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SA young scientists to spotlight innovations at World Innovative Science Project Olympiad in Bali

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Four young scientists are set to showcase their award-winning

innovations at the World Innovative Science Project Olympiad (WISPO) in Bali, Indonesia, taking place from 10 to 13 December 2025.

The learners, all Gold medal winners at the Eskom Expo International Science Fair (ISF), include Dzunisa Chauke, in Grade 12 at Khanyisa Education Centre (Mopani); Milla Vorster, in Grade 11 at Curro Durbanville (Stellenbosch); Ismaail (Miles) Hassen, in Grade 11 at Greenside High School (Johannesburg); and Albertus Willem (Wium) van Niekerk, in Grade 10 at Paul Roos Gymnasium (Stellenbosch). The learners will travel under the guidance of delegation leader Jane

Wasonga, Eskom Expo Johannesburg Regional Science Fair Director.

Chauke will showcase his research project entitled “Synthetic vs non-synthetic voices”. He developed a fast, offline and highly accurate voice-classification system capable of distinguishing human voices from AI-generated synthetic audio. Using MFCCs, chroma analysis and a Random Forest model, his system addresses urgent cybersecurity risks linked to AI-driven impersonation and fraud. His project was selected for its relevance to global digital security threats and its strong technical execution.

Vorster is set to exhibit her research project entitled “The Organic Palette: Bioprinting Vascularized Organs”, which tackles one of regenerative medicine’s greatest challenges: producing vascularized tissues via 3D bioprinting. Her work offers innovative methods with real-world applications for organ transplantation, surgical training and drug testing. The selection committee highlighted her rigorous experimentation and forward-thinking approach.

Hassen will spotlight his research project entitled “Design and Evaluation of Walk-Man: A Wearable Assistive Device for Enhanced Navigation in Individuals with Visual Impairment”. He developed an innovative, compact and affordable wearable device that offers real-time obstacle detection, GPS tracking and tactile or audio feedback, performing comparably to far more expensive assistive technologies. His project was selected for its strong engineering merit and potential to significantly enhance mobility and independence for visually impaired individuals.

Van Niekerk will showcase his research project entitled “In vitro growth inhibition of *Penicillium digitatum* by lavender oil”, which explored whether lavender essential oil could serve as an eco-friendly alternative to chemical fungicides used in citrus production. His controlled experiments revealed that higher concentrations of lavender oil deliver antifungal results comparable to imidazole, offering a promising solution for sustainable postharvest disease management. His project was chosen for its scientific depth and agricultural relevance.

The Olympiad is an international science fair held annually in Indonesia, organised by the Indonesia Scientific Society (ISS), and brings together young scientists from around the world to showcase their research, innovation, and scientific projects.

Chief Executive Officer of the Eskom Development Foundation (Acting), Ms Mologadi Motshale said, “With a keen recognition of the pivotal role of Science, Technology, Engineering, Mathematics and Innovation (STEMI) in South Africa’s development, Eskom urges the active participation of young people in these fields, as they are the future of the nation’s progress and prosperity. By developing a strong pathway of skilled and enthusiastic scientists and innovators through the Eskom Expo for Young Scientists, we can build a more promising future for South Africa. We wish our ambassadors well and encourage them to take the opportunity to learn from international judges and incorporate the feedback received into enhancing their research projects.”

Eskom Expo Executive Director, Parthy Chetty said, “South Africa proudly sends four exceptional learners to the International Science Fair in Indonesia. We congratulate them

for their curiosity, dedication, and innovative spirit, and wish them every success as they showcase South African talent on the global stage. Their achievement reflects strong mentorship, community support, and the power of science education to transform lives. We urge schools, educators, and young people across the country to be inspired by their example, pursue STEMI opportunities, and collaborate boldly. Together, we can nurture future innovators who will solve local and global challenges. Good luck to our team, they truly make us proud.” 🇷🇺



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