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‘Nelson Mandela University Yolanda Mngcongco triumphs as FameLab 2023 to 2024. winner

Moved by her grandmother’s suffering from a hospital-acquired infection, Yolanda Mbalentle Mngcongco, a master’s student in environmental health at Nelson Mandela University (NMU), took a deep dive into her heritage to explore how indigenous knowledge of medicinal plants can be combined with nanoscience to combat modern healthcare challenges.

Through her research, she is developing eco-friendly silver nanoparticle filters to enhance hospital air purification systems, with the goal of reducing infections and improving patient care for the most vulnerable.

The nanoparticles are rendered environmentally safe through a special process combining silver and medicinal plants. Her dedication and innovation have earned her the title of FameLab South Africa 2024 winner and the opportunity to represent the country on the international stage.

“I am very grateful for this opportunity because the research that we are doing is for the people and we have to be able to communicate it to them in a way that they understand. It is an honour to represent South Africa in the world and to take all of our indigenous knowledge and put it out there. I cannot wait to represent South Africa on the global stage,” said Mngcongco.

After a series of electrifying regional heats at prestigious research institutions and around the country, and a

dynamic semi-final round, Mngcongco rose above 16 exceptional competitors to claim the top spot.

FameLab has been running in South Africa since 2013 through a partnership between NRF-SAASTA and Jive Media Africa and celebrates the possibilities that exist at the intersection of science and communication, spotlighting individuals who bring science to life with creativity and clarity. FameLab continues to foster science communication talent and enhance public understanding of science.

Siphosethu Mgwili from Walter Sisulu University was the first runner-up, and the audience’s favourite vote, and Eduard Zehrt from Stellenbosch University was the second runner-up.

Mgwili is pursuing a master’s in physiology and anatomy, focusing on creating adjustable, reusable prosthetic pylons for children to improve access to these life-changing devices.

Zehrt is using advanced imaging technology to detect food fraud by distinguishing between conventional and free-range chicken. His work bridges the gap between science and industry, ensuring food authenticity.

The FameLab South Africa semi-finalists impressed the judges this year, from innovative water safety solutions to novel treatments for mental health conditions. Their work exemplifies the vital role of science in addressing real-world challenges and making positive impacts on society. – Nelson Mandela University media release