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UCT celebrates double win with prestigious Wellcome Trust awards



Dr Tessa Moll

Photo: Supplied

The University of Cape Town (UCT) has marked a significant milestone in research funding, with Dr Tessa Moll becoming the first UCT scholar to receive the prestigious Wellcome Early-Career Award. In parallel with this achievement, a UCT-based team researching TB immunopathology has secured only the second Wellcome Trust Discovery Award ever awarded to the institution.

Dr Moll joins only a handful of South Africans who have received this highly competitive grant. The Wellcome Early-Career Award recipient's work is expected to deliver shifts in understanding that could improve human life, health and well-being. By the end of the

award period, the recipient is expected to be prepared to lead their own independent research programme.

Her research uses qualitative and ethnographic methods to explore the intersection of reproduction, medical technology and environmental health in South Africa.

"I'm so thrilled and grateful to receive this award," Moll said. "But while it's framed as an individual award, the project I'm engaged in is inherently collaborative, bringing together affected communities, scientists and policymakers to explore the complex realities of living with chemical exposure. Together, we'll ask how exposure is made legible and what gets lost in translation between data and experience."

Based at the [Department of Anthropology](#), where Moll received her PhD, the project is part of her broader research agenda, which explores how technologies and knowledge shape the ways life is made and sustained, especially in contexts marked by inequality.

Her collaborators include co-PIs Dr Jonathan Chevrier at McGill University, Canada and Dr Riana Bornman at University of Pretoria. The work is looking at the birth cohort research group [Venda Health Examination of Mothers, Babies & their Environment \(VHEMBE\)](#). This programme is the first cohort study to investigate impacts of exposure to indoor residual spraying insecticides and air pollution on child health in Africa.

Insecticides, such as dichlorodiphenyltrichloroethane (DDT), play a crucial role in global health initiatives aimed at controlling vector-borne illnesses like malaria. DDT is increasingly used in indoor residual spraying programs throughout Southern Africa; however, its use remains controversial due to its negative effects on human and environmental health. Moll's project, titled "[DDT Relations: Tracing chemical alterlife in South Africa malaria control](#)", aims to contribute new knowledge on chemically driven global health interventions as well as providing novel theorising on accountability.

She said that the award will provide vital support for research exploring the alterlives of chemically-driven health interventions. 'Alterlife' is the idea that our bodies and environments are already transformed through chemical exposure and that life itself is shaped not just individually, but collectively, across generations by these shared toxic exposures.

"This award allows us to conduct multi-sited ethnographic research and develop interdisciplinary collaboration with [scientists studying the biological effects of DDT](#). The goal is not only to produce new knowledge but to rethink how we respond to the uneven burdens of chemical exposure and to centre the voices of those most affected in shaping more just interventions," she said.

The Wellcome Trust Discovery award provides funding for already established researchers and teams seeking to pursue bold and creative research ideas to deliver significant shifts in understanding related to human life, health and wellbeing. Led by UCT academics Dr Virginie Rozot and Professor Thomas Scriba, this team leverages extensive experience in human tuberculosis (TB) pathology and autopsy programmes, and surgical cohorts at UCT and the African Health Research Institute (AHRI).

Each year, TB claims 1.3 million lives, and more than 10 million people develop the disease. An efficacious vaccine is needed to improve TB control, however, a poor understanding of host-pathogen interactions and a lack of human immune correlates of protection hinder

rational development of interventions. This knowledge gap is primarily due to difficulties inherent in studying a disease caused by a pathogen that can only survive in humans residing in inaccessible anatomical sites.

Titled "[TB immunopathology across the *M. tuberculosis* infection and TB disease spectrum](#)", this project seeks to study host-pathogen interactions in human tissues to inform the rational design of vaccines and therapeutic strategies by generating new knowledge aimed at deepening understanding of protective immunity. By leveraging autopsies on decedents with incidental *Mycobacterium tuberculosis* (*M. tb*) infection or tuberculosis pathology, the team will be working with post-mortem samples from people who have passed from unnatural causes of death.

One of the major advances of this specific project is the community engagement. "It's a violent context, and when we started, we saw that it would be really difficult to recruit and obtain consent from the next of kin, as the families are grieving," Rozot said. "But within this framework we got very good feedback from the families. Many managed to find some comfort in the fact that these unexpected, traumatic deaths could lead to something else."

By applying cutting-edge molecular microbiology and immunological profiling, the team will describe the tissue-level spectrum of *M. tb* infection and tuberculosis disease in pulmonary tissue, determine bacillary presence and viability, and identify the immunological mechanisms that control *M. tb* in humans.

Story by Sarah Marriott, UCT News

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