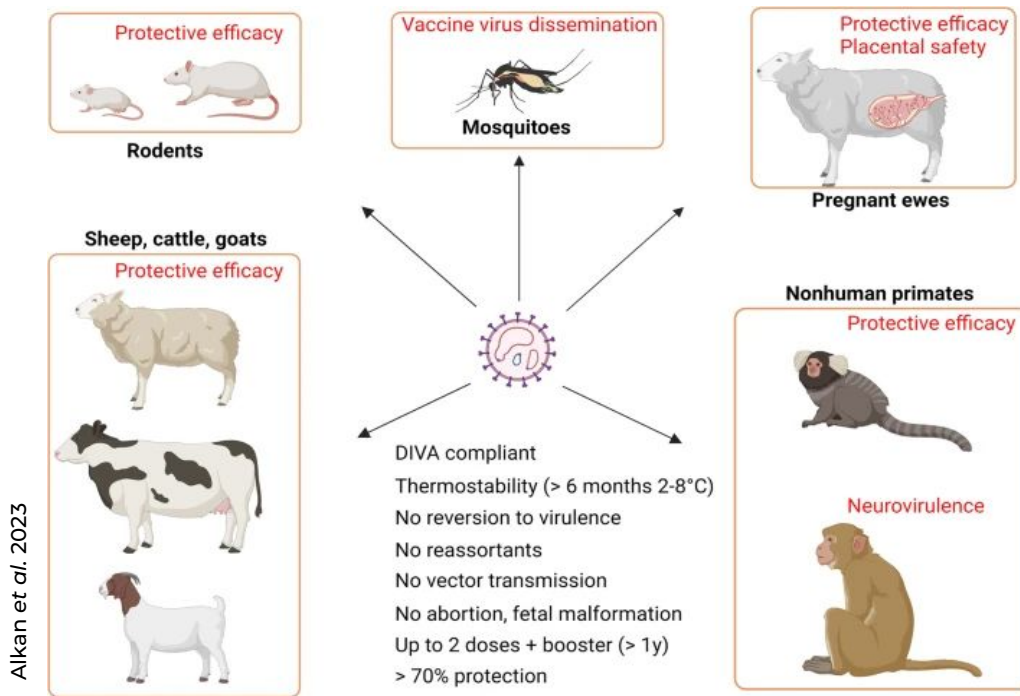


Figure 2. Schematic of the effective vaccine design for Rift Valley fever (RVF) vaccine. Testing of RVF vaccines includes evaluation for safety, immunogenicity, and protective efficacy in relevant animal models, as well as assessment of vaccine virus dissemination in mosquitoes. Meeting the key requirements proposed by the WHO for RVF vaccine standardization is essential to achieve the Target Product Profile for RVF vaccines.

Livestock vaccines:

The development of a replication-incompetent viral-vector based vaccine is underway through an agreement between the Pirbright Institute (Centre for Veterinary Vaccine Innovation and Manufacturing) and GALVmed. However, early research into several more next-generation vaccine candidates is underway.

Human vaccines:

There have been major developments: the South African biotechnology company Afrigen Biologics is currently producing a human RVFV mRNA vaccine supported by \$6.2 million funding from the Coalition for Epidemic Preparedness Innovations (CEPI). Moreover, the ChAdOx1 RVF vaccine has entered clinical trials in Kenya and more recently, India.

Conclusion

The development and implementation of safer RVFV livestock vaccines in conjunction with increased surveillance and vector control strategies is the most effective way to improve prevention of RVFV disease outbreaks humans and animals.



WOMEN IN SCIENCE

DR ELIZABETH NAMUGAYA IGAGA

Profiled by J. Futter

Dr Elizabeth Namugaya Igaga is a seasoned Ugandan patient safety professional, anesthesiologist and global health leader with over a decade of experience in perioperative patient safety, global health advocacy and health systems strengthening. She currently serves as Senior Director of Program Safety at Smile Train, the world's largest cleft focused charity where she leverages her experience in perioperative patient safety to provide strategic leadership and oversight for anaesthesia and surgical and safety for over 100,000 patients with clefts per year across a network of over 1000 partner hospitals in 75+ countries. Her work focuses on establishing a safety culture across the partner network and designing initiatives that support safe perioperative care for patients across Africa, Asia and Latin America.

Dr Igaga is a foundation fellow of the College of Anaesthetists of Central, Eastern, and Southern Africa (CANESCA) and one of the inaugural Kiani Global Interprofessional Healthcare Safety Fellows, with the Patient Safety Movement Foundation. She has done significant patient safety related work with Lifebox and the World Federation of Societies of Anaesthesiologists such as directing Safer Anesthesia from Education (SAFE) courses and Team Cleft, as well as advocating for the availability of capnographs globally.

Elizabeth is a lecturer at the prestigious Makerere University in Uganda and has served on the executive committee of the Association of Anesthesiologists of Uganda as treasurer and continues to be an active association member. Most recently, Dr Igaga graduated from the Women Lift Health East Africa Leadership Journey as a 2025 Women Lift Health Global Fellow. Her project during this fellowship explored the state of wellbeing among women specialists (surgeons and anesthesiologists) in perioperative medicine in Uganda as the first part of a three-part project to develop a Wellbeing Toolkit for Health workers practicing perioperative medicine in Uganda. Elizabeth is an advocate for gender equity in medicine with emphasis on the importance of having more women at the leadership and decision-making tables in medicine. Dr Igaga is a leading speaker and moderator at international conferences where she advocates for increased government investment in safer anesthesia and surgery. Outside of her professional work, Dr Igaga loves to travel, experience new cultures and curl up to a good book.



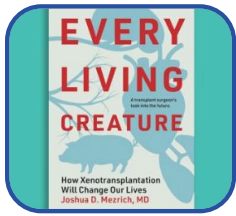
Elizabeth Igaga

Senior Director for Program Safety
Smile Train

Lecturer
Makerere University, Uganda



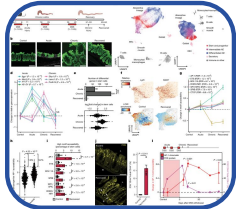
PUBLICATIONS & INTERESTING READS



Are pig organs the future of transplantation?

Rosen, 2026. ScienceNews.

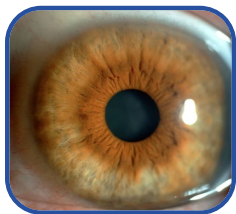
<https://www.sciencenews.org/article/every-living-creature-organ-transplant>



Epigenetic memory of colitis promotes tumour growth

Nagaraja *et al.*, 2026. Nature.

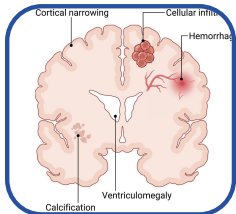
doi: 10.1038/s41586-026-10258-4



Eye drops made from pig semen deliver cancer treatment to mice

Fieldhouse, 2026. Nature News.

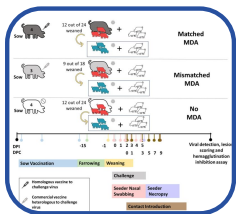
<https://www.nature.com/articles/d41586-026-00982-2>



Immune mechanisms of congenital Zika syndrome

Rathore & St. John, 2025. Science Immunology.

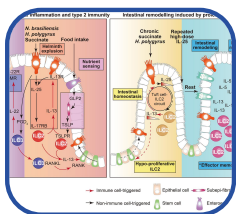
doi: 10.1126/sciimmunol.adz5647



Impact of maternal antibodies and weaning stress on the replication and transmission of human H3N2 influenza A in piglets

Zanella *et al.*, 2026. Journal of Virology.

doi: 10.1128/jvi.01975-25



Intestinal ILC-epithelial cell circuits shaping barrier immunity

Yu *et al.*, 2026. Immunology & Cell Biology.

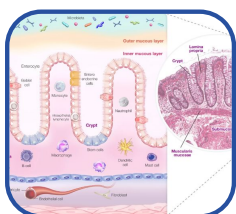
doi: 10.1111/imcb.70109



How to build an AI scientist: first peer-reviewed paper spills the secrets

Castelvecchi, 2026. Nature News.

<https://www.nature.com/articles/d41586-026-00899-w>



Understanding heterogeneity in the pathogenesis and drug responses of ulcerative colitis through single-cell and spatial transcriptomics

Phillips *et al.*, 2026.

doi: 10.3389/fimmu.2026.1794207

JOBS & OPPORTUNITIES

THE L'ORÉAL-UNESCO FOR WOMEN IN SCIENCE PROGRAMME

Position title: Research grants for 30 doctoral and 8 post doctoral research candidates.

Nationality and Location: Must be a citizen of one of the 49 Sub-Saharan African countries (including South Africa) and be conducting research within a laboratory or institution in one of these countries.

The L'Oréal-UNESCO For Women in Science programme has officially launched its call for applications, and we could not be more excited to share this with our extended community of researchers, academics, and science champions.

Starting in 2026, we are breaking down borders to create a single, prestigious community of excellence. The South African National Programme and the Sub-Saharan Africa Regional Programme have officially merged to become the unified to become the L'Oréal-UNESCO For Women in Science Sub-Saharan Africa Programme. This merger brings together women scientists from all 49 countries of Sub-Saharan Africa, including South Africa into one powerful, pan-African fellowship community.

Together, we are building something bigger, bolder, and more impactful than ever before. And this journey begins with you, your networks, your voices, and your belief in the transformative power of women in science.

About the programme: The L'Oréal-UNESCO For Women in Science programme has, for more than two decades, championed the vital role of women in advancing scientific knowledge. Through this programme, 38 women scientists across Sub-Saharan Africa will be recognised and financially supported in the 2026 edition. Doctoral researchers will each receive a grant of €10,000, while post-doctoral researchers will each receive €15,000 to advance their research. Beyond financial support, all laureates benefit from a bespoke training programme in leadership, management, negotiation, and scientific communication.

Eligible scientific disciplines: Applications are welcomed from researchers working across the following fields:

- Formal Sciences — Mathematics, Computer Science & Artificial Intelligence
- Life Sciences — Biology, Medicine, Biotechnology & Health Sciences
- Environmental Sciences — Ecology, Geosciences & Climate Change
- Physical Sciences — Physics & Chemistry
- Engineering & Technology — Applied Sciences & Engineering

How to apply & further information: We kindly request that you share this announcement widely across your faculties, research departments, and postgraduate offices to ensure that no deserving candidate is missed. For the full programme details as well as to submit an application, please visit the following link: <https://www.forwomeninscience.com/challenge/show/157>

Application Deadline: 17 April 2026

For any enquiries, please do not hesitate to reach out to the Head the L'Oréal-UNESCO For Women in Science Sub-Saharan Africa Programme: Michelle.gololo@loreal.com



JOBS & OPPORTUNITIES

POST-DOCTORAL OPPORTUNITY

Position title: Post-doctoral opportunity (PREPARE EPSILON).

Virologist with experience in sero-diagnostics, immunology and vaccine development

Location: The fellowship is based in the EViTOH division of the Infectious Diseases and Oncology Research Institute (IDORI) at the University of the Witwatersrand (Wits), under the supervision of Prof Marietjie Venter, NRF SARCHI Chair and head of EViTOH. The project includes collaboration with the Institute for Tropical Medicine in Antwerp, Belgium, and partner sites across Africa as part of the EPSILON epidemic and pandemic preparedness programme. This involvement includes training and implementation of multiplex arbovirus serological testing across South, East and West Africa.

Responsibilities: The successful candidate will design, develop and validate serological diagnostic tools, including IgM/IgG ELISAs, multiplex bead-based assays, and rapid assays such as IFAs or lateral flow assays using recombinant antigens and antibodies. They will express antigens, develop whole-virus and pseudovirion neutralisation assays, and implement these tools in One Health surveillance studies with collaborators in South Africa and other African countries.

Duties include troubleshooting assays, analysing data, performing biostatistics and contributing to epidemiological investigations. The incumbent will support immunological and vaccine studies in laboratory animals for preclinical and phase 1-2 vaccine trials aligned with WHO epidemic and pandemic preparedness priorities. They will communicate findings to the network, health authorities and policymakers, and contribute to high-impact publications and conference presentations. The role further includes postgraduate supervision, mentorship, grant writing and reporting. Additional responsibilities include project management, laboratory work in BSL-2 and BSL-3 environments, and participation in vaccine-related animal studies under the guidance of the Wits Animal Unit. Administrative duties include preparation of human and animal ethics applications and Section 20 approvals.

Requirements: Applicants must hold a PhD in Virology, Immunology, Molecular Biology, or Veterinary Laboratory Science, with strong immunology background and understanding of infectious diseases, diagnostics and vaccines. Experience in arbovirus virology is advantageous. Candidates must have (at minimum) a certificate in laboratory animal research or be qualified as an animal technician; veterinary qualification with interest in research is an additional strength. SAVC registration as an animal or laboratory technician (supervised or independent for veterinarians) is required. Strong laboratory skills are essential, including experience with Western blotting, ELISA development and validation, virus culture, neutralisation assays, IFAs or rapid assays, multiplex bead-based assays, and immunological techniques such as ELISPOT or flow cytometry. Experience with RT-PCR, cloning and protein expression is beneficial. Candidates should be self-driven, able to work independently and collaboratively, and capable of troubleshooting and creative problem-solving. Strong communication skills, statistical analysis capability, attention to detail, documentation discipline and understanding of laboratory workflows and data management are required. Publication history, grant writing experience and flexibility in working hours are advantages.

How to apply & further information: Candidates should submit a motivation letter, full academic transcript, CV, ID or passport (and visa if applicable), SAQA-verified qualifications (if trained outside South Africa) and two contactable referees, using the subject line Post-doctoral PREPARE EPSILON application to EMAIL: evitohinfo@gmail.com. Candidates that are South African citizens or that already reside in South Africa will be preferred.

Application Deadline: 18 April 2026



WITS IDORI
INFECTIOUS DISEASES & ONCOLOGY RESEARCH INSTITUTE



UNIVERSITY OF THE
WITWATERSRAND
JOHANNESBURG

JOBS & OPPORTUNITIES

RESEARCH ASSOCIATE



Location: African Health Research Institute (AHRI) - Durban, Kwa-Zulu Natal

Overview of duties: The research associate will play a central role in the scientific and operational delivery of a large cohort study and associated research programme focused on adolescent mental health. The research associate will lead key scientific aspects of the cohort study, coordinate day-to-day programme delivery, conduct and oversee quantitative data analyses, prepare peer reviewed publications and academic outputs, supervise junior researchers, and engage with multidisciplinary collaborators and policy stakeholders.

Minimum qualifications:

- A PhD in a relevant field such as psychology, psychiatry, public health, epidemiology, global health, or a related social or health science discipline.
- Evidence of academic productivity, such as peer-reviewed publications, conference presentations, or contributions to grant-funded research.

Minimum experience:

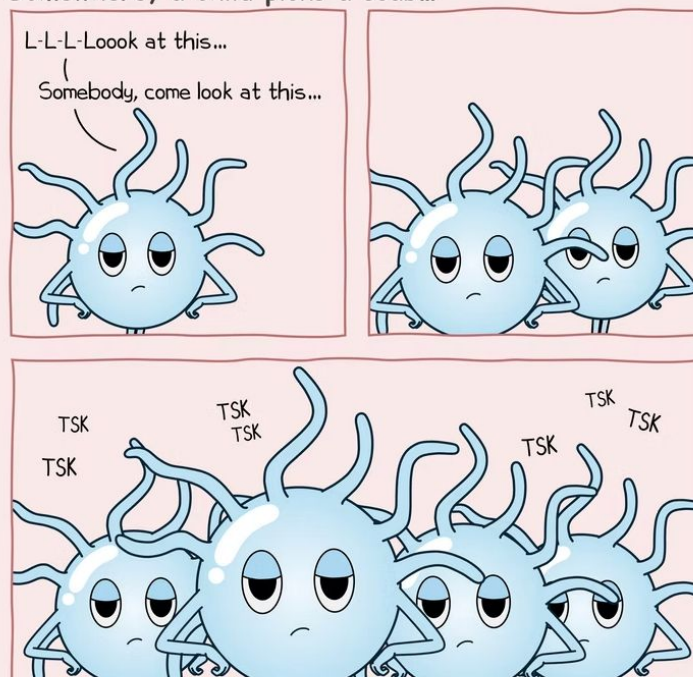
- Three to five years postdoctoral experience.
- Demonstrated experience contributing to large-scale research projects, preferably involving cohort studies, population-based surveys, or longitudinal research.
- Experience in project coordination or management within complex, multi-partner research programmes.
- Experience in mental health research, ideally with a focus on adolescents or young people.

Closing date: 2 April 2026

Apply here: https://ahri.wd3.myworkdayjobs.com/en-US/AHRI1/details/Research-Associate_JR100783

SCIENCE MEME OF THE MONTH

Somewhere, a child picks a scab...



SAIS MEMBERSHIP



RESOURCES



SCIENCE SOCIALS

Social media is a great way to stay up-to-date with the science community!



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European Academy of Allergy
and Clinical Immunology



The Immunology in
Africa Podcast

Grab a hot cup of ImmuniTea, and let us know what you think!

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Donald Mhlanga, Nomcebo Shusha and Jason Futter