



Communication and Marketing Department
Isebe loThungelwano neNtengiso
Kommunikasie en Bemerkingsdepartement

Private Bag X3, Rondebosch 7701, South Africa
Welgelegen House, Chapel Road Extension, Rosebank, Cape Town
Tel: +27 (0) 21 650 5427/5428/5674 Fax: +27 (0) 21 650 5628

www.uct.ac.za

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UCT to host symposium on role of microbiomes in health and disease in Africa

Symposium to coincide with launch of Microbial Interactions Laboratory

1-2 October 2024 | 09:00 SAST | Institute of Infectious Disease and Molecular Medicine, UCT Health Sciences Campus

The University of Cape Town's (UCT) [Institute of Infectious Disease and Molecular Medicine \(IDM\)](#) will host a two-day African Microbiomes in Health and Disease Symposium from Tuesday, 1 October to Wednesday, 2 October 2024.

The symposium will coincide with the launch of the new Microbial Interactions Laboratory (MIL) at the IDM, a cutting-edge facility designed to contribute to the much-needed infrastructure for microbiome research in Africa. This facility will be a key part of a hub for microbiome research, offering support for scientists focused on understanding the impact of microbial communities on health in African contexts.

The microbiome, which includes the trillions of microorganisms that live in and on the human body, has emerged as a crucial determinant of human health. However, despite Africa's immense microbiome diversity, information about African microbiomes is significantly underrepresented in global research.

The symposium and the opening of the cutting-edge facility are set to play a part in ensuring that African microbiomes are represented in global knowledge systems, for more inclusive and representative global health solutions. The symposium will have a strong focus on female reproductive microbiomes, particularly addressing bacterial vaginosis (BV), a major driver of genital inflammation and increased HIV acquisition risk in women.

Professor Jo-Ann Passmore, Principle Medical Scientists at the IDM and [Calestous Juma Science Leadership Fellow](#) said, "This is a call to action. Africa's unique microbial diversity holds the key to developing diagnostics and treatments that are relevant not only to Africans but to the world." Passmore is one of the four co-chairs of the symposium.

"At the heart of Africa's microbiome research lies a vision of interconnectedness, where complexity is not a challenge, but the foundations of a thriving scientific ecosystem.

Through collaboration, this is a call to action for building a hub that mirrors nature's most successful systems, bringing together diverse minds to tackle the health and ecological challenges of our continent cooperatively. Together, we are bigger than a sum of our parts," said Passmore.

The two-day hybrid event will not only spotlight the significant role of microbiomes in health and disease on the African continent but will also address another sector of health that does not receive the attention it needs: women's reproductive health. Vaginal microbiomes will be the central focus at this symposium, which brings together local and international stakeholders to shape the future of microbiome research across the African continent.

"I'm absolutely thrilled to see the launch of the MIL and to have played a small part in helping to bring this very exciting initiative to fruition. Nested within the highly collaborative, interdisciplinary environment of the IDM, the MIL is ideally placed to become a hive of activity and another example of research excellence in Africa, for Africa," said IDM's Professor Valerie Mizrahi.

UCT's Professor Adrian Brink added: "Integrating molecular 'omics approaches, such as genomics, transcriptomics, proteomics, and metabolomics, into microbial community profiling offers a more comprehensive understanding of our African microbial ecosystems. These techniques allow for a deep exploration of the genetic, functional, and metabolic characteristics of innate microbial communities."

Why should microbiome research include African populations and researchers?

Where you live impacts your microbiome's diversity and composition. Climate, local diets, water quality, and hygiene practices shape your microbiome. Antibiotic use and urbanisation can disrupt delicate microbial balances. Socioeconomic conditions and local pathogens further influence microbiome diversity, affecting overall health.

Because of this, research carried out in one region cannot simply be transposed to another region. Microbiome research in Africa for Africa is thus crucial for understanding diverse genetics, local health challenges and unique microbial ecosystems. Addressing global research gaps in Africa will boost disease prevention on the continent, build local expertise and further fuel research equity.

Dr Anna Happel, senior research officer at the IDM and co-chair of the symposium, said: "The launch of the UCT IDM Mucosal Interactions Lab represents a bold affirmation of Africa's vital role in the global microbiome narrative. By focusing on our unique microbial diversity, we are paving the way for innovative approaches to women's and infant health, while ensuring that African voices and experiences are integral to the future of microbiome science."

How to participate

The symposium is open to all, with free registration available through the Vaginal Microbiome Research Consortium for Africa (VMRC4Africa) [website](#). The event will be live-streamed, allowing participants from around the globe to join the conversation, engage with speakers, and contribute to the future of microbiome research in Africa.

- [Register to attend the symposium.](#)
- [View the programme and speakers.](#)

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Issued by: UCT Communication and Marketing Department

Thami Nkwanyane

Media Liaison and Monitoring Officer

Communication and Marketing Department

University of Cape Town

Rondebosch

Tel: (021) 650 5672

Cell: (072) 563 9500

Email: thami.nkwanyane@uct.ac.za

Website: www.uct.ac.za