

Press release: FameLab South Africa winner 2023

FOR RELEASE 21 September 23:00 (SAST)

AI researcher crowned as SA's top young science communicator

Wits chemist seeking better ways to deal with acid mine drainage wins spot in international FameLab final.

Mining wastewater is a massive problem worldwide, and South Africa is no exception. But the so-called acid mine drainage has a value because of the byproducts it contains. Using machine learning to predict the levels of these byproducts has won Taskeen Hasrod from Wits University a place on the world stage of science communicators.

Taskeen was chosen as FameLab SA 2023 winner during the national leg of the International FameLab science communication competition held on Thursday evening, 21 September 2023, at the National Research Foundation (NRF) auditorium in Pretoria. As the national winner, she will represent South Africa in the International FameLab competition hosted by Cheltenham in the UK on 24 November 2023.

During the FameLab South Africa Final, ten young scientists showcased research from some of the top academic and research institutes across the country in a way that non-experts can follow along and enjoy. The ten finalists each presented a three-minute talk about their research using props and simple language. The talks offered a glimpse into the lives of young researchers in South Africa and the impact they hope to have through their studies and work. FameLab is the biggest international competition that seeks and supports science communication talent. This year marked the 11th season of FameLab in South Africa.

Taskeen captivated the judges with her storytelling skills and her passion for using artificial intelligence to create a more sustainable future. Her research in environmental analytical chemistry aims to create a circular economy by extracting valuable by-products from acid mine drainage. The traditional chemistry experiments used to measure by-products are time-consuming and expensive, however, and Taskeen is developing machine learning techniques to short-circuit the process.

Runner-up Caleb Swanepoel from the University of Cape Town is working to improve phage therapy to treat antibiotic-resistant infections. Caleb, who is in the second year of his MSc studies, says the worldwide growth of antibiotic resistance has sparked new interest in phages, which are viruses that target and infect bacteria.

Runner-up Ayesha Osman from the University of South Africa is studying for a PhD while lecturing engineering students. Her research aims to use titanium, copper and gold to develop an antibacterial alloy for use in dental applications, and she says it has the potential to affect millions of people who need dental implants.

In reaction to being named FameLab 2023 champion, Taskeen said: "It's a big win, not just for me, but for my supervisor, my research group, my school, my university, it means a lot and it shows that when we put our minds to something and we work hard we can achieve it.

She paid tribute to her nine fellow finalists, saying they had "become a bit of a family", and said she was looking forward to representing South Africa and Africa on the world stage.

In pursuit of her scientific goals, Taskeen says discipline, resilience and patience are key. “Understanding the theory is as important as being able to conduct practical work. Science is an incredibly exciting field that is rapidly growing, expanding and evolving, so having a hunger to learn and being adaptable is vital to becoming a good scientist.”

Taskeen says FameLab taught her how to communicate her research without using scientific jargon. “That’s incredibly important because the general public deserves to be able to understand our research and learn why it is important. I also learnt how to communicate my research in a really short space of time, which is vital in holding people’s attention.”

The judges for the final – Ina Skosana, Lucky Ditaunyane, Nosipho Mngomezulu and Thabiso Nkone – are all experienced role-players in the South African science communication landscape. Skosana is the news editor at Health-e News Service and was previously the health and medicine editor at The Conversation Africa; Ditaunyane is the director of communications and engagements at the Human Sciences Research Council and a member of various advisory boards at institutions of higher learning; social anthropologist Mngomezulu is a lecturer at Wits University and a research fellow in science communication at Stellenbosch University’s journalism department; and Nkone is the NRF corporate communications manager.

The other finalists were:

- **Amos Rakgoale from the University of Limpopo**, who is working towards a postgraduate diploma in science communication. With degrees in aquaculture and biological sciences, Amos entered FameLab after his work at a science centre and as a judge at the Eskom Expo for Young Scientists convinced him South Africans are missing out on the potential of science.
- **Carla Horn from North West University**, whose MSc in nursing sciences is looking at how the healthcare system can prepare itself to deliver effective patient care and save lives in the event of disasters. Carla is one of only a handful of disaster-preparedness researchers in South Africa, and says her studies could have an impact on every citizen.
- **Goratileone Oepeng from the University of Pretoria**, whose MSc studies in entomology are looking at how the pheromones honey bees use to communicate affect their reproductive development. “This communication pathway could be used to restore reproductive hegemony of wild honey bee species that pollinate almost over 60% of flowers worldwide,” he says.
- **Jason Pillay from the University of Pretoria**, who is in his final master’s year in statistics, specialising in computational and methodological statistics. “My research grows the toolkit needed by many other researchers and professionals focusing on solving real-world problems,” he says.
- **Jessica More from the University of KwaZulu-Natal**, who hopes her studies for a master of medicine in laboratory science degree will help to stem tuberculosis, one of the world’s biggest killers. Jessica’s work at the Africa Health Research Institute is focused on identifying gene expression profiles in TB and could assist in developing targeted treatments that complement existing therapies.
- **Kaylan Reddy from Stellenbosch University**, whose deep connection to plants since childhood has become an academic fixation on an indigenous plant historically known as a mood enhancer. Now studying for a PhD in botany, Kaylan says his research into scelletium “seeks to harness its potential for anxiety and depression relief” and forms a bridge between traditional medicine and the global market.
- **Nombali Gumede from the University of KwaZulu-Natal**, who is working on a clinical trial with an antiretroviral therapy (ART) interruption. Many people with HIV struggle to adhere to ART, and Nombali says the opportunity to have an injection periodically, instead of taking

a daily pill, will ease the burden of their disease.

The FameLab competition offered all contestants the opportunity to hone their communication and presentation skills to engage the public with their research, starting with training and participating in heats held at various institutions earlier this year. All contestants were encouraged to continue their new roles as ambassadors of their research and to find opportunities to talk about their research outside their academic spaces.

FameLab, an initiative of Cheltenham Festivals in the UK, has been running in South Africa since 2013 through a partnership between the South African Agency for Science and Technology Advancement (NRF-SAASTA) and research communication specialists, Jive Media Africa.

The International FameLab Final in which Taskeen will compete will be streamed live on YouTube on 24 November 2022 at noon (SAST): <https://www.youtube.com/@famelab>

Last year's South African FameLab champion, phytochemist Nehemiah Latolla of Nelson Mandela University, went on to win the international FameLab final in the UK.

ENDS

Notes:

To find out more about FameLab in South Africa, go to:
<https://www.saasta.ac.za/competitions/famelab/>

Contact:

Lithakazi Masilela, NRF-SAASTA, at L.Masilela@saasta.nrf.ac.za
Shabnaaz Gani, Jive Media Africa at shabnaaz@jivemedia.co.za

About Jive Media Africa:

Jive Media Africa supports top researchers with innovative, cutting edge communications. They are winners of the National Science and Technology Forum Award for Science Communication and have brought the FameLab competition to South Africa in 2013. Jive Media Africa has been getting creative to connect researchers, engineers and scientists with the public. Through communication strategy, media production, training and mentorship their aim is to activate African knowledge and grow capacity for great research and innovation on the African continent. Find out more about Jive Media Africa here: <https://jivemedia.co.za/>

About the South African Agency for Science and Technology Advancement (SAASTA):

SAASTA is a business unit of the National Research Foundation (NRF) with the mandate to advance public awareness, appreciation and engagement of science, engineering and technology in South Africa. SAASTA's contribution to the NRF's vision is to grow the pool of quality learners today who will become the scientists and innovators of tomorrow. It aims to be the leading science advancement agency in the country by promoting and communicating the value and impact of science, technology and innovation in a dynamic knowledge economy. It also intends to contribute significantly towards building a science, engineering and technology (SET) human resource base. For more information on the operations and programs within the NRF please visit www.saasta.ac.za

About the National Research Foundation (NRF):

The National Research Foundation (NRF) was established on 1 April 1999 as an independent statutory body in accordance with the National Research Foundation Act. The NRF is a key public entity responsible for supporting the development of human resources for research and innovation

in all fields of science and technology. The organisation is one of the major players in educating and training a new generation of scientists able to deal with South African and African needs. The organisation encourages public awareness and appreciation of science, engineering and technology, and facilitates dialogue between science and society. Its vision is to contribute to a prosperous South Africa based on a knowledge economy. For more information on the operations and programs within the NRF please visit www.nrf.ac.za