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## **UCT student eyes Africa's top prize for engineering innovation**

The University of Cape Town's (UCT) Biomedical Engineering PhD candidate Edmund Wessels is part of a group of 15 African entrepreneurs shortlisted for the 2023 Africa Prize for Engineering Innovation.

Launched in 2014, the Africa Prize for Engineering Innovation is awarded annually by the Royal Academy of Engineering to ambitious African innovators creating local and scalable solutions to pan-African and international challenges.

Wessels was shortlisted for his portable device, FlexiGyn™, which enables gynaecologists to diagnose and treat uterine health issues without anaesthetic. "It can be used in the field and will improve women's access to quality healthcare in remote areas without medical infrastructure," he said.

"Typical hysteroscopy systems used to examine the uterus are rigid, leading to high patient discomfort, and they require bulky additional equipment for visualisation."

The FlexiGyn™ system has a built-in light and camera on a small diameter flexible scope that can bend in multiple directions, and a display screen giving the medical operator a live view of the uterus. It enables accurate navigation through a patient's anatomy for pinpoint diagnosis.

The battery-powered FlexiGyn™ can be held in one hand and is designed to improve the experience for both the doctor and patient alike. Its mini-scope gives the examining physician direct access to the uterus through the cervix with minimal motions and pain.

Wessels co-invented FlexiGyn™ along with Professor Sudesh Sivarasu at UCT MedTech as a response to challenges in reproductive healthcare for women in places that still use outdated and inefficient devices which cause discomfort. "Anaesthesia is not commonly used for hysteroscopies in Africa," he said. The unmet clinical need was presented to UCT MedTech by gynaecologist late Dr Carol Thomas which led to this innovation.

"Existing devices require sterilisation after each use or have single-use camera scopes. FlexiGyn™ incorporates a disposable sheath for the reusable device to remove sterilisation requirements and improve efficiency. The sheath provides channels that allow for the connecting and passing of saline solution to distend the uterus."

After trialling FlexiGyn™ with gynaecologists, Wessels and his team are working with regulatory and manufacturing experts to move from development to manufacturing. "We've developed a system that aims to bring healthcare to women, where and when they need it. Our solution is designed with the physician and patient in mind, to be an intuitive, user-friendly device that improves the user experience while taking the patient into account with flexibility and minimal discomfort," he said.

Said Wessels: "It's an incredible honour to be recognised amongst my fellow African innovators. I'm looking forward to all the opportunities the programme will present us with and how it will aid our journey with FlexiGyn™."

Other shortlisted entrepreneurs are from Angola, Cameroon, Ethiopia, Ghana, Nigeria, Sierra Leone, Tanzania, Uganda and Zimbabwe. The innovations shortlisted in 2023 tackle challenges central to the UN's Sustainable Development Goals, including clean water and sanitation, sustainable cities and communities, clean energy, good health and wellbeing, and quality education.

Four finalists will be chosen to pitch their innovations and business plans to Africa Prize judges at an event in Accra, Ghana on 6 July 2023. The winner will receive £25,000, and three runners up will win £10,000 each. An additional One-to-Watch award of £5,000 will be given to the most promising entrepreneur from the remaining shortlist.

Innovators shortlisted for the Africa Prize will benefit from a unique package of support including business incubation, mentoring, fundraising and communications. The package also includes access to the Academy's global network of high-profile and highly experienced engineers and business experts in the UK and Africa.



Edmund Wessels.

Photo: Supplied

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