IAS

International AIDS Society

2026 HIV Vaccine Science Academy

10-12 March 2026

Dar es Salaam, Tanzania

iasociety.org

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Introduction

IAS HIV Vaccine Research Network

The HIV Vaccine Research Network (HVRN) of IAS – the International AIDS Society – aims to strengthen African leadership in HIV vaccine research through training, mentorship and targeted capacity building. It supports early to mid career researchers, expands scientific collaboration and ensures that African perspectives inform the global HIV vaccine agenda.

It does so by:

- Building research capacity through intensive HIV Vaccine Science Academies, virtual learning opportunities and hands-on skills training
- Supporting professional growth via structured mentorship with global HIV vaccine experts
- Mobilizing knowledge through webinars and workshops that address priority HIV vaccine research and development (R&D) topics
- Elevating African researchers' voices by creating speaking and networking opportunities at major HIV conferences
- Strengthening regional collaboration through active alumni networks and global expert guidance

2026 HIV Vaccine Science Academy Fellows during the site visit to Ifakara Health Institute (IHI) Bagamoyo

2026 HIV Vaccine Science Academy

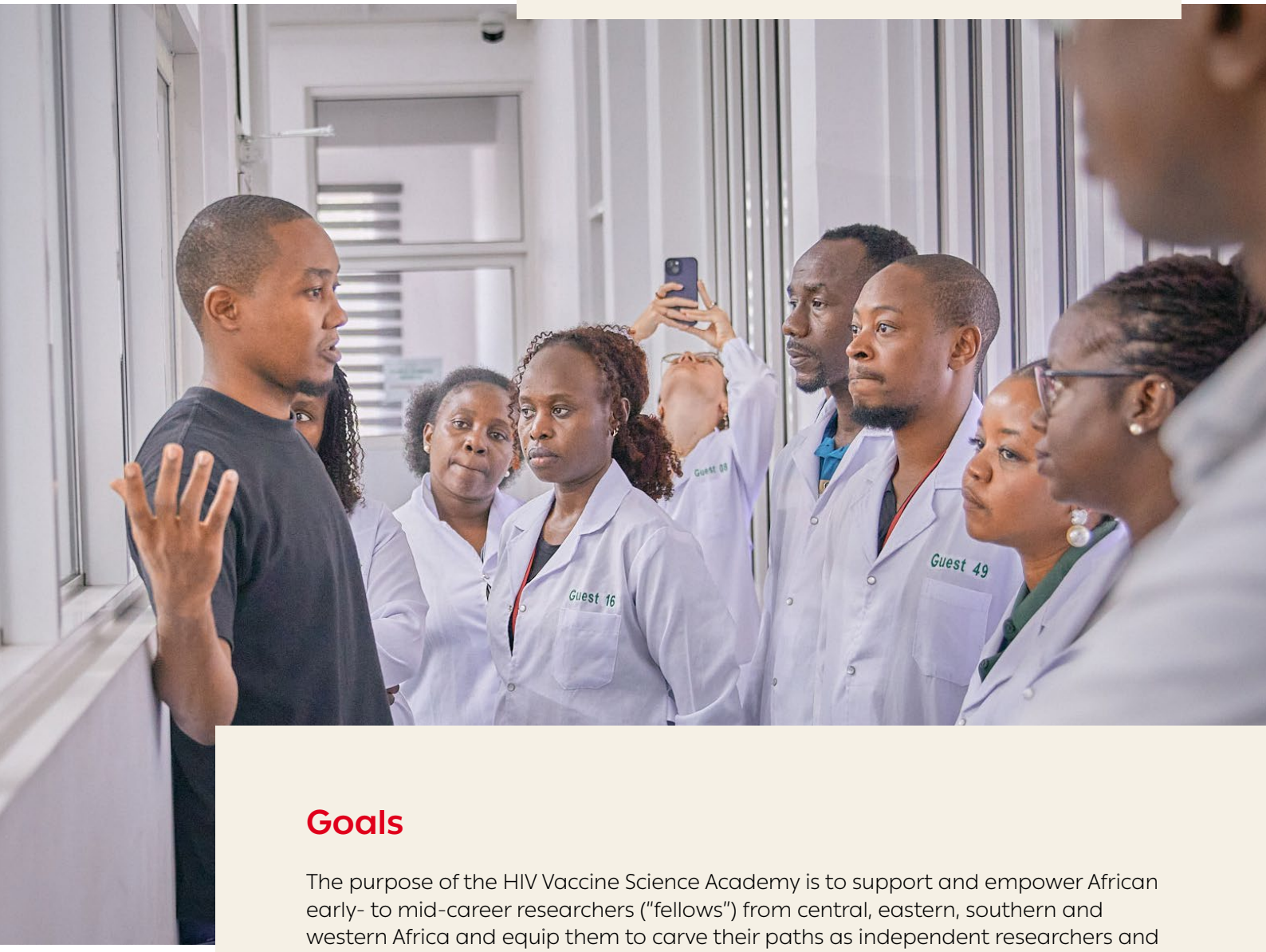
Successful HIV prevention requires an increased contribution to the research efforts of countries and regions that are hardest hit by the pandemic. Central, eastern, southern and western Africa remain the most severely affected regions, with 26.3 million adults and children living with HIV and 650,000 new acquisitions in 2024 (UNAIDS). The need for an Afrocentric vaccine and prevention product design is further substantiated by research on the African continent, which has found the most genetically diverse HIV subtypes in the world. A safe and effective HIV vaccine would make a significant contribution to controlling the pandemic, particularly in young women, one of the most vulnerable groups that face the greatest disease burden.

There is a great need for multiple sectors in countries in Africa to contribute to the development of a safe and effective HIV vaccine. However, it is an ongoing challenge for African researchers to conduct and lead HIV vaccine R&D. There is an undisputable benefit to supporting and empowering African researchers in their ongoing efforts to mobilize, advocate and coordinate action towards an increased role in shaping the HIV vaccine R&D agenda.

The HIV Vaccine Science Academy is designed to support participants in establishing themselves as independent researchers and team leaders in their host institutions, thus contributing to long-term continuity, networking and research ownership in the HIV response.

2026 HIV Vaccine Science Academy Fellows listening to faculty presentations

2026 HIV Vaccine Science Academy Fellows visiting IHI's laboratories



Goals

The purpose of the HIV Vaccine Science Academy is to support and empower African early- to mid-career researchers ("fellows") from central, eastern, southern and western Africa and equip them to carve their paths as independent researchers and dynamic change makers in the HIV vaccine field.

The academy serves as a space where participants can interact with leading researchers in the HIV vaccine R&D field. Participants elevate their literacy in HIV vaccine research and improve their leadership skills to advance the field. Specific objectives of the academy include:

- **Training from experts:** Deliver training on state-of-the-art HIV vaccine research and development, including innovative vaccine and trial design, novel vaccine platforms and relevant leadership tools and skills (such as scientific writing).
- **Networking opportunities:** Fellows can engage with leaders in the HIV vaccine field in a retreat-type setting to build collaborations that link African scientists to global networks.
- **Collaboration with African researchers:** Fellows can establish sustainable networks across research institutions and create momentum for African-led research.

Programme

Monday, 9 March: Welcome and dinner

10:00 AM – 6:00 PM	**Arrival at hotel**
7:00 PM - 8:30 PM	**Welcome and dinner**

Tuesday, 10 March: Foundational HIV vaccine science

This day covers foundational science topics crucial for understanding HIV and vaccine development. Participants will explore immune mechanisms, mucosal biology, B- and T-cell responses and strategies for inducing broadly neutralizing antibodies. It provides a platform for discussion, questions and deeper engagement with the core scientific concepts.

07:30 AM - 08:25 AM	**Breakfast**	
08:25 AM - 08:30 AM	**Welcome and overview of the programme**	**IAS**
08:30 AM - 09:00 AM	**Introductions**	**Fellows and faculty**
09:00 AM - 09:45 AM	**HIV prevention R&D: Where are we now and where do we go**	**Nyanda Elias Ntinginya,** NIMR-MMRC, Tanzania
09:45 AM - 10:30 AM	**The importance of understanding innate immunity for HIV vaccine R&D**	**Sarah Rowland-Jones,** University of Oxford, UK
10:30 AM - 10:45 AM	**Break**	
10:45 AM - 11:30 AM	**Why T-cells matter**	**Sarah Rowland-Jones,** University of Oxford, UK
11:30 AM - 12:15 PM	**How to induce bNABs**	**Daniel Muema,** Kenya AIDS Vaccine Initiative, Kenya
12:15 PM - 1:00 PM	**Lunch break**	
1:00 PM - 1:45 PM	**The impact of the B-cell repertoire on HIV vaccine design**	**Eunice Nduati,** KEMRI Wellcome Trust Research Programme, Kenya
1:45 PM - 2:30 PM	**bNABs: passive immunization**	**Asli Heitzer,** IAS
2:30 PM - 2:40 PM	**Energy booster: The most confusing sentence I've ever written was...**	**Sarah Rowland-Jones,** University of Oxford, UK
2:40 PM - 3:25 PM	**Anatomy of a strong abstract**	**Alberto Rossi,** IAS

3:25 PM - 3:40 PM	**Break**	
3:40 PM - 4:00 PM	**Self-assessment**	**Fellows**
4:00 PM - 4:30 PM	**Micro-Clinic: Rapid-fire faculty reviews**	**Faculty**
4:30 PM - 5:10 PM	**Writing Lab: Revision session 1**	**Fellows**
5:10 PM - 5:30 PM	**Reflection & wrap-up**	**Alberto Rossi,** IAS
5:30 PM - 7:00 PM	**Networking: Free time**	**Fellows and faculty**
7:00 PM - 8:30 PM	**Dinner**	

Wednesday, 11 March: Innovations in HIV vaccine and clinical research

This day focuses on how scientific insights are applied in HIV vaccine trials. Participants will learn about novel trial designs, lessons from recent African studies, and ethical and practical considerations in conducting African-led trials. The sessions encourage interactive discussion and reflection on real-world trial challenges.

7:30 AM - 8:30 AM	**Breakfast**	
8:30 AM - 9:15 AM	**Correlates of protection**	**Sarah Rowland-Jones,** University of Oxford, UK
09:15 AM - 10:00 AM	**Novel trial designs for HIV vaccines**	**Vincent Muturi-Kioi,** IAVI, Kenya
10:00 AM - 10:30 AM	**Break**	
10:30 AM - 11:15 AM	**Vaccine platforms**	**Eunice Nduati,** KEMRI Wellcome Trust Research Programme, Kenya
11:15 AM - 12:00 PM	**Looking into the G002 and G003 trials**	**Daniel Muema,** Kenya AIDS Vaccine Initiative, Kenya
12:00 PM - 1:00 PM	**Lunch break**	
1:00 PM - 6:00 PM	**Site visit: Ifakara Health Institute Bagamoyo**	**Fellows and faculty**
7:00 PM - 8:00 PM	**Dinner**	

Thursday, 12 March: Building skills for scientific growth and impact

This day emphasizes professional development, leadership, and structural aspects of HIV vaccine research in Africa. Topics include funding opportunities, mentorship, inclusion of women in research, and strategies for African-led capacity building. Participants will gain practical guidance and inspiration to strengthen research programs and collaborations.

7:30 AM - 8:30 AM	**Breakfast**	
8:30 AM - 9:15 AM	**Ethics in African-led HIV vaccine trials (informed consent, adolescent**	**Vincent Muturi-Kioi,** IAVI, Kenya
09:15 AM - 10:00 AM	**Panel discussion: Current funding landscape in Africa**	**All faculty** **Moderator: Sarah Rowland-Jones, University of Oxford, UK**
10:00 AM - 10:30 AM	**Break**	
10:30 AM - 11:15 AM	**Early career investigators and HIV vaccine science: Challenges and opportunities**	**Eunice Nduati,** KEMRI Wellcome Trust Research Programme, Kenya
11:15 AM - 12:00 PM	**How to mentor and be mentored**	**Fellows and faculty**
12:00 PM - 1:00 PM	**Lunch break**	
1:00 PM – 1:45 PM	**Future directions and African capacity building in HIV vaccine science**	**Daniel Muema,** Kenya AIDS Vaccine Initiative; Kenya
2:00 PM – 2:10 PM	**How to mentor and be mentored**	**Fellows**
2:10 PM – 2:40 PM	**Peer swap: Structure, impact and language**	**Fellows**
2:40 PM – 3:10 PM	**One-minute abstract pitches**	**Fellows and faculty**
3:10 PM – 3:30 PM	**Break**	
3:30 PM – 4:00 PM	**Revision lab: Final polishing**	**Fellows**
4:00 PM – 4:30 PM	**Panel discussion: Secrets of high-impact abstracts and key takeaways**	**Fellows and faculty**
4:30 PM – 5:00 PM	**What now, that we have an abstract?**	**Alberto Rossi,** IAS
5:00 PM – 5:30 PM	**End of academy: Certificates of attendance**	**IAS**
5:30 PM – 7:00 PM	**Networking and free time**	**Fellows and faculty**
7:00 PM – 8:00 PM	**Dinner**	

Faculty

The academy faculty comprises internationally renowned scientists who delivered presentations on key topics in the programme and support fellows in their HIV vaccine science literacy and learning.

Daniel Muema
Kenya AIDS Vaccine Initiative (KAVI), Kenya

Sarah Rowland-Jones
University of Oxford, UK

Alberto Rossi
IAS, Switzerland

Vincent Muturi-Kioi
IAVI, Kenya

Testimonials

* These testimonials are lightly edited for clarity and style consistency and to respect people-first, non-stigmatizing language.

> I aim to lead translational research projects that bridge early-stage vaccine conceptualization and clinical evaluation.

Maanicus Rodolpher Bez-Bang Kotangou

Bioinformatician, Institut Pasteur of Bangui

Country of work: Central African Republic

What is your motivation to attend the academy?

Coming from the Central African Republic, a country where HIV continues to pose a major public health challenge, I am deeply motivated to strengthen my expertise in HIV vaccine science. In my work as a molecular biologist and bioinformatician at the Institut Pasteur of Bangui, I focus on genomic surveillance of pathogens and antimicrobial resistance. This role has given me valuable experience in molecular diagnostics, bioinformatics and One Health surveillance, but I am determined to expand this expertise into the area of HIV vaccine research.

My background includes training in vaccinology in Africa and research on molecular tools for vaccine development, such as protein purification, stabilization and nanoencapsulation systems. These experiences have provided me with the technical foundation to contribute meaningfully to vaccine innovation, but I have not yet had the opportunity to apply them directly to HIV. The HIV Vaccine Science Academy represents an ideal platform to bridge this gap.

Through the academy, I hope to gain deeper knowledge of HIV immunology, vaccine trial design and the translation of research into clinical development. I am particularly eager to learn about trial implementation in African contexts, where ethical, logistical and health system challenges require tailored solutions. By acquiring these skills and building collaborations with global experts, I aim to contribute to future HIV vaccine initiatives and strengthen research capacity in my country, where such expertise is urgently needed.

How do you plan to use the knowledge gained during the academy?

Upon completion of the academy, I intend to apply the knowledge, skills and tools gained to strengthen the conceptual and practical aspects of my research in vaccine development. Specifically, I aim to incorporate advanced immunological insights, trial design strategies and cutting-edge approaches in adjuvant use into my ongoing work on HIV and other viral vaccines. This will allow me to design more robust experimental frameworks and critically evaluate strategies for enhancing vaccine efficacy.

I also plan to leverage the connections and collaborations formed at the academy to engage in interdisciplinary projects, exchange ideas with peers and experts, and stay updated on emerging trends in HIV vaccine research. By integrating these insights and networks into my work, I hope to contribute to the development of innovative, evidence-based prevention strategies and to advance early-stage research and translational applications in HIV vaccine trials. Ultimately, the academy will enable me to combine technical expertise, creative problem solving and collaborative opportunities to make meaningful contributions to the global response to HIV.

> We need to develop a vaccine that can give effective protection in diverse populations, especially in Nigeria, where multiple HIV subtypes circulate.

Nma Ifedilichukwu

Researcher, National Biotechnology Research and Development Agency (NBRDA)

Country of work: Nigeria

What is your motivation to attend the academy?

I have a strong motivation to attend the academy. With a PhD and over 15 years of experience as a biochemist specializing in vaccine development and immunovirology at the National Biotechnology Research and Development Agency (NBRDA) in Abuja, Nigeria, I am deeply committed to advancing HIV vaccine research in Nigeria and globally.

Presently, I am a researcher in the vaccine development laboratory at NBRDA, where I am actively engaged in the biochemical characterization and immunological evaluation of HIV vaccine candidates. My role includes: conducting molecular biology assays, protein expression and purification, and antigen characterization; and validating immunological assays designed to assess vaccine efficacy. This work is critical for Nigeria's aim to build capacity for local vaccine production and contribute to global efforts toward an effective HIV vaccine.

I am confident that I will gain insights into novel vaccine platforms and immunology/virology, as well as advanced methods in vaccinology and immunology, which will be integrated into our ongoing research efforts in the agency.

My participation in the academy presents a unique opportunity to broaden and deepen my knowledge, learn cutting-edge technologies and engage with a wider community of HIV vaccine researchers. Thereby, it will enhance my contributions to the ongoing HIV vaccine projects in my agency, fostering greater innovation and accelerating the path towards impactful vaccine solutions for Nigeria in particular and Africa at large.

Attending the academy aligns perfectly with my professional goal to bridge fundamental biochemistry and biotechnology with translational HIV vaccine research that responds to the local and regional HIV epidemic.

How do you plan to use the knowledge gained during the academy?

I plan to:

- Implement cutting-edge analytical techniques by utilizing new tools for immunological assays and data analysis for better characterization of immune responses and accelerate vaccine candidate screening and validation.
- Contribute to capacity building and training by using the expertise gained to mentor and train colleagues and junior scientists in my institution, uplifting the overall scientific capacity of my vaccine development team and broader research community.
- Strengthen translational research by integrating knowledge on regulatory requirements and vaccine delivery mechanisms to bridge laboratory research with practical vaccine development and deployment strategies.
- Enhance research design and methodologies by using advanced knowledge in immunology, vaccine platforms and molecular techniques gained at the academy to refine and innovate experimental designs and laboratory assays in my organizational HIV vaccine projects.
- Develop and optimize vaccine candidates; I intend to apply insights on immune correlates of protection and novel vaccine technologies to improve the biochemical and immunological evaluation of vaccine candidates, enhancing their efficacy and safety profiles.
- Network by leveraging connections gained at the academy to establish strong collaborations with HIV researchers, institutions and global networks.
- Foster partnerships with global HIV institutes and organizations with my agency to enable knowledge exchange, joint projects and resource sharing.
- Contribute to publications and grant proposals, using updated scientific knowledge gained at the academy to enhance the quality and competitiveness of research publications and grant applications being done by my agency to secure financial support for advancing HIV vaccine development.

> I can leverage my lab skills to help design and evaluate candidate vaccines aimed at mucosal protection, while my previous experience in HIV research ensures that I always consider the ultimate goal: developing a vaccine that people will use and that will work effectively in the real world to stop HIV transmission at its source.

Beatrice Kyalo

Intern research fellow, KAVI-Institute of Clinical Research

Country of work: Kenya

What is your motivation to attend the academy?

While my role as an intern research fellow and early-career researcher has provided me with a strong practical foundation in research, it has also revealed the vast complexity of vaccine science. I am now eager to move beyond technical implementation to grasp the deeper immunological principles and various vaccine design strategies. The academy presents a unique opportunity to bridge this gap. I am particularly driven to deepen my understanding of novel vaccine technologies. Learning this from the world's leading scientists, in a format designed for early-career researchers like me, is an unparalleled opportunity.

Furthermore, engaging with a group of international peers will foster the kind of collaborative perspective essential for tackling a global challenge like HIV. Ultimately, my goal is to evolve from a skilled technician into a well-rounded scientist who can contribute to innovative HIV vaccine research. I am confident that the vaccine academy is a step in that journey, equipping me with the knowledge and network to significantly contribute to the field and to the mission that KAVI-ICR and its global partners tirelessly pursue.

How do you plan to use the knowledge gained during the academy?

Upon completion of the academy, I intend to directly integrate the knowledge and skills I acquire into my research work at KAVI-ICR. I am a junior researcher, and this will strengthen my ability to contribute meaningfully to HIV vaccine development and clinical trials alongside fellow senior researchers.

The advanced tools and methodologies I learn will allow me to better analyse immune responses and optimize vaccine candidates, while the connections and collaborations formed with global experts and peers will provide ongoing mentorship, facilitate potential multi-site research partnerships, and expand my ability to implement contextually relevant and collaborative vaccine strategies in Kenya and beyond.

> I believe that informed stakeholders are essential to the success of vaccine research and its eventual acceptance … I am well-positioned to take on this challenge.

Shamim Ssendagire

Medical doctor, MRC/UVRI and LSHTM Uganda Research Unit

Country of work: Uganda

What is your motivation to attend the academy?

My motivation to attend the HIV Vaccine Science Academy stemmed from the very first research project I participated in, the PrEPVacc Trial, a Phase IIb, double-blinded, randomized vaccine trial. This study introduced me to clinical research and HIV vaccine science, laying the foundation for my deep interest in this field. It was during this time that I came to fully appreciate the critical role that vaccines play in the prevention of HIV.

Attending the academy will provide an excellent platform to boost my understanding of vaccine research. I am eager to build my expertise in such areas as scientific writing, study start-up processes and gaining up-to-date insights into new vaccine candidates. I look forward to learning from experts, engaging in interactive sessions and expanding my professional network with colleagues who share similar research interests.

How do you plan to use the knowledge gained during the academy?

I intend to increase my academic contributions by publishing in peer-reviewed journals and presenting at national and international conferences. I aim to lead upcoming HIV vaccine trials after completing my Master's degree. I also look forward to training colleagues and sharing knowledge with the communities we serve, ensuring that research findings and information about HIV vaccine development are not only disseminated, but also understood and applied at all levels.

> “I’m passionate about addressing the challenge of equitable vaccine delivery for adolescents in low-resource settings.

Phelele Bhengu

Postdoctoral fellow, Africa Health Research Institute (AHRI)

Country of work: South Africa

What is your motivation to attend the academy?

My motivation to attend the HIV Vaccine Science Academy is grounded in my commitment to advancing equitable vaccine delivery in high HIV-burden settings. My current research focuses on health system readiness for rollout of novel TB vaccines in South Africa, where most people with TB are also living with HIV. This work directly intersects with future HIV and TB vaccine delivery as it explores how immunization programmes can be better integrated into ART services and designed to reach vulnerable populations.

Through the academy, I hope to deepen my expertise in HIV vaccine development and trial design, particularly in understanding the translational pathway from efficacy trials to real-world implementation. I am seeking skills in the design and interpretation of HIV vaccine trials, community engagement strategies for trial participation, and methodological approaches to assess health system readiness for new vaccine introduction. I also aim to strengthen my capacity to apply behavioural and social science frameworks to vaccine research, bridging evidence from clinical trials with delivery models that promote equity.

Attending the academy will allow me to connect with leading scientists and peers working on HIV vaccine research. It will also help me align my implementation science background, positioning me to contribute meaningfully to both HIV vaccine preparedness and the equitable rollout of future HIV and TB vaccines.

How do you plan to use the knowledge gained during the academy?

The academy will equip me with critical knowledge and tools to strengthen my current work on health system readiness for the rollout of novel TB vaccines in South Africa.

The academy’s training in HIV vaccine development, trial design and implementation science will enhance my ability to design equitable and context-specific delivery models for future vaccines targeting adolescents, including those living with HIV. I plan to apply these insights to co-develop integrated service strategies that bridge immunization and HIV care, ensuring that lessons from HPV and TB vaccine delivery inform future HIV vaccine rollout.

Additionally, I will leverage the collaborations formed at the academy to build a network of researchers and implementers committed to adolescent health equity. These connections will support cross-disciplinary learning and strengthen the translational impact of my work.

> I aim to position myself as an independent researcher and team leader at my host institutions, thereby contributing to long-term continuity, networking and research ownership in my region in the pursuit of a safe and effective HIV vaccine.

Zipporah Richard

Research associate, University of Nairobi, KAVI-Institute of Clinical Research

Country of work: Kenya

What is your motivation to attend the academy?

As an early-career research scientist at KAVI-ICR, I am engaged in the analysis of broadly neutralizing antibodies (bNABs) in individuals living with HIV through the use of a binding antibody multiplex assay (BAMA). Additionally, I am involved in protein expression, specifically expressing bNABs and HIV envelope trimers for application in the BAMA assay. I aspire to enhance my skills in vaccine design and laboratory techniques. Furthermore, I seek to understand the latest methodologies in HIV vaccine development, the design of HIV vaccine trials and the current ethical considerations surrounding HIV prevention trials.

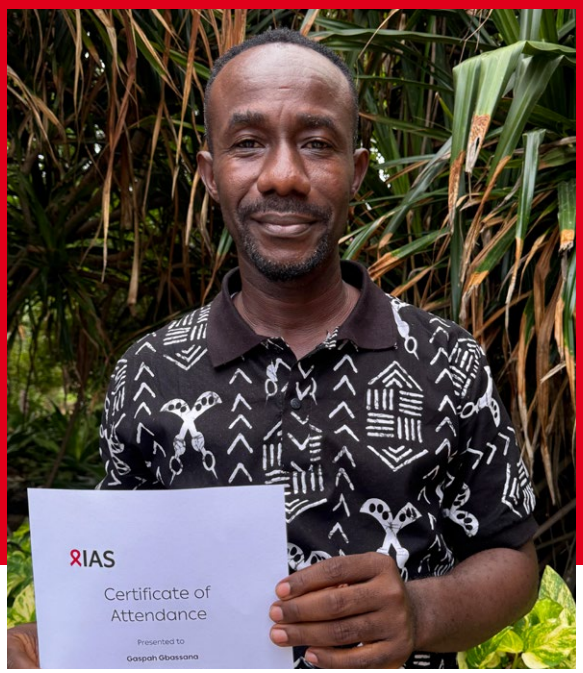
The HIV Vaccine Science Academy will offer me the chance to receive training and mentorship from experts in the field of HIV vaccines. Engaging in discussions with leaders in this area, in a retreat-like environment, presents an excellent opportunity for networking, which may lead to new collaborations aimed at developing an HIV vaccine. Through my involvement in the academy, I aim to position myself as an independent researcher and team leader at my host institutions, thereby contributing to long-term continuity, networking and research ownership in my region in the pursuit of a safe and effective HIV vaccine.

How do you plan to use the knowledge gained during the academy?

I will use the insights I acquire from participating in the academy to propel HIV research by formulating new hypotheses and designing vaccines, as well as conducting rigorous clinical trials aimed at developing effective strategies for HIV prevention. I will gain an understanding of the virus's adaptive immune evasion and the intricacies involved in inducing broadly reactive antibodies, which can inform strategies to address these challenges. The curriculum will provide me with the knowledge and tools to investigate the specific immune responses associated with protection against HIV, a vital step in the vaccine development process. I will implement the methodologies learnt to conduct research, particularly in emerging areas, such as antiretroviral treatment interruption studies, which are essential for the advancement of vaccine science. The skills acquired will aid in the publication of research findings, contributing to the global knowledge base on HIV vaccine development. I will leverage the expertise gained to highlight the importance of HIV vaccine research, potentially influencing stakeholders to support new initiatives, such as treatment interruption studies.

The academy offers a platform for connecting with experts, researchers and advocates in the field of HIV vaccines, promoting collaborative efforts. I will have the chance to engage in knowledge sharing with peers and mentors to foster progress and develop innovative research methodologies. Additionally, I will enhance my leadership skills, enabling me to function as an independent researcher and team leader in Africa, contributing to the sustainable growth of HIV vaccine research in the region. In my institution, I will disseminate the knowledge acquired through meetings and mentorship of other early-career researchers involved in HIV research.

> The world is a global village in terms of health and wholeness. We saw this in the COVID-19 era.



Gaspah Gbassana

Lecturer/instructor, University of Liberia
College of Health Sciences

Country of work: Liberia

What is your motivation to attend the academy?

In my research work at the Eastern Regional Hospital, Koforidua, in Ghana, I have seen firsthand adolescents living with HIV and failing therapy.

The burden of disease on those with the conditions, the government and family members is unbearable. So, to be part of an academy or team that will seek to bring relief through vaccines is a step in the right direction for me.

Also, this training will move my capacity to the next level and grant me the opportunity to develop my expertise and career in virology and HIV in particular.

How do you plan to use the knowledge gained during the academy?

I plan to:

- Train other colleagues and collaborators, especially in Liberia.
- Support the development of a vaccine, which relevant for Liberia in particular.
- Liaise with the National Public Health Institute of Liberia to help develop other vaccines for infections of viral aetiology that are specific to my country.

> I plan to implement these cutting-edge tools to ensure that my research is at the forefront of HIV vaccine development and will contribute to design of interventions that are most likely to work in an African setting.

Tatenda Chikowore

PhD student,
Africa Health Research Institute (AHRI)

Country of work: South Africa

What is your motivation to attend the academy?

A major component of my current research is centred on elucidating the immune mechanisms that underlie ART-free control of HIV. This is with the ultimate goal of informing the design of interventions aimed at inducing immune-mediated viral control. The HIV Vaccine Science Academy provides an invaluable opportunity to gain the skills to understand and inform the design of vaccines that can induce these HIV-1-specific immune responses. I hope to, firstly, learn about the state-of-the-art tools and techniques in vaccine design, immunogen development and immunological and computational approaches in the evaluation of vaccine-induced immune responses. I aim to take advantage of the scientific writing and communication training to sharpen my skills in writing high-impact peer-reviewed research articles and grant applications for my postdoctoral research.

The academy will also provide the opportunity to engage with field leaders in the HIV vaccine research area, from whom I aim to expand my knowledge and sharpen the skills to make meaningful contributions to African-led HIV vaccine research and development. Through this, I also aim to establish fruitful research networks, which will lead to transdisciplinary collaborations with researchers from diverse institutions.

Overall, the academy presents an excellent opportunity for me to strengthen my research capacity in the field and contribute my expertise to the network. I am greatly looking forward to engaging with field leaders in the HIV vaccine research area to develop my research ideas into actionable, fundable and impactful projects.

How do you plan to use the knowledge gained during the academy?

The academy provides a unique opportunity to receive training in state-of-the-art tools and skills in HIV vaccine research, as well as a platform to engage with field leaders and foster establishment of robust research networks. Upon completion, I will immediately implement the vaccine design principles learnt into my research ideas. I will integrate the advanced scientific tools and methodologies into designing laboratory protocols for my postdoctoral research, with a focus on antigen design, immunogen optimization and preclinical evaluation strategies. I plan to implement these cutting-edge tools to ensure that my research is at the forefront of HIV vaccine development and will contribute to the design of interventions most likely to work in an African setting. I will use the scientific writing skills gained to directly enhance my current research articles and prepare competitive grant applications for my postdoctoral research. Engagement with field leaders and other researchers in the area will be focused on establishing collaborative networks, which I will use to foster bilateral sharing of skills, resources, cohorts and ideas in vaccine development.

The HIV epidemic disproportionally affects Africans, necessitating the development of solutions by Africans. I will apply the skills and networks gained to strengthen my role in driving African-led research initiatives that are scientifically rigorous and regionally relevant. I will share the skills gained in my research institute through our internal platforms and community and public engagement.

> Learning how to incorporate Africa-specific features, regional epidemiology, vaccination delivery systems appropriate for Africa and local R&D pipelines would help me refine my research toward practical and equitable interventions.

Sosthene Hillary Matabou Tene

PhD candidate, Centre for Research on Emerging and Reemerging Diseases

Country of work: Cameroon

What is your motivation to attend the academy?

Africa is disproportionately affected by infectious diseases, and there is an urgent need to bridge the gap between technical expertise and Africa-specific vaccinology strategies. I am eager to contribute to the response to infectious diseases like HIV in Africa. Combined antiretroviral therapy, latency-reversing agents, pre-exposure prophylaxis and other HIV drugs are developed based on non-African-specific delivery systems and virus patterns. In the case of HIV, Africa has a wide genetic variation in HIV sequences from North to South and East to West. Learning how to incorporate Africa-specific features, regional epidemiology, vaccination delivery systems appropriate for Africa and local R&D pipelines would help me refine my research toward practical and equitable interventions.

I aspire to lead vaccine research, using neutralizing antibodies and antibody engineering to develop affordable and climate-appropriate products from Africa. This workshop will expand my knowledge in vaccine regulations and deepen my collaborations with experts and African researchers and policy makers.

How do you plan to use the knowledge gained during the academy?

Upon completion of the academy, I will use the knowledge and skills acquired to enhance research. The goal is to transform findings into actions.

This workshop will enable me to understand more about structural biology and correlation analysis, which will be immediately integrated into my work. I will learn how to consider all the parameters when designing vaccine-related studies, including the inflammatory response, as well as previous vaccine successes or failures.

To maintain connections with collaborators, I plan to suggest to the fellows that we form a group where we will solve problems and discuss ongoing HIV vaccine-related challenges all over Africa. I would also like to seek more funding opportunities and interdisciplinary collaborators, including in virology, immunology and clinical research.

Finally, I will seek mentorship from seniors and experts in the field from the workshop and beyond. They will be a great help and guidance for my long-term career.

> I will leverage the academy's team-focused culture to establish collaborations with colleagues and senior researchers who are engaged in complementary lines of HIV vaccine science. These collaborations will be crucial to advancing my work beyond fundamental mechanistic studies to the translational arena.

Mussa Hassan Bago

Assistant lecturer, The University of Dodoma

Country of work: Tanzania

What is your motivation to attend the academy?

My motivation to attend the HIV Vaccine Science Academy stems from my commitment to advancing the field of HIV vaccine research and our recent work that investigates the relationship between the diverse HIV-1 envelope and host restriction factors. Specifically, my recent research focused on understanding the degree of sensitivity of person-derived HIV-1 envelope sequences to SERINC5-mediated restriction and how particular structural and functional characteristics of these envelopes influence viral resistance or susceptibility. This line of investigation is crucial because the HIV-1 envelope glycoprotein remains the principal target for vaccine design, yet its vast variability and immune evasion strategies continue to challenge the development of an effective vaccine. By studying the dynamic between the HIV-1 envelope and SERINC5, we aimed to uncover insights into mechanisms of viral restriction that could be harnessed for innovative vaccine strategies.

Through this academy, I hope to deepen my expertise in areas directly relevant to HIV vaccine development, specifically in linking basic virological mechanisms with translational applications.

I am enthusiastic about expanding my knowledge of rational vaccine design approaches, immunogen selection and the design of clinical trials to evaluate vaccine candidates. Our current work has primarily centred on the molecular and cellular level, but I recognize that bridging this with immunology, vaccinology and trial design principles is essential to contribute meaningfully to the development pipeline. By engaging with experts in the field and peers from diverse scientific backgrounds, I hope to gain a broader understanding of how to translate mechanistic findings, such as Env-SERINC5 interactions, into strategies that inform immunogen design or improve vaccine efficacy.

I hope to better comprehend trial design approaches, including efficacy endpoint planning, population heterogeneity and ethical guidelines for directing vaccine trials, particularly in resource-limited communities.

I am also motivated by the academy's promotion of mentorship and collaboration. I envision this as a platform to refine my scientific knowledge and build professional networks with researchers who share the goal of ending the HIV epidemic. I aspire to contribute to these networks by bringing insights from my work and engaging in constructive dialogue about how such mechanistic findings can inform immunogen design.

Ultimately, attending the academy will help me grow into a more well-rounded HIV researcher who can effectively bridge molecular virology with translational vaccine development. The skills, knowledge and collaborations I gain will empower me to contribute meaningfully to the design of novel vaccine strategies that exploit vulnerabilities in HIV-1 env and take us closer to a protective and globally deployable HIV vaccine.

How do you plan to use the knowledge gained during the academy?

Upon completion of the academy, I intend to directly apply the knowledge, skills and tools acquired to strengthen and expand the current research on the sensitivity of client-derived HIV-1 envelope sequences to SERINC5-mediated restriction. Our work to date has largely centred on understanding how env structural and functional characteristics contribute to viral evasion of host restriction factors. However, to maximize the translational impact of these findings, I need to situate them within the broader framework of HIV vaccine design and evaluation.

I will leverage the academy's team-focused culture to establish collaborations with colleagues and senior researchers who are engaged in complementary lines of HIV vaccine science. These collaborations will be crucial to advancing my work beyond fundamental mechanistic studies to the translational arena, including immunogen design, preclinical testing and trial feasibility. By merging my expertise in env-host restriction dynamics with others' strengths in immunology, vaccinology and the conduct of clinical trials, I will be better able to make contributions to the field of multidisciplinary vaccine development.

Finally, I see the academy as an investment in my growth as an independent HIV researcher. The knowledge and networks I gain will enable me to enhance my current research and position myself for a career where I can contribute actively to the rational design and evaluation of effective HIV vaccine candidates.

> This will enhance both the scientific output of my MSc project and the preparedness of my institution, CFHRZ, to participate in HIV vaccine trials.

Raymond Zulu

Laboratory scientist & health and safety officer, Center for Family Health Research in Zambia (CFHRZ)

Country of work: Zambia

What is your motivation to attend the academy?

As a laboratory scientist and health and safety officer at the Centre for Family Health Research (CFHRZ) in Ndola, Zambia, I have gained over eight years of hands-on experience in HIV-related clinical research projects. These include projects supported by the International AIDS Vaccine Initiative (IAVI) and the HIV Vaccines Trials Network (HVTN).

I am currently completing a Master of Science programme in medical parasitology at the University of Zambia. My MSc research work focuses on the current Trichomoniasis prevalence and diagnostic tools, namely Wet-mount Microscopy, OSOM Trich rapids and GeneXpert T.V. I seek to decipher the easiest and most practical ways Trichomonas vaginalis as an opportunistic sexually transmitted infection can be eradicated to give the human body a good fighting chance and reduce the probability of acquiring HIV during sexual intercourse in both men and women.

My professional development has recently been strengthened through selection into the IAS HIV Vaccine Enterprise Mentorship Fellowship (2025) and the IAVI ADVANCE Leadership Development Program (2025). These opportunities have deepened my skills in scientific communication, leadership and vaccine research.

The academy would assist me to further consolidate this momentum by equipping me with state-of-the-art training in vaccine design, scientific writing and collaborative approaches with other scientists. I hope to enhance my expertise by getting hold of opportunities to train other laboratories locally and internationally in continuous improvement when it comes to lab research and development. I would also love to network with other scientists who have a medical parasitology background, and focus on how we could reduce HIV viral resistance to certain antiretroviral therapy drugs and the human overdependence on manufactured drugs for treatment of infections, for example, by diversifying research into natural plant extracts.

How do you plan to use the knowledge gained during the academy?

The academy offers me a structured opportunity to deepen my technical and translational skills in HIV vaccine research. I intend to apply the advanced knowledge in trial methodology and immunological assays gained from the academy directly into research ideas, such as "Impact of social economic environments, demographics, common communicable and epidemic potential diseases on healthy humoral and cellular immune profiles among adults in Zambia: a strengthening of structural health and disease interventions". This is a research concept currently under development with one of our lead scientists at CFHRZ. On the other hand, the skills in critical data analysis of scientific research and regulatory standards will strengthen the design and execution of my MSc research and put me in a position to tangibly contribute to upcoming HIV vaccine trials in Zambia and beyond.

Upon returning to my country, I will integrate these tools into my laboratory practice by improving diagnostic rigour, incorporating vaccine-related immunology frameworks into co-infection studies, and aligning my research with global standards. This will enhance the scientific output of my MSc project and the preparedness of CFHRZ to participate in HIV vaccine trials.

I will also leverage the network of peers and mentors gained at the academy to foster cross-border collaborations, exchange protocols if need be and co-develop research ideas. I believe that there are many scientific ideas that have not been tapped into yet that can solve many of humanity's problems. These collaborations will not only accelerate my career trajectory, but also expand Zambia's contribution to the African and global HIV vaccine agenda.

Finally, I plan to cascade the knowledge gained through mentorship of junior scientists at CFHRZ, presentations to local academic institutions, such as Northern Technical College, the Zambia University College of Technology and the Ndola Biomedical School, and active participation in national HIV research forums. By doing so, I will amplify the impact of this academy beyond myself, strengthening Zambia's role in advancing HIV vaccine development.

> My role as a lecturer and mentor places me in a position to train and inspire graduate students in vaccine science, ensuring that the knowledge gained cascades to the next generation of African scientists.

Rose Nabatanzi

Makerere University

Country of work: Uganda

What is your motivation to attend the academy?

My motivation to attend the HIV Vaccine Science Academy comes from a deep commitment to advancing HIV research in Africa. For years, my work has focused on understanding why people living with HIV continue to experience immune dysfunction even after long-term ART. At Makerere University College of Health Sciences and through my role as principal investigator of the CFAR AFRICURE award, I study how the HIV-1 latent reservoir drives persistent immune activation and inflammation. Although this sits mainly in the HIV cure space, the questions I grapple with – how the immune system responds, how the virus persists and how we can enhance immune control – are equally relevant to vaccine science.

Through my PhD and postdoctoral research, I discovered that even after years on ART, both innate and adaptive immune cells remain compromised. This has strengthened my belief that new interventions, including vaccines, are urgently needed to restore immune health and provide long-lasting protection. My mentorship of graduate students working on immunopathogenesis, vaccine responses in infants and adolescents, and COVID-19 co-infection has further shown me that vaccine development demands a multidisciplinary approach.

By joining the academy, I want to build deeper expertise in key areas, such as correlates of protection, bNABs and cellular immune responses. I am also eager to learn more about vaccine trial design from small immunogenicity studies to large-scale efficacy trials – with a focus on African populations, where unique challenges and opportunities exist. I look forward to engaging with cutting-edge platforms, like mRNA and vector-based vaccines, and exploring how therapeutic vaccines could complement cure strategies by targeting the HIV reservoir.

For me, this opportunity is not just about personal growth. Uganda has been a central site for HIV prevention and vaccine trials, and as a lecturer and mentor, I am committed to passing on this knowledge to my students and colleagues. Strengthening my expertise in vaccine science will allow me to inspire and equip the next generation of African scientists, ensuring that our continent continues to play a leading role in global HIV vaccine development.

Ultimately, I see this academy as a bridge, linking my work in HIV cure with vaccine science and connecting my local efforts at Makerere University and IDI with broader regional and international networks. The skills, knowledge and collaborations I gain will help me contribute to innovations that bring us closer to what we all strive for: long-term remission or eradication of HIV transmission in African populations.

How do you plan to use the knowledge gained during the academy?

Upon completion of the academy, I intend to apply the knowledge, skills and networks gained to strengthen both my ongoing HIV cure research and my engagement in vaccine science. My current work focuses on understanding immune dysfunction and HIV reservoir persistence in long-term ART-treated individuals, but I see strong synergies with HIV vaccine development, particularly in designing therapeutic vaccines that can enhance immune control of the reservoir.

First, I will incorporate advanced concepts in vaccine immunology, such as correlates of protection, mucosal immunity and bNAB responses, into my ongoing investigations of immune dysfunction. These insights will guide the formulation of hypotheses linking vaccine-induced responses with reservoir inducibility and viral persistence.

Second, the academy will equip me with skills in clinical trial design and implementation, which I plan to integrate into future collaborative projects on vaccine or therapeutic vaccine evaluation in Uganda. My role as a lecturer and mentor places me in a position to train and inspire graduate students in vaccine science, ensuring that the knowledge gained cascades to the next generation of African scientists.

Third, I will leverage the networks and collaborations formed through the academy to establish partnerships with global experts in vaccine design, immunogenicity assessment and trial conduct. These connections will be vital in positioning Makerere University and the Immunology Laboratory as contributors to regional HIV vaccine trials. Additionally, I aim to align my research outputs with international vaccine initiatives, ensuring that findings from African cohorts inform global vaccine strategies.

> Strengthening my understanding of how HIV vaccines can be applied within cure-directed research will allow me to contribute more meaningfully to protocol development and integration of vaccines in cure strategies.

Josphat Kosgei

Principal investigator & Head of Regulatory Affairs, Kenya Medical Research Institute/ Walter Reed Project (KEMRI/WRP)

Country of work: Kenya

What is your motivation to attend the academy?

My motivation to attend the HIV Vaccine Science Academy stems from my commitment to advancing HIV vaccine development and ensuring African leadership in this global effort. As a medical doctor and principal investigator at the Kenya Medical Research Institute/ Walter Reed Project (KEMRI/WRP), I lead multiple HIV prevention and vaccine trials, including three Phase 1 HIV vaccine studies under the U.S. Military HIV Research Program (MHRP). I also served as principal investigator for the BRILLIANT-01 study within the African-led BRILLIANT Consortium, the first trial of its kind intended to evaluate novel HIV immunogens in Africa.

I am a member of the AIDS Clinical Trials Group A5417 (SPIRAL) Protocol Team, which is assessing bNABs as a strategy to achieve ART-free HIV remission. I am also part of MHRP's DELIVER Network, which is advancing the HIV cure agenda through innovative early-phase trials. These experiences have provided me with a strong foundation in clinical trial design, regulatory oversight and community engagement, while keeping me grounded in the urgent need for innovative, effective HIV prevention tools.

Through the academy, I aim to strengthen my expertise in vaccine trial design, immunological endpoints and next-generation vaccine platforms. I am particularly keen to deepen my understanding of immune correlates of protection, adaptive trial methodologies and the application of HIV vaccines in cure-directed research. The academy will also provide the depth needed to enhance my ability to rigorously review HIV vaccine protocols and effectively contribute to guideline development on clinical trials in general. Importantly, it will help me improve my capacity to provide high-quality peer reviews, publish and present HIV vaccine research more effectively, and apply better community engagement strategies to support vaccine development.

Participation in the academy will equip me with new knowledge and networks to refine ongoing and future vaccine trials at my site, contribute meaningfully to international research consortia and mentor emerging scientists. My ultimate goal is to help deliver an HIV vaccine for global impact.

How do you plan to use the knowledge gained during the academy?

I intend to apply the knowledge and tools gained directly to my work as a principal investigator of HIV vaccine trials. The academy will strengthen my expertise in trial design, immunological endpoints and emerging vaccine platforms, allowing me to refine study protocols, improve data interpretation and better align research with the needs of African and global populations.

I will also use these skills to review HIV vaccine protocols more rigorously and contribute to guideline development through my role on Kenya's Expert Committee on Clinical Trials. The academy will enhance my capacity to provide high-quality peer reviews, publish and present vaccine research effectively, and apply stronger community engagement strategies to address misconceptions and build trust around early-phase vaccine studies.

Importantly, I will incorporate what I learn into the HIV cure agenda, particularly in my work in MHRP's DELIVER Network. Strengthening my understanding of how HIV vaccines can be applied in cure-directed research will allow me to contribute more meaningfully to protocol development and integration of vaccines in cure strategies.

Finally, I will leverage the collaborations formed at the academy to expand cross-site partnerships in Africa and globally, harmonizing trial methods and accelerating progress toward both an effective HIV vaccine and a functional cure.

> My role as a lecturer and mentor places me in a position to train and inspire graduate students in vaccine science, ensuring that the knowledge gained cascades to the next generation of African scientists.

Kensane Mpume Mthembu

Research laboratory technician, Africa Health Research Institution (AHRI)

Country of work: South Africa

What is your motivation to attend the academy?

I am extremely eager to attend the HIV Vaccine Science Academy for an array of reasons, the first being my interest in basic and translational science, specifically in HIV research. This is evident in the degrees I have chosen to study thus far: a BSc (microbiology & genetics), a BSc Hons (microbiology) and an MSc in medical science (virology). These degrees have given me a well-rounded understanding of the relationship between host and pathogen and highlighted the integral role of vaccines as a preventative measure against disease. In the fellowship, it is my hope that I can expound on this knowledge by learning more about vaccine research and development. As a Master's student, I trained on site-directed mutagenesis, where I introduced target mutations into an HIV-1 tat consensus sequence and studied the effect of genetic mutation on HIV transcriptional activity. I believe that this skill, coupled with those that I stand to learn at the academy, could advance my understanding of HIV vaccine development.

At the HIV Pathogenesis Programme, where I studied my Master's, I also learnt a lot about bNABs and their importance in vaccine design. On many occasions, I attended research updates and journal clubs and shadowed fellow students who ran HIV neutralization assays in vitro. This exposure to immunology continued to spark my interest in vaccine development.

As a research laboratory technician in Thumbi Ndung'u's lab, I have learnt to generate client-derived chimeric HIV across different subtypes (A, B, C and D). In my work, I use these viruses to measure differences in viral replicative capacities. Having a practical understanding of how HIV replicates and spreads allows me to come into the workshop with immense virological understanding. In Prof Ndung'u's lab, I have trained on immune and metabolic profiling of various HIV subtypes. This skill makes it opportune for me to direct my research interests towards vaccine development. Attending the vaccine academy will further help me do this.

I also have a vested interest in HIV matters on a social level. Weekly, I work on FRESH samples, which belong to a cohort established in Umlazi, Durban, KwaZulu-Natal, South Africa. This programme equips young women aged 18-23 with life skills and sexual health knowledge. All participants who seroconvert are supported and followed up weekly as the cohort collaborates with research institutes and big pharma to charter curative and preventative studies against HIV.

The skills I stand to learn at this workshop will help me direct my academic and career choices with more clarity as I aim to work on both cure and preventative HIV clinical trials soon.

For me, this opportunity is not just about personal growth. Uganda has been a central site for HIV prevention and vaccine trials, and as a lecturer and mentor, I am committed to passing on this knowledge to my students and colleagues. Strengthening my expertise in vaccine science will allow me to inspire and equip the next generation of African scientists, ensuring that our continent continues to play a leading role in global HIV vaccine development.

Ultimately, I see this academy as a bridge, linking my work in HIV cure with vaccine science and connecting my local efforts at Makerere University and IDI with broader regional and international networks. The skills, knowledge and collaborations I gain will help me contribute to innovations that bring us closer to what we all strive for: long-term remission or eradication of HIV transmission in African populations.

How do you plan to use the knowledge gained during the academy?

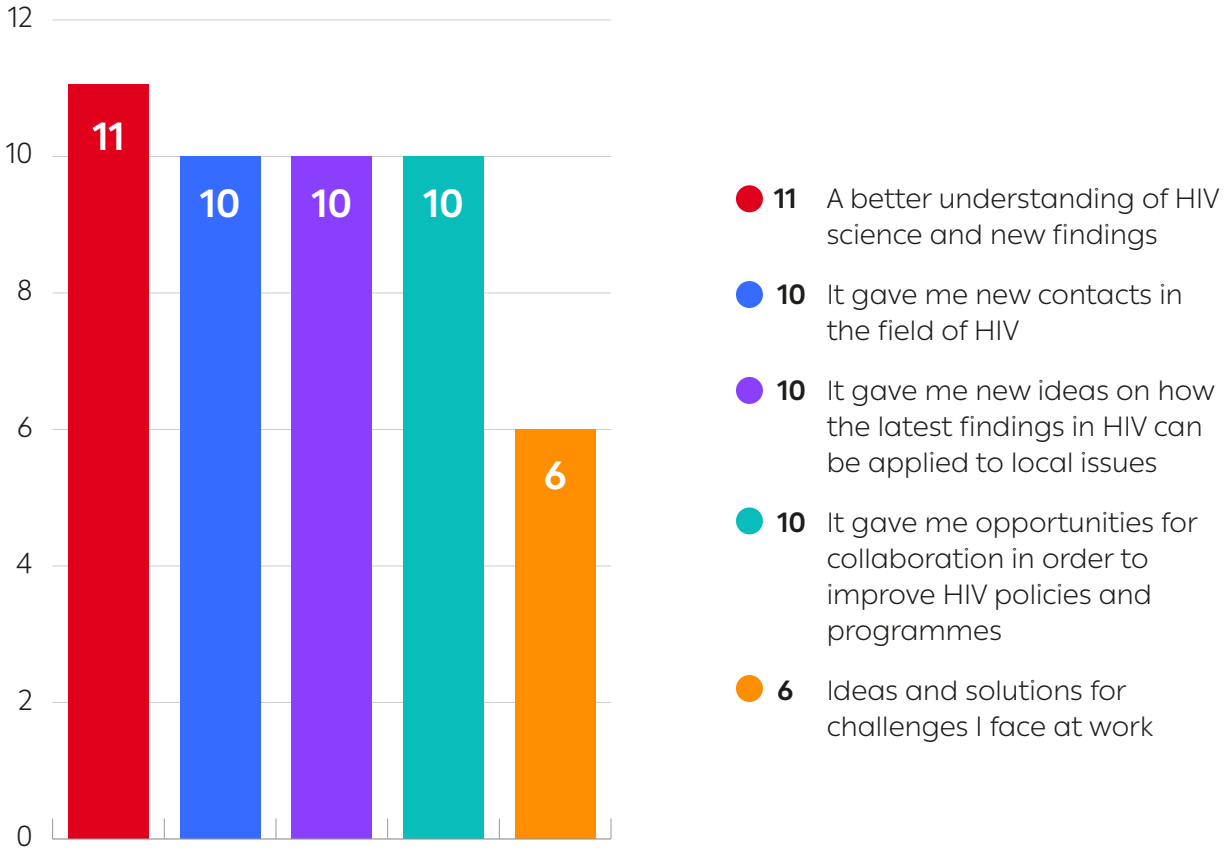
Currently, I am planning to register for a PhD that is based on HIV and will hopefully have an objective that explores curative or preventative measures against the virus. The knowledge gained at the academy will assist in designing objectives that explore current HIV vaccines and ways to improve them. In this way, I would have leveraged the knowledge gained at the workshop. This will result in several papers and a PhD thesis.

I attended IAS 2023 in Brisbane, and I aim to continue to participate in IAS workshops, conferences and online courses. This will allow me to keep in contact with fellow scientists who have a common research interest. This could potentially lead to collaborative grants, projects and, ultimately, vaccine-based clinical trials.

Survey results

> **Learning about the IAVI G002/G003 trial results, which demonstrated for the first time that germline-targeting immunogens delivered by mRNA could prime bNAB precursors in humans, was revelatory. The concept of using a carefully designed sequence of immunogens to guide B-cells along a precise maturation pathway fundamentally shifted my understanding of what is possible in vaccine design. This insight stood out because it bridged the gap between basic immunology and real-world clinical research, and because KAVI's own involvement in these trials made the achievement feel tangible and immediate.**
>
> Fellow

What did you gain by attending this academy?



After attending this academy:

> **The knowledge I gained from this academy will be used immediately in an ongoing project aiming at identifying potential neutralizers against HIV recombinant subtypes like CRF02AG, which is one of the prevalent HIV subtypes in West and Central Africa. One point mentioned during the academy was the importance of the B-cell repertoire in HIV vaccine design; given the HLA diversity in Africans, we will incorporate this aspect in the design of bNABs.** — Fellow

> **I plan to utilize the gained insight into bNABs by trying to incorporate it into research, particularly in exploring immune responses and potential vaccine strategies. This has strengthened my motivation to collaborate with other researchers to contribute to the growing body of African-led research that supports the development of effective HIV vaccines.** — Fellow

> **Since I am the training coordinator at my organization, I will pass on what I have learnt to my colleagues. For example, a few of us understand what bNABs are and how important they might be in future HIV vaccine research.** — Fellow

> **I will apply my understanding of B-cell biology, bNAB induction and novel trial designs to contribute more effectively to KAVI's ongoing vaccine trials … I will organize a seminar at KAVI-ICR to share key learnings from the academy with colleagues who were unable to attend.** — Fellow

I now intend to: